AN EMPIRICAL STUDY ON CORPORATE OWNERSHIP STRUCTURE AND FIRM PERFORMANCE: EVIDENCE FROM LISTED COMPANIES IN SRI LANKA

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Abstract

Ownership structure, whether it is concentrated or dispersed, is one of the main determinants of organizational performance. Theories of corporate governance insist on dispersed ownership and segregation of ownership and management. In most of the emerging countries a concentrated form of ownership is evident in listed companies. Therefore the objectives of this study are twofold; to investigate whether ownership structure has an impact on firm performance and to examine whether concentrated ownership has an impact on firm performance, in companies listed in Sri Lanka. Researchers have considered a sample of seventy six (76) non-financial listed companies in CSE during the period of 2008 to 2014. A time fixed effect model is applied into the panel regression analysis and a Generalized Least Squares (GLS) regression model is chosen. Findings suggest that a significant relationship exists between ownership structure and firm performance. Empirical evidence further elucidates that institutional ownership has a significant positive relationship with firm performance, which can be justified based on the 'active monitoring argument'. Significant negative relationship between individual ownership and firm performance can be argued based on 'manager discouragement argument'. Concentrated ownership too has a significant positive relationship with firm performance, supporting the well-known agency theory propositions.

Keywords: ownership structure, concentrated ownership, firm performance, panel regression analysis

1 INTRODUCTION

Basic theories of corporate governance widely demand for dispersed ownership in listed companies. Further they also require clear distinction to exist between ownership and management. However in most of the emerging countries, listed companies nurture an organizational form of concentrated ownership, where the control rests with a family, a larger holding company, major institutional investors, foreign groups, managers or the government etc.

It can be seen that many rules and regulations are in place favoring dispersed ownership in a Sri Lankan context. For example Colombo Stock Exchange (CSE) Sri Lanka has imposed regulations to secure a minimum public float in a company's issued share capital, at the time of its initial listing and thereafter. For example, in order to be quoted in the CSE, a company must have a minimum public holding of 25 per cent of the total number of shares, and these must be in the hands of a minimum number of 1,000 public shareholders holding not less than 100 shares each (Listing Rules, 2013). Even though such regulations prevail, according to Senaratne and Guneratne (2007) the ownership is concentrated in most Sri Lankan public listed companies. They further state that the controlling shareholder of most Sri Lankan listed companies is usually another corporate entity.

Concentrated ownership can be detrimental for a company's performance, if the owners only consider in maximizing their personal benefits. However if the owners pursue their own benefits which are in congruence with firm's objectives, concentrated ownership can be instrumental for a firm's improved performance. The dilemma of dispersed and concentrated ownership of listed companies has drawn the attention of lot of researchers and other professionals in the corporate world, in both international arena and in a Sri Lankan context. The research in hand too focuses on the impact of ownership structure on firm's performance, measured through profitability and operating efficiency by considering listed companies in Sri Lanka. Thus in summary, it can be stated that this research paper intends to investigate whether organizational structure and concentrated ownership has any impact on firm's profitability and operating efficiency.

In the present business context, main objective of any firm is to maximize shareholder wealth. Shareholder wealth maximization can be achieved through increased profitability and improved operational efficiencies. Improved firm performance can be determined by a mixture of diverse factors, which can be classified as intra-organizational or extra-organizational. Ownership structure, whether it is concentrated or dispersed, is a main determinant of organizational performance, which can be classified under the heading intra-organizational.

Many researches have been done on the relationship of ownership structure and on concentrated ownership in particular, with firm performance, and has derived at various conclusions. Agency theory suggests that ownership concentration may improve firm performance by decreasing agency costs and many previous researches have sustained this view.

However on the other hand, according to Al-Saidi and Al-Shammari (2015) and many other authors, in some countries, like UK or USA, where market-centric mechanisms operate, firms rely substantially on the legal protection of investors and the dispersed ownership structure has a positive impact on firm performance. These scholars argue that performance may decline, if large shareholders use their control rights to achieve private benefits.

Manawaduge and De Zoysa (2013) present that in Sri Lanka, as in many other emerging markets in Asia, ownership of companies is highly concentrated, with a presence of controlling shareholders in most enterprises. However not much research has been done with regard to ownership concentration and firm performance in a Sri Lankan context and most of these studies ignore ownership structure when the relationship between firm performance and ownership concentration is studied. Also most of the studies which have been carried out in a local context, have not considered panel data regression models, even though they have looked at both cross sectional and time series data. Therefore this inspired the authors to conduct this research paper to investigate whether ownership structure has an impact on a company's performance by using panel data regression analysis.

Research Questions

The authors intend to investigate the following research questions in this study:

1) Does ownership structure has any impact on firm performance in companies listed in Sri Lanka?
2) Does concentrated ownership has an effect on firm performance in companies listed in Sri Lanka?

Research Objectives

This study is carried out to achieve the following objectives:

1) To investigate whether ownership structure has an impact on firm performance, in companies listed in Sri Lanka
2) To investigate whether concentrated ownership has an impact on firm performance, in companies listed in Sri Lanka

2. LITERATURE REVIEW

As discussed above, many research have been done previously on this topic in a vast number of countries around the world. These have resulted with different conclusions. According to Lauterbach and Vaninsky (1999), family owner-managed firms appear less efficient in generating profits whereas firms owned by business concerns and managed by non-owners perform better. These findings suggest that the modern form of business organization, namely the open corporation with disperse ownership and non-owner managers, promotes performance.

Similarly McConnell & Servaes (1990) and Tsai & Gu (2007) too have examined the impact of ownership structure and firm performance and arrived at similar inferences. They argue that institutional ownership can result in improved firm performance and value. They explain the positive effect by the "active/efficient monitoring argument". Active monitoring argument suggests that the monitoring effect is stronger for institutional investors than general shareholders. They further explain that institutional investors are more sophisticated than other shareholders because they are more professional regarding capital markets, industries and businesses and they are better informed. Apart from that, institutional shareholders have higher capabilities in taking actions and can therefore monitor managers more effectively and less costly.

In contrary, Manawaduge and De Zoysa (2013) state that a significant positive relationship exists between individual ownership and ROA and a significant negative relationship with institutional ownership and ROA. Positive relationship between individual ownership and ROA was justified through individual owners' monitoring capabilities and incentive to pursue personal interest. When individuals own a majority of shareholding, they naturally tend to involve in monitoring of operational activities. However according to Manawaduge and De Zoysa (2013) this may not be the case with institutional ownership. When corporate entities own shares, their ultimate owners are less likely to be capable of monitoring firm performance, due to their indirect ownership.

Al-Saidi and Al-Shammari (2015) too argued that companies with concentrated government ownership and family ownership demonstrated a positive impact on firm performance in Kuwait when compared to companies with concentrated institutional ownership. However Shyu (2011) derived at a rather different conclusion in his research on Taiwanese companies. He suggested that performance first increases with family ownership but when families have more than 30 per cent control of the firm, profitability (ROA) decreases. He justifies this by considering the endogeneity issues in his study and concluded that even though family ownership has a significant positive relationship with ROA and Tobin's Q, this relationship is not linear.

Another main concern of study in hand is to examine the impact of ownership concentration and firm performance. When considering about ownership concentration and dispersed

ownership, based on existing theory, it can be argued that governance issues arise when ownership of a legal entity is not separated from its management. Fundamental to this analysis is the "Agency Theory". This theory, in general, explains the conflict between the principal (shareholders) and the agent (managers). It presents that when agent is permitted to make decisions on behalf of the principal, the agent is motivated to act in his own best interest rather than that of principal. Jensen and Mecklin (1976) claim that agency costs consist of three different components: monitoring costs, bonding costs and residual loss. Monitoring costs are the control costs incurred by the principal to mitigate the crafty behaviour of the agent. Bonding costs are incurred to ensure that manager makes decisions beneficial to the principal. Residual loss is a potential cost that occurs when both monitoring costs and bonding costs fail to control the divergent behaviour of the manager. Therefore agency theory argues that ownership concentration may improve firm performance by decreasing agency costs mainly through reducing the problem of small investors and decreasing monitoring costs (Shleifer and Vishny 1986 cited in Mollah et.al. 2012).

Conversely Mollah et. al. (2012), in their study concluded that that all major ownership concentration groups (e.g. sponsor, government, institutional and foreign) are destructive to firms' value measured by market capitalization and that dispersed ownership (or public ownership) results in increased Return on Assets. This finding is in contrary to the well-known agency theory propositions.

However Bedo and Acs (2007) in their research focusing on Standard & Poor's 500 companies in USA and on companies in Central and Eastern European (CEE) countries such as Hungary, Poland, Slovenia and Czech derived at few interesting conclusions. Firstly they said that the results showed a concentrated ownership structure in companies listed in the CEE countries but a widely dispersed ownership was evident in the USA companies. Further their findings were in favour of the agency theory which specifies that in CEE companies, concentrated ownership has a significant positive impact on Return on Equity (ROE) and Operating Efficiency.

Pathirawasam (2013), examined the impact of ownership concentration on company financial performance, by considering 102 listed companies, representing the 5 largest sectors in the Colombo Stock Exchange (CSE), Sri Lanka, for the period 2008 and 2009. He concluded that a significant relationship was not detected between concentrated ownership results in improved financial performance, which was measured through Return on assets (ROA).

Manawaduge and De Zoysa (2013) examined 157 companies representing 10 industries, listed in Sri Lanka, and mentioned that a significant positive relationship was evident between ownership concentration and accounting measures such as ROE and ROA. This finding is conflicting with the conclusion derived by Pathirawasam (2013). However Manawaduge and De Zoysa (2013) also incorporated market based performance measures, such as Tobin's Q and Market to Book Value ratio in their study. The authors were unable to establish a significant impact of ownership concentration on market based performance measures. The reason given was the existence of market anomalies and inefficiencies, which are common to most emerging markets such as Sri Lanka.

One limitation of the study, suggested by Manawaduge and De Zoysa (2013) was the use of pooled data regression analysis rather than panel regression analysis, where the former assumes that the intercept and slope coefficients are constant across time and sectors. Also by looking at the above summary of literature, it can be noticed that there prevail diverse views on the impact of ownership structure on firm performance.

Therefore the authors of the study in hand are motivated to conduct a study to investigate the impact of ownership structure and ownership concentration on firm performance in a Sri Lankan context, considering both cross sectional (76 companies) and time series (2008-2014) data, by applying a fixed effect model into the panel regression analysis.

3. RESEARCH METHODOLOGY

At present there are two hundred and ninety-two (292) companies listed in Colombo Stock Exchange (CSE) in Sri Lanka. These companies represent twenty business sectors. The sample of the study covers the seventy six (76) non-financial listed companies in CSE during the period of 2008 to 2014 covering seven years' time period. These companies represent thirteen (13) business sectors. The following companies and the business sectors were excluded in selecting the sample.

- The companies listed under Bank, Finance and Insurance, Construction and Engineering, Foot wears and Textiles, Information Technology, Investment Trusts, Power and Energy and Telecommunication. This is because these companies are bounded by rules which are not aligned with others and their operation and financial reporting are different from others.
- The companies categorized under the default board for more than two consecutive years. Companies are categorized under default board due to non-submission of financial reports. Hence the data for those companies are unavailable for the whole sample period.

The study in hand uses panel data by combining the cross sectional (76 companies) and time series (seven years period) data. Since the number of companies is seventy six and time period is seven years the study has considered the five hundred thirty two (532) observations.

Conceptual Framework

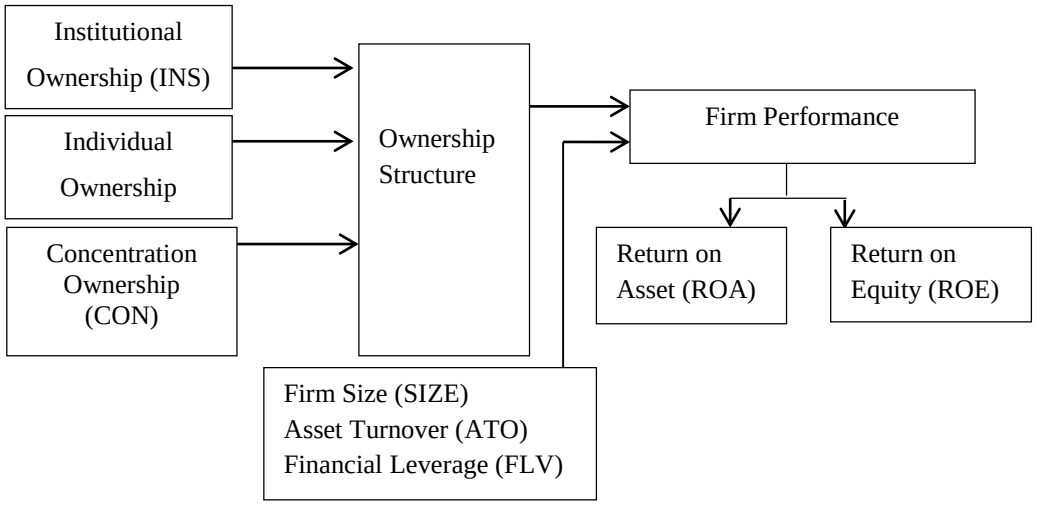

Figure 1: Conceptual Framework

According to figure 1, Ownership structure is the independent variable of this study. This can be subdivided into institutional, individual or concentrated. The dependent variable of the study is firm performance. This again can be subdivided into profitability (measured through Return on Equity) and Operating Efficiency (Return on Assets). Control Variables are the Size of the firm, assets turnover and financial leverage.

Building on the extensive literature above, the study in hand tests the following null hypotheses:

H_{01}: Ownership structure in companies listed in Sri Lanka does not have an effect on firm performance.

H_{02}: Concentrated ownership in companies listed in Sri Lanka does not have an effect on firm performance.

The following Econometric Model has been used by the researchers to establish the following six regression models, to achieve the aforementioned research objectives.

$$Y_{it} = \alpha_i + \beta_1 X_{it} + \beta_2 X_{it} + \beta_3 X_{it} + \beta_4 X_{it} + \beta_5 X_{it} + u_{it}$$

Where:

α_i = intercept

Y_{it} = dependent variable which can be either ROA or ROE where i = entity and t = time

X_{it} = independent variable which can be Institutional Ownership (INS), Individual Ownership (IND), Concentrated Ownership (CON) and control variables Size (SIZE), Asset Turnover (ATO) and Financial Leverage (FLV)

$\beta_1 - \beta_5$ = coefficient for that independent variables

u_{it} = error term

1. $ROA_{it} = \alpha_i + \beta_1 INS_{it} + \beta_2 CON_{it} + \beta_3 SIZE_{it} + \beta_4 ATO_{it} + \beta_5 FLV_{it} + u_{it}$ (1)
2. $ROE_{it} = \alpha_i + \beta_1 INS_{it} + \beta_2 CON_{it} + \beta_3 SIZE_{it} + \beta_4 ATO_{it} + \beta_5 FLV_{it} + u_{it}$ (2)
3. $ROA_{it} = \alpha_i + \beta_1 IND_{it} + \beta_2 CON_{it} + \beta_3 SIZE_{it} + \beta_4 ATO_{it} + \beta_5 FLV_{it} + u_{it}$ (3)
4. $ROE_{it} = \alpha_i + \beta_1 IND_{it} + \beta_2 CON_{it} + \beta_3 SIZE_{it} + \beta_4 ATO_{it} + \beta_5 FLV_{it} + u_{it}$ (4)
5. $ROA_{it} = \alpha_i + \beta_1 CON_{it} + \beta_2 SIZE_{it} + \beta_3 ATO_{it} + \beta_4 FLV_{it} + u_{it}$ (5)
6. $ROE_{it} = \alpha_i + \beta_1 CON_{it} + \beta_2 SIZE_{it} + \beta_3 ATO_{it} + \beta_4 FLV_{it} + u_{it}$ (6)

3.2 Operationalization

Table 1: Operationalization of Variables

Variables		**Indicator**	**Measurement**
Dependent Variables	Firm Profitability	Return on Equity (ROE) (Mirza and Javed, 2013, Bedo and Acs, 2007, Chen, 2012)	Net profit after tax / Total shareholders' equity
	Firm Operating Efficiency	Return on Assets (ROA) (Al-Saidi and Al-Shammari, 2015, Pathirawasam, 2013)	Net profit after tax / Total assets
Independent Variables	Ownership Structure	Individual Ownership (IND) (McConnell & Servaes 1990, Lauterbach and Vaninsky, 1999, and Tsai & Gu, 2007)	Percentage of shares held by individual shareholders
		Institutional Ownership(INS) (McConnell & Servaes 1990, Lauterbach and Vaninsky, 1999, and Tsai & Gu, 2007)	Percentage of shares held by institutional shareholders
	Ownership Concentration	Concentration Ownership (CON) (Manawaduge and De Zoysa, 2013)	Herfindahl Index (sum of squared % of shares controlled by each of the top 5 shareholders)
Control Variables	Size	Total Assets (SIZE) (Shyu, 2011, Mollah et. al., 2012)	Natural logarithm of total assets
	Asset Turnover	Sales (ATO) (Wahla et.al. 2012)	(Sales/Total Assets)
	Financial Leverage	Debt over total assets (FLV) (Manawaduge and De Zoysa, 2013 and Pathirawasam, 2013)	Long term and short term debt/ Total Assets

In current study a panel data regression analysis is performed. Panel data is a combination of cross section and time series data. A panel data approach is more useful than either cross-section or time-series data alone because it gives many benefits such as controlling for heterogeneity, more useful data, variability, degrees of freedom and efficiency and less collinearity (Baltagi, 2005). Panel data can be analyzed in two methods: fixed and random effects. The fixed effects model has constant slopes overtime but different intercepts according to the cross-sectional unit and it is constant for each unit overtime. Although there are no significant temporal effects, there are significant differences between firms in this type of model. While the intercept in random effects model is random where the random outcome is a function of a mean value plus a random error (Manez, Rochina, & Sanchis, 2004).

According to the research in hand the researchers run six panel regression models, as mentioned above. The following tests are used by the researches in the data analysis process.

Initially an F-Test is carried out for the six models to examine whether fixed effects are existing in the said models. The F-Test compares a fixed effect model and OLS to see how much the fixed effect model can improve the goodness-of-fit. The null hypothesis of F-Test is that all dummy parameters except for one for the dropped are all zero. If the null is rejected, it may be concluded that there is a significant fixed effect in the panel data, thus favouring a fixed effect model over a pooled OLS.

Breusch and Pagan's (1980) Lagrange Multiplier (LM) Test is then carried out to examine whether random effects of company and time exist in the said model. Random effect model explores differences in error variance components across individual company or time period and contrasts a random effect model with OLS. The null hypothesis of LM Test suggests that individual-specific or time specific error variance components are zero. If null is rejected, it can be concluded that a significant random effect exists in the panel data and that random effect model is better than the pooled OLS.

To see which effect is more relevant and significant in the panel data, a Hausman Test is conducted to compare fixed and random effect models under the null hypothesis that individual effects are uncorrelated with any regressor in the model. If the null is rejected it may be concluded that individual effects are significantly correlated with at least one regressor in the model and thus the fixed effect model should be chosen over random effect model.

In this study the Hausman Test concludes that the fixed effect model is more suitable than a random effect model. Then it is required to investigate whether time fixed effects are needed when running the fixed effect model. The null hypothesis is that all years' coefficients are jointly equal to zero. If the null is rejected time fixed effects are need to be considered when running the fixed effect model.

Finally to determine the relationship between the aforementioned independent and dependent variables, a panel regression model is run. To control the heteroskedasticity, cross-sectional dependence and autocorrelation of the panel data researchers have chosen the Generalized Least Squares (GLS) regression model.

4. FINDINGS AND DISCUSSION

4.1 Descriptive Statistics

The ownership and performance variables are initially examined with descriptive statistics and the results are shown in Table 2. The ownership concentration is measured by the HERF index. Table 2 denotes that the mean value of HERF index for sample companies is 3310. According to merger guidelines issued by the US Department of Justice (2010), an HERF index in excess of 1,800 points is represents high concentration. Therefore this indicates the presence of high ownership concentration in Sri Lankan firms. This also illustrates that there exists a controlling shareholder for most of the Sri Lankan firms.

It can also be seen that there is a substantial variation across firms in ownership concentration. The range of the HERF index is 8951 with a standard deviation of 2096. This proves that the sample is well dispersed, when considering the ownership concentration.

The ownership structure of firms in this research is twofold; institutional (INS) ownership and individual (IND) ownership. Table 2 confirms that the ownership structure in Sri Lankan firms represents a higher corporate ownership when compared to individual ownership. This is illustrated by the mean value of institutional ownership, which is 72% when compared to

the mean value of individual ownership, which is only 28%. The sample is well dispersed when considering the ownership structure, as both institutional and individual ownership has range values, which are as high as 97%.

The researchers also examined the fluctuations of descriptive statistics, throughout the seven years from 2008 to 2014. By looking at the year wise statistics, minor fluctuations were evident in the mean values of corporate ownership. It can be reasonably concluded that corporate ownership has been the dominant organizational structure in Sri Lanka, as it has maintained an average mean value of 72% throughout the seven years in concern. Further HERF index too indicates slight fluctuations around the average mean value of 3310 throughout the seven years in concern.

Table 2: Descriptive Statistics

Variable	Mean	Std. Dev	Min.	Max.
ROA	0.115	0.131	-0.165	1.005
ROE	0.149	0.231	-0.336	2.393
INS	72.024	24.128	0.080	97.380
IND	27.975	24.128	2.620	99.920
CON	3310.306	2096.131	270.900	9222.340
SIZE	9.346	0.582	7.370	10.900
ATO	0.872	1.025	0.001	9.415
FLV	0.149	0.219	0.000	3.201

Source: Authors
No. of Observations = 532

4.2 Correlation Matrix

Table 3 depicts the directions of relationships between independent, dependent variables and controlling variables. From table 3 it is apparent that there exists a significant positive relationship between institutional ownership and the dependent variables of the study, which are ROA (significant at 1% level) and ROE (significant at 5% level). This is contrary to the relationship that is evident between the individual ownership and dependent variables. This shows that when an organization owned by another institution, the profitability and operating efficiency of the firm can be improved. However this is not the case when the organizations are owned by individual owners.

The concentrated ownership too illustrates a positive relationship with ROA and ROE. This means that when the ownership is concentrated, the profitability or operating efficiency of an organization can be improved. This is in line with the agency theory which suggests that concentrated ownership can improve firm performance by reducing agency costs. However only ROE reflects a statistically significant positive relationship (at 5% significant level), with concentrated ownership.

The significant positive relationship between concentrated ownership and institutional ownership structure represents that, the ownership of most Sri Lankan firms are concentrated by the existence of a large shareholding owned by another institution. This also means that individually owned companies are less concentrated.

Size which is measured by the total assets of firms, indicate a positive relationship with profitability and operating efficiency ratios. However only the profitability ratio (ROE) indicates a statistically significant relationship at 1% level with size.

On the other hand the negative relationship between size and individual ownership suggests that large organizations are mainly owned by other corporates and vice versa. Financial leverage too shows a negative relationship between ROA and ROE, which is in line with theoretical framework. The negative relationship between financial leverage and ROA is statistically significant at 1% level.

Finally to test whether multicollinearity exists among the independent variables, in the regression models, a diagnostic test with the calculation of variance inflation factors (VIF), which quantifies the severity of multicollinearity in a regression analysis, is conducted. If the summary scores of VIF are less than 10, and the tolerance value is greater than 0.1, it can be considered as a good indicator for non-multicollinearity. Thus the VIF scores as illustrated in Table 3, confirms that there is no multicollinearity in the selected regression models.

Table 3: Correlation Matrix

	ROA	ROE	INS	IND	CON	SIZE	ATO	FLV	VIF	1/VIF
ROA	1.0000									
ROE	0.9010	1.0000								
	0.0000***									
INS	0.1686	0.1521	1.0000						1.3	0.772
	0.0026***	0.0120**								
IND	-0.1686	-0.1521	-1.0000	1.0000					1.3	0.772
	0.0026***	0.0120**	0.0000***							
CON	0.1145	0.1486	0.4206	-0.4206	1.0000				1.24	0.806
	0.2297	0.0164**	0.0000***	0.0000***						
SIZE	0.0921	0.1857	0.0653	-0.0653	0.0079	1.0000			1.06	0.942
	0.9413	0.0005***	1.0000	1.0000	1.0000					
ATO	0.3999	0.4733	-0.1511	0.1511	0.0318	-0.1323	1.0000		1.06	0.942
	0.0000***	0.0000***	0.0131**	0.0131**	1.0000	0.0625*				
FLV	-0.1692	-0.0802	-0.2249	0.2249	-0.1725	0.1683	0.0922	1.0000	1.11	0.900
	0.0025***	1.0000	0.0000***	0.0000***	0.0018***	0.0027***	0.9372			

Source: Authors
No. of Observations = 532
***significant at 1% level, **significant at 5% level, *significant at 10% level

4.3 Testing for Fixed Effects (F Test)

Table 4: F Test

Model	F Value	Probability Value
1	6.62	0.0000
2	10.53	0.0000
3	6.62	0.0000
4	10.53	0.0000
5	7.10	0.0000
6	11.13	0.0000

Source: Authors
* at 95% confidence level
F(75,451)

As per table 4, it can be seen that the probability values for all six models are less than 0.05. Therefore null hypothesis can be rejected. Thus at a 95% confidence level, it can be said that there is a significant fixed effect in the panel data and that fixed effect model should be chosen over a pooled OLS.

4.4 Testing for Random Effects (LM Test)

Table 5: LM Test

Model	Chibar2(01)	Probability Value
1	254.46	0.0000
2	413.62	0.0000
3	254.46	0.0000
4	413.62	0.0000
5	280.11	0.0000
6	445.60	0.0000

Source: Authors
* at 95% confidence level

As per table 5, it can be seen that the probability values for all 6 models are less than 0.05. Therefore null hypothesis can be rejected. Thus at a 95% confidence level, it can be mentioned that a significant random effect exists in the panel data and that random effect model is better than the pooled OLS.

4.5 Hausman Test

Table 6: Hausman Test

Model	Chi2(5)	Probability Value
1	28.50	0.0000
2	52.92	0.0000
3	28.50	0.0000
4	52.91	0.0000
5	30.08	0.0000
6	53.73	0.0000

Source: Authors
* at 95% confidence level

As both F Test and LM Test suggest that both fixed effects and random effects exist in the panel data, the Hausman Test is carried out to investigate which effect is more relevant and significant in the panel data.

As per table 6, it can be seen that the probability values for all six models are less than 0.05. Therefore the null hypothesis can be rejected. Thus it can be stated that fixed effect model is better than its random counterpart.

4.6 Testing for Time Fixed Effects

Table 7: Testing for Time Fixed Effects

Model	F Value	Probability Value
1	4.47	0.0002
2	4.69	0.0001
3	4.47	0.0002
4	4.69	0.0001
5	4.47	0.0002
6	4.70	0.0001

Source: Authors
* at 95% confidence level; F(6, 445)

As per table 7, the probability values for all six models are less than 0.05, we can reject the null hypothesis. This indicates that there is a time fixed effect in the model. Thus it can be stated that time fixed effects need to be considered when running the fixed effect model.

4.7 Regression Outputs

Table 8: Estimation Results for Models

Model	**M 1**	**M 2**	**M 3**	**M 4**	**M 5**	**M 6**
Dependent Variable	**ROA**	**ROE**	**ROA**	**ROE**	**ROA**	**ROE**
	-0.367	-1.062	-0.263	-0.895	-0.33	-1.004
	(-4.46)	(-7.75)	(-3.17)	(-6.64)	(-3.97)	(-7.23)
Constant	0.000	0.000	0.002	0.000	0.000	0.000
	0.001*	0.002*				
INS	(4.51)	(4.36)	-	-	-	-
	0.000	0.000				
			-0.001*	-0.002*		
IND	-		(-4.51)	(-4.36)	-	-
			0.000	0.000		
	-7.421	4.071	-7.421	4.071	3.991***	0.00001*
CON	(-0.29)	(0.94)	(-0.29)	(0.94)	(1.65)	(2.92)
	0.774	0.345	0.774	0.345	0.099	0.004
	0.04*	0.107*	0.04*	107*	0.043*	0.111*
SIZE	(4.95)	(7.27)	(4.95)	(7.27)	(4.85)	(7.49)
	0.000	0.000	0.000	0.000	0.000	0.000
	0.059*	0.122*	0.059*	0.122*	0.0563*	0.117*
ATO	(12.23)	(15.04)	(12.23)	(15.04)	(11.46)	(14.3)
	0.000	0.000	0.000	0.000	0.000	0.000
	-0.115*	-0.129*	-0.115*	-0.129*	-0.133*	-0.158*
FLV	(-4.93)	(-3.33)	(-4.93)	(-3.33)	(-5.66)	(-4.05)
	0.000	0.001	0.000	0.001	0.000	0.000
Observation	532	532	532	532	532	532
R-Squared	**0.2854**	**0.3617**	**0.2854**	**0.3617**	**0.2574**	**0.3384**
Adj R-Squared	0.2703	0.3482	0.2703	0.3482	0.2432	0.3257
F	18.88	26.79	18.88	26.79	18.06	26.65
P-Value	0.000	0.000	0.000	0.000	0.000	0.000

No. of Observations = 532
*Significant at 1% level, *** Significant at 10% level
Numbers in parentheses are t-values

One salient feature which can be observed from table 8 is the significant positive relationship between institutional ownership and operating efficiency of the companies listed in Sri Lanka.

Similarly the relationship between institutional ownership and profitability too is positive and statistically significant at 1% level.

McConnell & Servaes (1990), Han & Suk (1998) and Tsai & Gu (2007), also conclude that significant positive effects exist of institutional ownership on firm performance. They explain the positive effect by the "active monitoring argument". Active monitoring argument suggests that the monitoring effect is stronger for institutional investors than general shareholders. They further explain that institutional investors are more sophisticated than other shareholders because they are more professional regarding capital markets, industries and businesses and they are better informed. Apart from that, institutional shareholders have higher capabilities in taking actions and can therefore monitor managers more effectively and less costly.

Also when considering about the individual ownership with operating efficiency and profitability, the relationship is significant and negative. This is when considering a significance level of 1%.

Ownership of companies, if concentrated by individual holdings are mainly dominated by families. According to Chen (2012) negative effects of family ownership and firm performance can be observed when the potential conflict between the family owners and the minority shareholders increases along with the increased degree of individual ownership. This may take place especially when shareholder protection is low, because the family owners have more opportunities to gain private control benefit by expropriating minority shareholders' benefit. Furthermore, family ownership is usually accompanied with the family being involved in management. The hired professional managers become discouraged in improving their efficiency under this mechanism; this argument is called the "manager discouragement". Therefore these findings suggest that the first null hypothesis of this paper can be rejected and the alternative hypothesis can be accepted purely based on statistical grounds.

Empirical results also suggest that there exists a significant positive relationship between concentrated ownership and dependent variables. This is in line with the findings of Manawaduge and De Zoysa (2013) and Bedo and Acs (2007), who concluded that there is a significant positive impact of ownership concentration on firm's performance.

Thus based on the empirical evidence, authors can reasonably argue that in a Sri Lankan context, concentrated ownership may reduce agency costs thereby increasing firm performance. This implies that the second null hypothesis of this paper can be rejected and the alternative hypothesis can be accepted purely based on statistical grounds. Also as mentioned above, if ownership is concentrated by institutional owners, the firm performance can significantly be improved rather than the ownership being concentrated by individuals. This conclusion is in line with Lauterbach and Vaninsky (1999) who argue that the "modern form of business organization, namely the open corporation with non-owner managers, promotes performance".

In all regression models, both firm size and asset turnover have a significant positive impact on firm performance, measured by ROA and ROE. Furthermore, leverage measured in Total Debt /Total Assets has a significant negative impact on both ROA and ROE. In general, the sign of the coefficients for control variables on ROA and ROE are consistent with previous findings and the economic arguments. However the low adjusted R^2 value in all regression models, proposes that there can be other omitted factors which may increase the robustness of all six models.

5. CONCLUSION

Shareholder wealth maximization is the ultimate goal of any firm. This can be achieved through increased profitability and improved operational efficiencies. Ownership structure, whether it is concentrated or dispersed, is one of the main determinants of organizational performance. Dispersed ownership and the existence of clear distinction between ownership and management are apparently favored by theories of corporate governance and good corporate governance is critical to a company's growth, competitiveness and sustainability.

In market-centric economies such as USA and UK, firms rely extensively on dispersed ownership structures whereas in emerging countries, most of the listed companies demonstrate a concentrated form of ownership. Therefore this research is carried out with the objectives of empirically investigating whether ownership structure and concentrated ownership have an impact on firm performance, in companies listed in Sri Lanka. For this purpose, the researchers have considered a sample of seventy six (76) non-financial listed companies in CSE during the period of 2008 to 2014. Panel data has been used by combining the cross sectional (76 companies) and time series (seven years period) data. Ownership structure is operationalized by the fraction of institutional and individual shareholders and concentrated ownership by Herfindahl Index. Firm performance is twofold; profitability and operating efficiency, measured by Return on Equity and Return on Assets respectively. Firm size (total assets), asset turnover and financial leverage are considered as controlling variables. A time fixed effect model is applied into the panel regression analysis. Further to control the heteroskedasticity, cross-sectional dependence and autocorrelation of the panel data, the Generalized Least Squares (GLS) regression model is chosen.

Findings suggest that companies listed in Sri Lanka are mainly owned by institutional shareholders and that the ownership is highly concentrated. Further results show that individually owned companies are less concentrated. A significant positive relationship exists between institutional ownership and firm performance. This positive relationship can be explained by the 'active monitoring argument', which means that monitoring effect is stronger for institutional investors than general shareholders. Institutional investors are better informed and have higher capabilities in taking actions and can therefore monitor managers more effectively and less costly.

Also the significant negative relationship between individual ownership and firm performance can be explained by the 'manager discouragement argument'. This means that individual ownership is usually accompanied with family being involved in management which results with hired professional managers becoming discouraged in improving their efficiency under this mechanism. This also can be justified by the potential conflict between the family owners and the minority shareholders, which increases along with the increased degree of individual ownership. This may take place especially when shareholder protection is low, because the family owners have more opportunities to gain private control benefit by expropriating minority shareholders' benefit.

Further a significant positive relationship exists between concentrated ownership and dependent variables. Therefore it can reasonably be argued that in a Sri Lankan context, concentrated ownership may reduce agency costs thereby increasing firm performance. Also as mentioned above, if ownership is concentrated by institutional owners, the firm performance can significantly be improved rather than the ownership being concentrated by individuals. Firm size and asset turnover have a significant positive impact and financial leverage has a significant negative impact on firm performance, which are consistent with previous findings and the economic arguments.

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