

THE STRUCTURE OF CORPORATE OWNERSHIP AND FIRM PERFORMANCE: SRI LANKAN EVIDENCE

*Athula Manawaduge**, *Anura De Zoysa***

Abstract

This paper examines the impact of ownership structure and concentration on firm performance in Sri Lanka, an emerging market in Asia. The study estimates a series of regressions using pooled data for a sample of Sri Lankan-listed firms to investigate the impact of ownership concentration and structure on firm performance based on agency theory framework, using both accounting and market-based performance indicators. The results of the study provide evidence for a strong positive relationship between ownership concentration and accounting performance measures. This suggests that a greater concentration of ownership leads to better performance. However, we found no significant impact using market-based performance measures, which suggests the existence of numerous market inefficiencies and anomalies. Furthermore, the findings of the study show that ownership structure does not have a significant distinguishable effect on performance.

Keywords: Corporate Governance, Ownership Concentration, Performance, Emerging Markets, Sri Lanka

* *Department of Accounting, Finance & Economics, Griffith Business School, Nathan campus, Griffith University, 170 Kessels Road, Nathan QLD 4111, Australia*

Tel. +61 7 3735 7907

Fax: +61 7 3735 3719

E-mail: a.manawaduge@griffith.edu.au

** *School of Accounting and Finance, University of Wollongong, Northfields Ave, Wollongong, NSW, 2522, Australia*

Tel.: +61 2 4221 5382

Fax: +61 2 4221 4297

E-mail: anura@uow.edu.au

1. Introduction

The effect of ownership concentration and structure on firm performance is considered an important issue in the search for an appropriate governance model for an economy. Much of the literature on good corporate governance of modern corporate entities assumes that corporate ownership is widely dispersed, where a clear distinction is evident between ownership and management. However, the literature shows a high level of ownership concentration in many countries — especially outside the Anglo-Saxon countries (La Porta et al., 1999; Kapopoulos and Lazaretou, 2007; Shleifer and Vishny, 1997). Many studies examine the impact of ownership concentration on performance, concluding that higher ownership concentration may improve performance by decreasing monitoring costs. Alternatively, performance can decline if large shareholders use their control rights to achieve private benefits (see for example, Shleifer and Vishny, 1986; Thomsen et al., 2006; Zeitun and Gary, 2007; Morck et al., 1988; Leech and Leahy, 1991; and Demsetz and Lehn, 1985). However, most studies on ownership concentration and structure were conducted in developed economies, and their results generalized

without paying much attention to contextual idiosyncrasies. The contextual settings of developed countries differ vastly from those of emerging markets (Nam and Nam, 2004). For example, governance survey in Asia by Classens and Fan (2002) revealed that most of the Asian markets have governance systems with weak institutions and poor property rights and argued that conventional corporate governance mechanisms have limited effectiveness in these economies. It is widely presume that the theoretical arguments put up on empirical findings and evidence collected from developed countries may have limited applicability to emerging markets. As Zeitun and Gary (2007) point out, the social, economic and cultural factors of a country affect corporate ownership structure, which in turn impacts on firm performance. Very little is known about the performance implications of ownership structure in emerging markets, and there is a dearth of studies in this area. This issue, combined with the divergent results produced by similar previous studies conducted in developed economies, creates a vacuum in the academic literature on corporate governance practices in emerging markets. This study helps to fill this gap by examining the impact of ownership

concentration and structure on firm performance in the context of an emerging economy, namely Sri Lanka.

Sri Lanka has undergone much political and economic turmoil in recent decades, and this has produced various macroeconomic anomalies. In comparison to many other emerging markets in Asia, Sri Lanka provides a unique business environment because of its historical inheritance, the 30-year civil war and other socioeconomic influences. As Nanayakkara (1999, p.9) points out, "in many dimensions, Sri Lanka's performance has been paradoxical: high quality of life with low level of productivity; high level of literacy and education with low level of employment and high level of political instability with a stable democratic system of governance". These kinds of inconsistencies at the macroeconomic level create a challenging environment for Sri Lankan corporate governance, which was inherited from British colonial rulers who dominated the country for over four centuries. Due to this historical background, and coupled with other unique economic and political features, the governance structure of Sri Lankan organizations is greatly influenced by the neo-liberal reinforcement of good governance practices (Alawattage and Wickramasinghe, 2004).

Sri Lankan corporate entities have strong historical ties with the systems inherited from British colonial rule. The country adopted liberalized economic policies from 1977, and international funding agencies (such as the World Bank, the IMF and the Asian Development Bank) have also influenced corporate functioning. In the post-colonial era, British structures influenced Sri Lankan accounting and auditing systems, as have, more recently, international standards and practices (Asian Development Bank, 2002). Given these contexts, research is needed on how the various corporate governance practices of Sri Lankan firms operate within these paradoxical conditions, and how they manage to achieve higher performance and investor confidence in order to maximize shareholder wealth.

As in many other emerging markets in Asia, the ownership of Sri Lankan companies is highly concentrated, with a presence of controlling shareholders in most enterprises (Samarakoon, 1999). As per the Colombo Stock Exchange (CSE) listing rules, a public listed company must satisfy a specified public float in its issued share capital at the time of its initial listing and thereafter. In order to be quoted on 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 (CSE, 2009). However, this requirement has not been properly monitored or enforced, and the minimum public shareholding of some companies falls short of the required float. Together with the above-mentioned historical, economic and political influences, this has produced a

concentrated ownership in most Sri Lankan companies. The study by Senaratne and Gunaratne (2007), which examines the ownership structure of listed companies in Sri Lanka, reveals that the ownership of Sri Lankan companies is characterized by certain features, such as: the controlling shareholder is usually another corporate entity; family ownership as the ultimate owners is widely prevalent; a pyramid ownership structure, cross-holdings and participation in management by controlling shareholders are used extensively; and a large community of arm's-length institutional shareholders is absent. Therefore, corporate control in Sri Lanka often lies in the hands of a few individuals, families or corporate groups who hold the majority of ownership. The existing governance structure of Sri Lankan companies, characterized by their domination by controlling shareholders, shows some similarity to the insider systems of corporate governance model, which is normally characterized by highly concentrated holdings, concentrated voting power, cross-corporate holding and inter-firm relationships. However, whether this type of ownership structure affects firm performance has not been examined in any prior research on Sri Lanka. Therefore, the main objectives of this study are to examine: (1) the impact of *ownership concentration* and (2) the impact of *ownership structure* on the performance of Sri Lankan-listed firms.

The remainder of this paper is organized as follows. Section 2 provides a brief review of the existing literature on the effects of ownership structure and concentration on firm performance. Section 3 explains the data and methodology. The analysis and empirical findings are presented in Section 4, while Section 5 concludes the discussion.

2. Literature Review

Governance issues arise when the ownership of a legal entity is separated from its management (Tricker, 2000). This intensifies the need to search for good governance practices, as identified by Berle and Means (1932). Central to this analysis is agency theory, which explains the conflict of interest between inside owners (directors of the firm who own shares in the firm) and outside owners (shareholders other than directors in the firm). Jensen and Meckling (1976) argue that relative to the amount of ownership held by inside owners, they have incentives to pursue their own benefits, which in turn are aligned to enhance firm value. According to this hypothesis, both a firm's value and its performance increase with the level of insider ownership.

Market-centric economies are largely characterized by the existence of a widely held ownership structure, highly liquid stock markets (due to good investor protection) and control of companies by professional managers on behalf of scattered shareholders (Bhasa, 2004). In these economies,

corporate management has more power to make decisions, and these decisions may frequently be in management's own interest, which may then generate an agency cost. Agency theory argues that ownership concentration may improve firm performance by decreasing agency costs (Shleifer and Vishny, 1986). Jensen and Meckling (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 devious behaviour of the agent. Bonding costs are incurred to ensure that the 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.

Jensen and Meckling (1976) illustrate theoretically how the allocation of shares among insiders and outsiders can influence the agency costs and firm value. Since these authors' work, the relationship between ownership and firm performance has attracted special attention. Agency theory and the empirical literature thereof usually consider insider ownership as the main corporate mechanism that increases firm value. However, empirical evidence regarding the relationship between ownership concentration and financial performance (or firm value) has produced mixed results (for example, Agrawal and Knoeber, 1996; Demsetz and Villalonga, 2001; Thomsen et al., 2006). Despite the existence of a wealth of research, the question of whether concentrated ownership contributes to reduced agency costs (and thereby improves firm value and financial performance) remains unanswered.

The agency theory hypothesis (that ownership concentration may improve firm performance by decreasing agency costs) was first challenged by Demsetz (1983), who argues that the ownership structure of a corporation should be thought of as an endogenous outcome of decisions that reflect the influence of shareholders. Demsetz asserts that no systematic relationship should exist between variations in ownership structure and variations in firm performance. Demsetz and Lehn (1985) provide evidence of the endogeneity of a firm's ownership structure, using a measure of the profit rate on a fraction of shares owned by the five-largest shareholders, and found no evidence of any relationship between profit rate and ownership concentration. Conversely, Shleifer and Vishny (1986) show the importance of the role played by large shareholders, and how the price of a firm's shares increases as the proportion of shares held by large shareholders rises. They argue theoretically for a positive relationship between ownership concentration and firm value.

Morck et al. (1988) ignored the endogeneity issue altogether and re-examined the relationship between corporate ownership structure and performance, measured in terms of Tobin's Q, and

propose a non-linear relationship between insider ownership and firm performance. They found a positive relationship between corporate ownership structure and Tobin's Q for less than five per cent board ownership range, a negative relationship in the 5–25 per cent range and a positive relationship for ownership exceeding 25 per cent. However, their results are not supported by accounting-based performance measures. Wu and Cui (2002) found a positive relationship between ownership concentration and accounting profits, indicated by return on assets (ROA) and return on equity (ROE), but the relationship is negative with respect to the market value measured by the price-earnings ratio (P/E) and market-to-book-value ratio (MBR).

Corporate governance mechanisms vary around the world and can produce different ownership effects on firm performance. The academic literature identifies the existence of four different models of governance: the market-centric model (outsider model), the relationship-based model (insider model), the transition model and the emerging market model. These models are vastly different in terms of how those associated are accountable in the process of the separation of ownership and control within the organization (Bhasa, 2004). In countries such as the US and the UK, where market-centric mechanisms operate, firms rely substantially on the legal protection of investors and the dispersed ownership structure. Europe and Japan, where relationship mechanisms operate, rely less on legal protections, but more on large investors and banks. The transition model is mainly used by central and eastern European countries and newly independent states from the former Soviet Union. The emerging market model is characterized by the existence of a lively capital market, formal and functional legal systems, and both family-held and widely-dispersed firms. The emerging market model has arisen as a result of an attempt to impose and replicate the relationship-based and market-centric governance models originating in the developed economies on emerging markets (Vinten, 2002; Sarre, 2003). While market-centric and relationship-based governance models are widely discussed in the governance literature, the emerging governance model has not been examined extensively — despite its applicability to many developing countries in the world (OECD, 2009; Kirkpatrick, 2009).

The literature extensively examines corporate governance issues under various theoretical perspectives, such as the agency, stewardship, stakeholder and political models. These theoretical perspectives provide different viewpoints from which to investigate firms and their governance (Turnbull, 1997). However, the dominant focus in the mainstream literature is from an agency perspective of the firm, with a view to securing owners' interests by reducing agency costs. Most of these theories are developed and examined in the developed economies,

assuming contextual conditions of these economies provide universal reference. Tricker (cited in Turnbull, 1997, p. 187) states that “stewardship theory, stakeholder theory and agency theory are all essentially ethnocentric. Although the underlying ideological paradigms are seldom articulated, the essential ideas are derived from Western thought, with its perceptions and expectations of the respective roles of individual, enterprise and the state and of the relationships between them”. An increasing body of literature refers to the potential differences in the economic characteristics of developing countries. However, the interaction of these economic characteristics with governance and corporate structures, and the performance implications of these factors have not been examined thoroughly. Therefore, these contextual differences across countries create another dimension to the ownership structure and performance issue. In an attempt to reconcile this divergent evidence, Udayasankar and Das (2007) notionally explain the performance implication of corporate governance in the context of the exogenous environment, supported with multiple theories of corporate governance, such as agency, stakeholder, resource-dependence, and institutional theories, and construct an argument that the regulation and competitive forces in the environment interact with the governance practices of firms, resulting in idiosyncratic effects on performance.

Because of the contextual differences across countries, different relationships between ownership structure and firm performance might be expected. For example, in emerging economies, where firm ownership is highly concentrated with family ownership, a significant positive effect of ownership concentration on firm performance is proposed. This argument is confirmed by the study of Zeitun and Gary (2007), which examined the relationship of ownership concentration and firm performance both in term of accounting measures and market measures using a sample of public listed companies on the Jordan stock exchange. They found a significant positive relationship between ownership concentration and accounting performance measures. Abor and Biekpe (2007) investigated the effects of corporate governance and ownership structure on the performance of SMEs in Ghana and found that board size, board composition, CEO duality, inside ownership and family ownership have significant positive impacts on profitability. Despite these efforts, the various performance implications of ownership

concentration and structure are yet to be explored with a particular focus on emerging economies. This study analyses ownership concentration and structure, and their performance implications in the Sri Lankan context, thereby starting to resolve this knowledge gap.

3. Data and Estimation Method

3.1 Data

The sample used in the study consisted of 157 non-financial Sri Lankan companies listed on the CSE over the period 2000–2008. As per the CSE website, 232 companies were listed on CSE in 2010 and the number of companies varied from 232 to 240 over this period. Accordingly, this sample represents approximately 68 per cent of the listed companies. The data for the study were obtained from three main sources: Bureau Van Dijk’s OSIRIS database (OSIRIS), CSE’s Data Library which provides share price information of Sri Lankan stock market and the annual reports of public listed companies in Sri Lanka. The major items of interest to this study were balance sheets, income statements, ownership structure, shareholdings of main shareholders and the market prices of shares. The balance sheet and income statement items were directly extracted from the OSIRIS database. However, information on ownership structure and the share ownership of main shareholders was not available in the OSIRIS database, and hence they were extracted directly from the annual reports of relevant companies. The market share price information of sample firms was obtained from the *Data Library* published by the CSE.

Table 1 presents the sample profile of companies which consists of 846 firm-years, covering the period between 2000 and 2008. These companies belonged to ten different industrial sectors, of which the manufacturing sector represented the highest number of companies (26 per cent) in the sample. As per this table, the number of companies in each industry sector ranged 3–26 per cent. The sample includes all industrial sectors of the CSE, excluding the bank, finance and insurance sector, which consisted of approximately 30 companies over the sample period. This sector was excluded from the initial sample selection process mainly due to non-comparability of applicable regulations, especially in respect of share ownership, profitability measures and liquidity assessment, compared to other sectors.

Table 1. Sample Profile

Industry	No. of Firms	%	Firm-Years (2000–2008)	%
Beverage and food	14	8.9	95	11.2
Diversified	7	4.5	48	5.7
Health	6	3.8	21	2.5
Hotel	25	15.9	123	14.5
Investment & property	11	7.0	65	7.7
Manufacturing	40	25.5	220	26.0
Motors	6	3.8	42	5.0
Plantations	22	14.0	108	12.8
Service and trading	17	10.8	79	9.3
Other	9	5.7	45	5.3
Total	157	100.0	846	100.0

The data set contains detailed information on performance, measured in terms of accounting and market return, ownership concentration (OC), ownership structure (OS) and other financial information capable of measuring the size, age and leverage of the companies.

3.2 Measurement and Selection of Variables

As this study aims to explore the diverse performance implications from ownership variables, both accounting and market performance measures are alternately employed in the analysis model. Prior studies which examine the performance implications of ownership have argued that the accounting and market performance measures are differ at least in two important respects and employed both accounting profit rate and Tobin's Q (TQ) in some of these studies (Demsetz and Lehn, 1985; Zeitun and Gary, 2007; Morck et al., 1988; Agrawal and Knoeber, 1996; Demsetz and Villalonga, 2001; Thomsen et al., 2006). In consistence with the arguments propagated by these studies, we employed both performance variables which include return on assets (ROA) and return on equity (ROE) as the accounting performance measures while TQ and market-to-book-value ratio (MBR) as the market performance measures in order to find out the impact of ownership on firm performance in a different contextual setting. These performance variables were measured using pooled data as given below.

ROA: Net profit before tax to total assets; measured operational efficiency of the firms

ROE: Net profit after tax to total equity; measured profitability of firms from equity shareholders' point of view.

Proxy TQ: The market value of a firm's equity plus the book value of its debt to the book value of total assets.

MBR: Market value of a firm's equity to its book value

Accounting and market performance measures are diverse in many respects out of which two important aspects appeal discussion. The first relates to the time horizon: accounting profit is based on the historical performance of the firm, and is therefore a backward-looking measure; while TQ ratio reflects the investors' expectation, and is therefore a forward-looking measure. The second difference arises due to measurement problems: accounting profit is largely distorted by accounting principles, concepts and standards. In contrast, TQ is based on market values, and therefore is affected by investors' expectations about future events, which are subject to manipulations, signalling, group behaviour, and mistakes (Kapopoulos and Lazaretou, 2007). TQ also suffers from accounting measurement problems, due to the use of proxy book value in place of replacement value of tangible assets. Book values generally have serious problems caused by inflation and arbitrary depreciation choices. Furthermore, TQ does not reveal the investment made in intangibles; and neither does it reflect the value placed by investors in intangibles. Due to these reasons, validity of TQ as a performance measure is debatable, especially in an emerging market where market anomalies and inefficiencies play a dominant role in deciding the market price for securities.

The accounting performance variables are subject to various limitations which are typically resulted from the fundamental limitations of financial statements. Though the financial statements are prepared based on generally accepted accounting standards, accounting process is dominant by subjective interpretation of standards and the application of firm-specific accounting rules and policies. This makes it difficult to compare the firm performance measured in accounting terms in a realistic manner. Despite this inherent limitation, the applicable legal requirements and the financial statement preparation process of Sri Lankan listed firms are in par with the international standards in many respects. The Sri Lankan firms are required to prepare financial statements based on Sri Lanka Accounting Standards which are fully compliant with the International Financial Reporting Standards

(IFRS). The financial statements of Sri Lankan companies are required to be audited by a qualified auditor as per the Companies Act No.07 of 2007. Furthermore, they are required to comply with the listing rules of CSE and are subject to constant monitoring by the Securities and Exchange Commission and the Sri Lanka Accounting and Auditing Standards Monitoring Board. The published financial statements can therefore, serve as the prime data source for obtaining information in measuring performance of companies (De Zoysa and Rudkin, 2010).

Ownership concentration (OC) is measured using four variables: (1) the percentage of shares held by first three-largest shareholders (SH_3); (2) the percentage of shares held by first five-largest shareholders (SH_5); (3) the percentage of shares held by first ten-largest shareholders (SH_{10}); and (4) the Herfindahl Index (HERF). The HERF index, which is the sum of squared percentage of shares controlled by each of the top-five shareholders, can be considered a special concentration variable, because it lends more weight to larger shareholders in the index. Similarly, the ownership structure (OS) is measured using two fraction ratios: (1) the fraction owned by individuals (F-Ind), and (2) the fraction of shares owned by other companies (F-Com).

The main argument in relation to the influence of OC on firm performance is that the high concentration improves performance through the reduction of agency costs. For example, Berle and Means (1932) argue that disperse ownership adversely affects firm performance. In consistence with this assertion, Shleifer and Vishny (1986) argue that ownership concentration may improve performance by reducing the problem of small investors and decreasing monitoring costs. On the basis of these claims, this study investigates the impact of ownership concentration on firm performance using concentration variables in order to achieve the first objective of the study.

The studies that examine the performance implication of ownership structure claim that higher individual ownership leads to higher firm performance whereas higher corporate ownership leads to poorer firm performance. This is achieved through individual owners' monitoring capabilities and incentive to pursue personal interest. When individuals own majority of shares of a firm, they are more likely to be involved in monitoring of operational activities. Also, they may become insider owners who always pursue their own interest leading to better overall performance. Both situations have a positive influence on the better performance of the firms. Jensen and Meckling (1976) argue that relative to the amount of ownership, insider owners have incentives to pursue activities to serve their own interests, and conclude that both a firm's value and its performance increase with the level of insider ownership. Conversely, if corporate entities own

shares, their ultimate owners are less likely to be capable of monitoring firm performance, due to their indirect ownership.

If the ownership structure is endogenous as argued by Demsetz and Lehn (1985) and some of the subsequent studies, ownership is more likely to be affected and possibly determined, among other factors, by firm performance. The managerial ownership is found to be affected by performance due to various factors such as performance based compensation, insider information. For example, panel data evidence provided by Himmelberg, Hubbard and Palia (1999) revealed that managerial (insider) ownership is endogenous to performance. Management compensation in the form of stock options is found to be one of the main reasons for a reverse causation in which firm performance affects ownership structure. The finding that ownership structure is endogenous implies that the endogeneity must be taken into account when determining the relationship between ownership and performance. Failing to do so is bound to yield biased regression estimates. However, the managerial ownership by itself is not sufficient to fully capture a firm's ownership structure. Furthermore, in corporate governance systems where ownership structure is much more stable, ownership is likely to be exogenous to performance (Gugler and Weigand, 2003).

As revealed by Samarakoon, (1999) and by Senaratne and Gunaratne (2007), the ownership structure of Sri Lankan listed firms is very much steady and characterized by certain features, such as highly concentrated ownership with a presence of controlling shareholder, holding controlling ownership usually by another corporate entity, holding ultimate ownership by family owners. Thus most of the Sri Lankan firms have stable ownership structure and therefore ownership is more likely to be exogenous to performance. Furthermore, direct managerial ownership in Sri Lankan companies is relatively small, because ownership is usually dominated by another corporate entity. These entities usually have family ownership as the ultimate owners, and therefore, direct managerial ownership does not play an influential role in Sri Lankan context. Thus, we do not examine the endogeneity issue in this study and have follow-on studies that do not treat managerial and outsiders' ownership as endogenous. However, individual owners have more powers in participating in the operational activities of a firm, especially in the Sri Lankan market, where controlling shareholders' influence in management is considerably high. Thus, the ownership fraction is expected to be significant in the regression estimates. On the basis of this argument, we investigated the impact of ownership structure on firm performance using fraction variables (F-Ind and F-Com) in order to achieve the second objective of the study.

In this study, we design a regression model incorporating OC and OS as the main independent variables to carry out an empirical analysis. The analysis controls for other firm characteristics that may affect performance. These control variables represent size, operational experience and leverage of the sample firms. The size represented by total sales is expected to be positively related to corporate performance, while the operational experience of the firm represented by the age of the firm is expected to be positively related to the performance, because experience reduces operational costs via economies of scale and the process efficiencies. The leverage represented by the ratio of total debt to total assets is expected to relate negatively to firm performance, because debt exposes firms to a higher risk through refinancing and the cost of capital commitments.

3.3 The Model

Based on the assumed causal relationship between ownership and firm performance, we developed the following regression model using four different measures of performance: return on assets (ROA), return on equity (ROE), Tobin Q (TQ) and market-to-book-value ratio (MBR). The explanatory variables used in this model are the ownership concentration (OC) and ownership structure (OS) measured using two fraction (F) ratios. The control variables of the model are: firm size measured in terms of the natural logarithm of total sales (LN-TSal), operational experience measured in terms of the natural logarithm of firm age (LN-Age) and leverage measured in terms of total-debt-to-total-assets ratio (TD-TA). The regression equation is estimated using the following specifications:

$$Y = \beta_0 + \beta_1 (OC) + \beta_2 (LN-TSal) + \beta_3 (LN-Age) + \beta_4 (TD/TA) + \beta_5 (F) + e \quad (1)$$

Where Y is alternately ROA, ROE, TQ, and MBR for firm, as a measure of performance. The concentration variables (OC) are represented alternately one of the concentration measures, and the ownership structure (OS) is represented alternately by two F ratios: F-Com and F-Ind ratios. Size, operational experience, and leverage are represented by LN-TSal, LN-Age and TD/TA ratio respectively, while e is the error term.

4. Analysis, Results and Discussion

4.1 Descriptive Statistics

The ownership and performance variables are initially examined with exploratory data analysis and descriptive statistics and the results are shown in Table 2. The descriptive statistics shows that the first three OC ratios (SH₃, SH₅ and SH₁₀) indicate a very high ownership concentration in the sample of Sri Lankan firms. Specifically, the mean values of each of the three OC ratios in the sample were above 70 per cent, with an overall mean value of 77 per cent. The data also indicates that a substantial variation across firms in ownership concentration exists. The average range of the three OC ratios is 66 per cent, with an average standard deviation (SD) of 14 per cent. The data in Table 2 reveals that the first ten-largest shareholders (approximately 80 per cent of the sample firms) held over 75 per cent of shares. This indicates that the majority of firms are not in compliance with the CSE listing rule requirement which stipulates that a minimum float of 25 per cent shares should be held by at least 1,000 shareholders. The fourth OC ratio, the HERF index, further confirms the existence of a high concentration of ownership in Sri Lankan firms. As per the data in Table 2, the mean value of HERF index amounted to 3,210. According to the merger guidelines issued by the US Department of Justice (2010), an HERF index in excess of 1,800 points is considered as a high concentration. This also indicates the presence of a controlling shareholder for most of the Sri Lankan firms. The ownership structure of firms indicates a higher corporate ownership compared to individual ownership. As per table 2, the average value of the fraction of shares owned by other corporate entities (F-Com) is 72 per cent, compared to 28 per cent owned by individuals (F-Ind).

As shown in Table 2, all four OC ratios indicate a very high concentration but dispersion of these variables differs considerably. The final regression model includes only two OC ratios alternately to avoid the repetition of analysis. These two variables are chosen based on the dispersion and importance given to largest shareholder in estimating the proxy variable considering the role played by controlling shareholder in achieving better performance. The SH₃ is selected as the first OC ratio as it records the highest dispersion, with a standard deviation of 17 per cent. The HERF index is chosen as the other OC variable as it gives more weight to larger shareholders (or a controlling shareholder) in its estimation.

Table 2. Descriptive Statistics of Variables; 2000–2008

Variables	Mean	Std. Dev.	Min.	Max.	Skewness	Kurtosis	Shapiro-Wilk	Prob.
ROA	5.493	10.243	-113.219	87.833	-0.817	28.430	.820	.000
ROE	8.097	24.458	-327.308	153.777	-3.380	48.640	.710	.000
Tobin Q	1.099	0.587	0.239	4.941	2.802	10.768	.741	.000
MBR	1.268	2.402	-9.331	55.010	14.757	309.140	.317	.000
SH ₃	70.362	16.999	25.273	98.441	-0.452	-0.482	.960	.000
SH ₅	77.510	13.945	30.275	98.876	-0.864	0.671	.939	.000
SH ₁₀	84.065	10.906	41.489	99.763	-1.187	1.975	.917	.000
HERF	3,209.857	2,097.330	270.973	8,952.334	0.894	0.071	.920	.000
F-Ind	28.654	22.967	1.496	100.000	1.258	0.880	.863	.000
F-Com	71.346	22.967	0.000	98.504	-1.258	0.880	.863	.000
TD-TA	0.512	0.355	0.000	3.922	3.469	27.266	.770	.000
LN-TA	14.100	1.506	8.701	18.382	-0.218	0.487	.993	.000
LN-Age	3.316	0.799	0.000	5.100	-0.067	0.469	.977	.000
LN-TSal	13.574	1.935	4.248	17.685	-0.552	0.621	.981	.000

Sample (N) = 846.

4.2 Correlations and Regression results

Correlations: The results of the correlation analysis shown in Table 3 indicate the extent of correlation between the explanatory variables used in this study. Accordingly, we found the size of the firm to be negatively correlated with the OC ratios, implying that larger firms tend to have more dispersed ownership. We observed a similar relationship between the age of the firms and OC ratios, because older firms tend to have less concentration, as they are normally subjected to expansion through public share issues. As expected, we found the two OS ratios, SH₃

and HERF, to be highly correlated with each other. However, because they are used in the regression model alternately, the high correlation between these two variables has no impact on the model. The result also shows that the F-Com ratio is positively correlated with the OC ratios. This implies that most of the Sri Lankan firms in the sample had parent companies as their principle shareholder, with larger share ownership. In addition, the negative relationship between F-Ind ratio and OC ratios shows that the individually owned companies were less concentrated.

Table 3. Correlation Matrix of Explanatory Variables, 2000–2008

	SH ₃	HERF	F-Ind	F-Com	TD-TA	LN-Age	LN-TSal	VIF
SH ₃	1							1.488
HERF	.825**	1						1.465
F-Ind	-.570**	-.556**	1					1.499
F-Com	.570**	.556**	-1.000**	1				1.499
TD-TA	-.034	-.040	.013	-.013	1			1.075
LN-Age	-.068*	-.023	.111**	-.111**	.046	1		1.026
LN-TSal	-.042	-.067	-.020	.020	.262**	.109**	1	1.090

Note: ** significant at 5% level, * significant at 10% level.

Regression results: Table 4 shows the results of the pooled regression models for 846 sample observations for the period between 2000 and 2008 for each of the performance measures, using the SH₃ ratio as the measure of OC. Table 5 presents the results of the pooled regression models for the same sample observations where the HERF index is used as the measure of OC. The F ratios are used interchangeably with each of the models where Model A runs with the F-Ind ratio, while Model B runs with

the F-Com ratio. As Table 3 illustrates, the correlation coefficient of some variables are more than 50 per cent. This suggests the existence of multicollinearity among the variables in the regression models. Thus, we carried out a diagnostic test with the calculation of variance inflation factors (VIF), which quantifies the severity of multicollinearity in a regression analysis, for each of the regression models to assess the multicollinearity among the variables. The summary scores of the VIF shown in Table 3 indicate fewer

than 2 scores for all variables in the model. In general, VIF scores under 10 (or scores under 2.5 even in a weaker model) can be considered as a good indicator for non-multicollinearity (Gujarati, 2003).

The regression results in Table 4 indicate that a significant positive relationship exists between the OC ratio and accounting performance measures. As per this Table, the SH₃ variable is found to have a positive and significant impact on both ROA and ROE at the one per cent significance level for various equations. Similarly, the results in Table 5 indicate that the HERF index also has a positive and significant impact on both ROA and ROE at the one and five per cent levels respectively. This empirical evidence suggests that the concentrated ownership plays a dominant role in Sri Lankan firms in improving performance through reducing agency costs by effective monitoring or direct involvement in

management, as suggested by Jensen and Meckling (1976).

However, the analysis we carried out to examine the impact of ownership concentration on market-based performance measures found no significant positive relationship between variables. More specifically, we found the OC variable of SH₃ to have no significant impact on both TQ and MBR. We also found the estimated coefficients of SH₃ for all the models to be close to zero. Furthermore, the other OC variable of the HERF index has positive impact on both TQ and MBR at the five and 10 per cent significant levels; and the coefficient of all models are close to zero, indicating a negligible impact. This strongly suggests that market anomalies exist in Sri Lankan markets where economic and company fundamentals do not reflect on share prices, restricting the ability of a market price to give a true picture of a company's performance.

Table 4. Estimation Results for Pooled Data Models using OC-SH₃ and Structure (F) Variables

	ROA		ROE		TQ		MBR	
	A	B	A	B	A	B	A	B
(Constant)	-23.367 (-7.028)***	-19.690 (-6.556)***	-44.474 (-5.360)***	-45.769 (-6.107)***	1.461 (7.641)***	1.244 (7.203)***	1.132 (1.345)	1.625 (2.137)**
OC-SH ₃	0.080 (3.399)***	.080 (3.399)***	.151 (2.588)***	.151 (2.588)***	.001 (.841)	.001 (.841)	.003 (.544)	.003 (.544)
TD_TA	-7.234 (-7.581)***	-7.234 (-7.581)***	-3.103 (-1.303)	-3.103 (-1.303)	.604 (11.017)***	.604 (11.017)***	.311 (1.287)	.311 (1.287)
LN-Age	0.448 (1.080)	.448 (1.080)	.805 (.779)	.805 (.779)	-.007 (-.289)	-.007 (-.289)	.056 (.530)	.056 (.530)
LN-TSal	1.799 (10.204)***	1.799 (10.204)***	3.036 (6.901)***	3.036 (6.901)***	-.049 (-4.843)***	-.049 (-4.843)***	-.042 (-.951)	-.042 (-.951)
F-Ind	0.037 (2.111)**		-.013 (-.298)		-.002 (-2.167)**		.005 (1.118)	
F-Com		-.037 (-2.111)**		.013 (.298)		.002 (2.167)**		-.005 (-1.118)
No. of	846	846	846	846	846	846	846	846
R ²	.145	.145	.067	.067	.139	.139	.005	.005
Adjusted R ²	.140	.140	.061	.061	.134	.134	-.001	-.001
F-stat	28.559	28.559	11.977	11.977	27.105	27.105	.760	.760
P-value	0.000	0.000	0.000	0.000	0.000	0.000	0.579	0.579

Note: *** significant at 1% level, ** significant at 5% level, * significant at 10% level. Numbers in parentheses are t-values.

The significant impact of the OC variables on ROA and ROE support Shleifer and Vishny's (1986) hypothesis that concentrated ownership might reduce the agency cost, and hence increase firm performance. These results are also consistent with the claims made by Zeitun and Gary (2007): that ROA and ROE are the most important factors used by investors — not the market measure of performance. This finding is also consistent with the results found by Wu and Cui (2002): that a positive relationship exists between

ownership concentration and accounting profits, measured in terms of ROA. The insignificant results of concentration variables on both TQ and MBR could be due to the inefficiency of the Sri Lankan equity market, where company fundamentals are not impounded into share price efficiently. The use of a proxy TQ might have aggravated the problem because accounting measurement problems are also imbedded into TQ in addition to market inefficiencies. Both TQ and MBR are subjected to inherent market anomalies,

such as insider trading and price fixing, which are common in small markets. Furthermore, other factors

not considered in the model could affect the market performance.

Table 5. Estimation Results for Pooled Data Models using OC-HERF and Structure (F) Variables

	ROA		ROE		TQ		MBR	
	A	B	A	B	A	B	A	B
(Constant)	-19.125 (-6.831)***	-16.166 (-5.759)***	-37.642 (-5.401)***	-39.148 (-5.603)***	1.415 (8.838)***	1.287 (8.023)***	.914 (1.296)	1.743 (2.465)**
OC-HERF	.001 (2.728)***	.001 (2.728)***	.001 (2.560)**	.001 (2.560)**	.000 (2.478)**	.000 (2.478)**	.000 (1.932)*	.000 (1.932)*
TD_TA	-7.241 (-7.570)***	-7.241 (-7.570)***	-3.097 (-1.301)	-3.097 (-1.301)	.606 (11.080)***	.606 (11.080)***	.317 (1.313)	.317 (1.313)
LN-Age	.385 (.926)	.385 (.926)	.658 (.635)	.658 (.635)	-.010 (-430)	-.010 (-430)	.044 (.420)	.044 (.420)
LN-TSal	1.808 (10.205)***	1.808 (10.205)***	3.073 (6.966)***	3.073 (6.966)***	-.047 (-4.668)***	-.047 (-4.668)***	-.036 (-.804)	-.036 (-.804)
F-Ind	.030 (1.707)*		-.015 (-.349)		-.001 (-1.285)		.008 (1.898)*	
F-Com		-.030 (-1.707)*		.015 (.349)		.001 (1.285)		-.008 (-1.898)*
No. of observations	846	846	846	846	846	846	846	846
R ²	.141	.141	.066	.066	.144	.144	.009	.009
Adjusted R ²	.136	.136	.061	.061	.139	.139	.003	.003
F-stat	27.609	27.609	11.946	11.946	28.366	28.366	1.449	1.449
P-value	0.000	0.000	0.000	0.000	0.000	0.000	0.204	0.204

Note: *** significant at 1% level, ** significant at 5% level, * significant at 10% level. Numbers in parentheses are t-values.

An additional issue worth addressing in this study is whether ownership structure impacts on performance, based on the argument that larger individual ownership is positively related to firm performance, while larger corporate ownership is negatively related to firm performance. If ownership structure is irrelevant to firm performance, we would expect the ownership fraction to be insignificant in the regression estimates. The results in Table 4 and 5 indicate strong evidence of a positive significant relationship between individual ownership (F-Ind) and ROA, and a significant negative relationship with corporate ownership (F-Com) and ROA. Both are significant at five per cent level. This result is consistent with our argument that individual owners (compared to corporate owners) are actively engaged in operational activities or are highly influential in monitoring the functions of firms. Consequently, agency costs are expected to be reduced, resulting higher performance; and the counterargument is true for corporate ownership.

This study however reveals some conflicting results in relation to ROE and market performance measures. As shown in Table 4, the sign of the coefficients of F-Ind are negative with regard to ROE

and TQ, while they are positive and non-significant for MBR. This indicates that either a negative relationship exists between F-Ind and performance, or that individual ownership is irrelevant to firm performance. Conversely, corporate ownership (F-Com) shows positive coefficients with ROE and TQ. However, as shown in Table 4, only the TQ coefficient is significant at the five per cent level. This implies that, although the controlling shareholder is often another corporate entity, its ultimate ownership lies with a family. Therefore, a larger fraction of corporate ownership does not indicate that a firm has a greater ownership concentration of external investors. The existence of family ownership as a controlling shareholder, either through direct ownership or through another corporate entity, is a common feature of Sri Lankan companies. Therefore, share ownership fractions do not necessarily have any significant distinguishable performance implications.

In summary, the empirical evidence suggests that ownership concentrated in individuals has a positive effect on performance measured by ROA, and a negative effect on performance if ownership is concentrated on corporate entities. However, we did not find consistent empirical results in respect of other

performance measures, such as ROE, TQ and MBR. Despite the conflicting outcome, these empirical results support the theory that a relationship exists between ownership structure and firm performance (Jensen and Meckling, 1976).

In all regression models, both firm size measured in total sale and firm age have a positive impact on firm performance, measured by ROA and ROE. While firm size is significant at the one per cent level, age is not significant. Furthermore, leverage measured in TD/TA has a negative impact on both ROA and ROE. However, while the impact on ROA is significant at the one per cent level, ROE is non-significant. In general, the sign of the coefficients for control variables on ROA and ROE are inconsistent with previous findings and the economic arguments. However, both size and age have a significant negative impact on TQ; whereas the impact on MBR is not significant and leverage has a positive impact on TQ and MBR. These results are robust, and provide further evidence for the existence of market anomalies, which are inherent to most of the small, emerging markets such as Sri Lanka.

5. Conclusions

The academic literature mostly discusses corporate governance issues within the context of developed economies. Although corporate governance is identified as one of the structural weaknesses of emerging markets, less attention has been paid to various corporate governance issues in these markets. One governance issue that has attracted a high attention in developed markets, but which has not been examined adequately in emerging markets, is whether ownership concentration and of firm structure can affect corporate performance. The studies conducted on this aspect in developed markets offer divergent results. Although some theories suggest that ownership structure affects firm performance, numerous empirical investigations suggest that performance implications of ownership structure are largely contextual. Because no prior studies exist on this issue in Sri Lanka — an emerging economy with unique social, cultural and economic settings—the major objective of this study was to examine the impact of ownership concentration and structure on the performance of public listed firms in Sri Lanka. For this purpose, we carried out an analysis based on a regression model using pooled data for a sample of 157 Sri Lankan public listed firms for a nine-year period between 2000 and 2008. This study provides useful information on the relationship between various ownership concentration and structure measures and their influence on both accounting and market performance.

Empirical findings indicate that a significant relationship exists between ownership concentration, measured by SH₃ and the accounting performance measures ROA and ROE. The HERF index also has a

positive and significant impact on both ROA and ROE. This result suggests that a greater concentration of shares leads to either effective monitoring of management behaviour or larger internal ownership, which results in better performance. However, ownership concentration did not show any significant effect on market-based performance measures, which points to the existence of market anomalies and inefficiencies which are common to most emerging markets such as Sri Lanka.

An examination of the impact of ownership structure on performance provides evidence that share ownership fractions have a significant effect on ROA. However, all other performance measures show conflicting results in respect of the sign of the coefficients or significance thereof. These results provide evidence for a pattern of share ownership in Sri Lankan firms, for most of which, the ultimate controlling share ownership lies in the hands of families or business conglomerates acquired through individuals or other corporate entities. Therefore, the fraction ratios, measured as the percentage of shares owned by individuals, and the percentage of shares owned by other corporate entities do not have any significant distinguishable effects on performance.

One of the main limitations of this study is the use of pooled data regression analysis, which assumes that the intercept and slope coefficients are constant across time and sectors. However, this assumption may be inappropriate after taking into account the number of sectors, and their vast diversity, as examined in the present study. Future studies could address this limitation by applying either a fixed-effect or random-effect model into the panel regression analysis, to capture the diversity of different sectors over the period into the analysis.

The scope of this study is limited to an examination of the ownership concentration and structure measured in terms of direct shareholdings without analysing ultimate ownership. However, given the nature of ownership structure in Sri Lankan companies, some other companies and individuals may hold ultimate ownership of the companies through indirect shareholding and significantly affect the performance of the sample companies. Therefore, we suggest that future studies extend the definition of ownership beyond direct shareholdings to examine the impact of ultimate ownership on firm performance.

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