

Firm performance and the nature of agency problems in insiders-controlled firms: Evidence from Pakistan

Fahad Abdullah

Institute of Management Sciences, Peshawar
Email: fahad.abdullah@imsciences.edu.pk

Attaullah Shah

Institute of Management Sciences, Peshawar
Email: attaullah.shah@imsciences.edu.pk

Safi Ullah Khan

Kohat University of Sciences and Technology
Email: safiullah75@yahoo.com

ABSTRACT

This paper studies the impact of corporate ownership structure on firm performance. This paper tests whether policy intervention with respect to blockholding and higher managerial ownership is required in Pakistan. We hypothesize that market places expropriation premium on stocks of such firms where large insiders are present. In addition to poor market performance, such firms are expected to show poor accounting performance due to various forms of expropriations. These hypotheses are tested on a sample of 183 firms listed at the Karachi Stock Exchange over the period 2003-2008 with the help of OLS and 2SLS regressions while controlling for other explanatory variables that have been identified in the literature. The results indicate that both the market- and accounting-based measures of performance are negatively related to the ownership percentage of incumbent managers. Among the control variables, Tobin's Q increases with growth opportunities and tangibility of assets, whereas it decreases with firm size, market risk, firm-specific risk, and ownership percentage of institutional shareholders.

1. Introduction

More than two centuries ago, Adam Smith (1776) showed skepticism about the efficiency of joint stock companies because of the separation of management from ownership. He observed that managers of joint stock companies cannot be expected to watch over the business with the same anxious vigilance as owners in a partnership would. Adam Smith's worry remained buried for a century and a half until Berle and Means (1932) rekindled interest in this area when they hypothesized in their book that dispersed shareholding is an inefficient form of ownership structure. They argued that separation of ownership and management control has changed the role of owner from being active to the passive agent. Dispersed shareholders lack incentives to monitor self-interested managers who possess only a small fraction of the total shareholdings. The propositions by Adam Smith (1776) and Berle and Means (1932) received some support when Jensen and Meckling (1976) tied together the elements of property rights, agency costs, and finance to develop a theory of ownership structure of a firm. Jensen and Meckling asserted that agency costs are real, which the owner can reduce either by increasing ownership stake of the agent in the firm or by incurring monitoring and bonding costs. In early tests, several research studies supported the views of Jensen and Meckling. However, these studies did not account for endogeneity problem.

A significant turn in the direction of research in this area was observed when Demsetz (1983) questioned the views held by Berle and Means (1932). Demsetz proposed that the ownership structure of the firm is optimally determined based on the principle of profit maximization. Owners of a closely held firm will sell shares only when they expect that doing so will increase the firm's performance. Similarly, owners of a widely held corporation will sell their shares in a takeover situation when they expect that doing so is optimal. Existing and potential shareholders choose concentrated or diffused ownership structure for a firm so that optimal performance level is reached. This implies that there is no systematic relationship between the level of ownership concentration in a firm and the firm performance. Allowing for endogenous determination of ownership structure and firm value, several studies including Demsetz and Lehn (1985), Demsetz and Villalonga (2001) show support for Demsetz (2003)'s argument.

The nature of interaction between different stakeholders, and hence its implication for firm value, is different in developing economies. Claessens, Djankov, Fan, Lang, and Fomento (1999) maintain that many of the East Asian economies are characterized by weak property and investors' rights, poor judicial efficiency, and corruption. These features make it easier for influential parties to exploit weaker ones. Moreover, many developing countries including Pakistan have family- and group-controlled businesses where substantial portion of shareholdings lie with family members or associated companies. Large shareholders such as

these have significant powers to redistribute wealth in ways that might not coincide with the interests of other stakeholders (Shleifer and Vishny (1997)). A special case of a country where judicial efficiency is low (World Bank, 2010), property and investors' rights are weak, and family- and group-controlled businesses are ubiquitous is Pakistan. Despite these facts, this country has not been able to attract sufficient attention of empirical researchers in this area. The main objective of this study is to fill this gap. Specifically, this study tests hypotheses and predictions of various theories which were discussed in the preceding paragraphs in the context of Pakistan. In doing so, it accounts for the problem of endogeneity by estimating two-stage least square (2SLS) regression and models the relationship between various ownership variables in a manner that is consistent with the suggestions of Demsetz and Villalonga (2001). Moreover, it uses several alternative proxies for external monitoring to check robustness of the results. The rest of the paper is organized in the following manner. Section 2 briefly reviews the existing literature and testable hypothesis are drawn in light of existing literature. Data, methodology and model specification are discussed in Section 3. Section 4 highlights the descriptive statistics and discusses the regression results. Finally in Section 5 some concluding remarks are presented.

2. Theoretical Framework and Related Literature

This section reviews the theoretical considerations surrounding a firm's ownership structure and the firm's performance. Empirical evidence in favor or against these theoretical underpinnings are also presented. Finally, testable hypotheses are developed towards the end of this section.

2.1 Ownership patterns and Firm's Performance

More than two centuries ago, Adam Smith observed that managers of a joint stock company cannot be expected to work with the same devotion as the owner of the business would. Berle and Means (1932) extended Smith's rationale and argued that firms with dispersed ownership will suffer more from agency problems. Diffused ownership gives significant power to managers under which they could use the firm's resources for their personal gains, instead of maximizing the shareholders' wealth. Berle and Means recipe for better corporate performance is a concentrated ownership structure. Jensen and Meckling (1976) developed a more comprehensive framework to suggest that concentrated ownership benefits a firm in a sense that large shareholders can reduce the firm's transaction costs by negotiating and enforcing contracts with different stakeholders. Shleifer and Vishny (1986) reach the same conclusion as Berle and Means, and Jensen and Meckling, but with a different explanation. Shleifer and Vishny (1986) suggest that large shareholders have the ability and incentives to monitor managers, which implies that the presence of large shareholders improves the firm's value. The consensus developed over the passage of time from the perspective of agency theory, imperfections in the labor, capital, and product markets was that the ownership structure does matter in the valuation of a firm.

However, Demsetz (1983), Demsetz and Lehn (1985), and Demsetz and Villalonga (2001) challenged this view when they hypothesized that ownership structure and firm value are determined endogenously. Their central hypothesis was that existing and potential shareholders change ownership structure of the firm in view of the profit-maximization motives. In other words, ownership structure is as likely to be influenced by the firm performance as it may influence firm performance. As a result, there should be no systematic relationship between the two. Limited empirical evidence exists in support of the views of Demsetz (2003) as observed by Shleifer and Vishny (1997, p.759),

“Although Demsetz (1983) and Demsetz and Lehn (1985) argue that there should be no relationship between ownership structure of a firm and its performance, the evidence has not borne out their view.”

Thus, there exists some sort of agreement among financial economists that large shareholders create value, however, the relationship may not be infinitely linear. For example, when large shareholders possess a larger fraction of shareholdings, this may enable them to indulge in expropriating minority shareholders and other stakeholders such as bondholders (Shleifer and Vishny, 1997). This aspect of ownership structure and its implications for firm performance are reviewed next.

2.2 Large Shareholders and Firm Performance

Large shareholders bring a unique set of benefits and costs to a firm. As outlined in Subsection 2.1, large shareholders are good at monitoring and reducing transaction costs in a sense that they make and enforce better contracts with stakeholders of the firm. However, at the same time, large shareholders have costs as well. Shleifer and Vishny (1997) discuss several costs of large shareholders which may in turn destroy value for other stakeholders of the firm. First, if large shareholders have relatively more control rights than their cash flow rights, they might pay themselves special dividends or take unfair advantage from business relationship with their companies (Grossman and Hart, 1988; Harris and Raviv, 1988). Second, large shareholders may force firms to take more risk in hope of higher return. This creates moral hazards problems for debt holders as they do not share in upside movements of the firm profit but are affected by the downside movements (Jensen and Meckling (1976).

The above discussion makes it clear that the relationship between ownership structure and firm performance is inverted U-shaped. Stulz (1988) was the first one to suggest this kind of relationship. A number of empirical studies, including Servaes (1990), Morck et al. (1988), and Wruck (1989), upheld Stulz's view.

A special case of large shareholders is the large-insiders' ownership which is reviewed next.

2.3 Insiders' Dominance

Increasing managers' ownership stake in a firm reduces the agency conflicts (Jensen and Meckling, 1976), however, managerial ownership beyond a certain point gives rise to another problem, known as managerial entrenchment. Fama and Jensen (1983) argue that higher managerial ownership makes the managers entrenched from job market risks or take-over threats. Entrenched managers are better placed to extract rents in the form of special dividends, perks, or bonuses (Shleifer and Vishny, 1997). Managerial entrenchment effects and rent extraction costs are assumed to be greater in countries where protection of investors' and property rights are weak, and judicial efficiency is low (La Porta et al. 2000; Shleifer and Vishny, 1997). Given that Pakistan is a developing country, and like many other developing countries, it is expected that investors' protection is weak and judicial efficiency is low in Pakistan. In addition, many firms are owned by families and groups where managers hold significant portion of the total shares. In light of the above discussion, we test the following hypothesis,

H1: Firms with higher managerial ownership experience poorer performance.

2.4 The Monitoring Effect of Certain Groups of Shareholders

Managerial rent extraction can be controlled to some extent if there are shareholders in the firm who have monitoring capabilities. Large shareholders, institutional shareholders, and associated companies are such groups of shareholders who might question and restrict managerial actions.

2.4.1 Institutional shareholders and firm performance

Institutional investors are an important stakeholder in corporate governance mechanisms because they have the potential to play the monitoring role (Roberts and Yuan, 2010; Shleifer and Vishny, 1986). Several reasons exist why they would or would not monitor the activities of managers. Institutional investors are usually thought to have longer investment horizons which in turn motivate them to get involved in the affairs of the firm (Jeon, Lee and Moffett, 2011; Short and Keasey, 1999; Wahab and Rahman, 2009; Shome and Singh, 1995). Their willingness to monitor is also related to their ability to monitor. Their ability in turn is related to several factors: Firstly, they have better access to various sources of information to know about managerial rent extractions (Lev, 1988); and, secondly, they can potentially intimidate the firms' management either through sale of their shares or by using their voting rights (Gillan and Starks, 2003).

Empirical evidence suggests that when institutional shareholders do not own a significant fraction of their total investments in a firm, their level of commitment will be low (Burns, Kedia, and Lipson, 2010). In extreme cases, large external shareholders (like institutional shareholders)

may be passive voters and may collude with managers to expropriate other minority shareholders (Pound, 1988). A number of studies that examined the possibility of whether or not institutional investors can influence a firm value have failed to find any association between the two. (Agrawal and Knoeber, 1996; Duggal and Miller, 1999; Faccio and Lasfer, 2000; Karpoff, Malatesta and Walking, 1996). Reasons behind the passive role of institutional investors include lack of ability to monitor (Taylor, 1990), short-term investment horizons (Coffee, 1991) free rider problems (Ernst Maug, 1998) and regulatory restrictions (Jennings, 2005).

H2: Presence of institutional investors will lead to better performance by the firm.

2.4.2 Group association

If a firm is a part of a large group of companies, the firm can reap several benefits from the group association. First, group companies can act as large external shareholders who can help in controlling expropriations by the top management. James (1999) adds to the view by arguing that the ownership held by the associated firms are more long term in nature and this very characteristic of unmitigated sphere of investment leads to efficient strategic decisions. Another argument that goes in favor of associated ownership is that a firm can benefit from the goodwill and reputation of the group. Furthermore, group companies assist one another through shared resources such as finance, technology, and experience (Villalonga and Amit 2006; Wang, 2006; Sraer and Thesmar, 2007; and Maury, 2006).

Recently, several studies have shifted the focus towards internal conflicts of interests that shareholders in business groups can experience (see Dewenter et. al, 2001; Weinstein and Yafeh, 1998; and Morck, Nakamura, and Shivdasani, 1998; Berger and Ofek, 1995). On one hand, it is believed that business groups do not act opportunistically due to their reputation as these groups are highly visible. This visibility might be due to their big sizes and/or usually the famous business tycoons or personalities with bureaucratic and political backgrounds that sit on their managerial boards (Dewenter et. al, 2001). On the other hand, a complex web of intra-group transactions might make it more difficult for analysts and investors to know about their opportunistic behavior. Thus the complexity of intra-group transaction can increase the probability of opportunistic behavior.

In an agency framework, a higher ownership percentage of group companies should reduce agency conflict between shareholders and managers, but at the same time, it might lead to severe conflicts of interest between majority-insiders and minority-outsiders. Thus, if the group-reputation hypothesis holds, group companies should exhibit better market and accounting performance than non-group companies, as the transaction costs of such companies are assumed to be low due to the group size and reputation. However, if complexity of transaction hypothesis is true, then group companies would display weak performance, which would imply that the

group companies are involved in minority shareholders exploitation, and/or the group has inferior reputation and is facing higher transaction costs.

In view of the above, two testable hypotheses can be proposed. Given that group companies monitor the managers' activities and/or the firm does not exploit minority shareholders due to the group's reputation, a testable hypothesis is:

H3a: Higher ownership percentage of associated companies in a firm leads to a better performance of the firm

If group companies do not care about the group's image and/or the intra-group transactions are considered complex by analysts and shareholders, then they will demand risk premium in view of possible expropriation of minority shareholders. A testable hypothesis, in this context, is:

H3b: Higher ownership percentage of associated companies in a firm leads to a better performance of the firm

2.5 How to Measure Firm Performance

An enduring query that has puzzled empirical researchers is what measure of performance is most appropriate in studying the relationship between corporate ownership structures and a firm's performance. Literature mainly suggests the use of accounting-based and market-based measures of a firm's performance. Both of them have their own advantages and disadvantages. Demsetz and Lehn (1985) used accounting profit rate while Demsetz and Villalonga (2001) and Morck, Shleifer and Vishny (1988) used both accounting measure and Tobin's Q as alternative measures of firm performance. The majority of researchers like McConnell and Servaes (1990), Loderer and Marin (1997), Cho (1998), Himmelberg, Hubbard and Palia (1999), Hermalin and Weisbach (1991) and Holderness, Kroszner and Sheehan (1999) have used Tobin's Q as a preferred measure of firm performance. These two measures differ in terms of time and the fact that who actually measures performance. The problem with accounting profit rate is that its calculation is subject to accounting standards which do not account for market value of growth options. Also accounting profit rate is inherently more backward-looking. In other words, accounting profit rate is based on the facts reported in the financial records, so future expected cash flows are minimally considered. In contrast, Tobin's Q is a market-based measure of performance. It accounts for all present decisions/actions taken by the management as well as the future expected performance of the firm. The disadvantage associated with this measure is that it is driven by the investors' psychology and may be biased at time because of the investors' undue optimistic or pessimistic behaviors. Moreover, Tobin's Q also involves the figures from financial records (i.e. book value of tangible assets) in its calculation which is why Demsetz and Villalonga (2001) suggested that there would be a correlation between the two measures. The above discussion highlights that each measure has its own pros and cons and should be used with

caution. This study uses Tobins's Q as well as accounting-based measures for the purpose of comparison and robustness of results.

2.6 Control variables

A number of other variables may affect the firm performance beside the ownership structures, commonly referred to as the control variables. The following control variables have largely been used in empirical studies.

2.6.1 Financial leverage

In perfect capital markets, the capital structure does not influence a firm's value (Modigliani and Miller, 1958). However, once the assumptions of the perfect capital markets are relaxed, then capital structure does matter. Stiglitz and Weiss (1981) looked into this relationship in the context of asymmetric information where leverage is treated as a signaling device. They found that information asymmetry between managers and shareholders and between lenders and borrowers could lead to adverse selection problem. Ultimately, high quality borrowers can use debt as a signaling device and improve its market performance (Leland and Pyle, 1977). Further, leverage is viewed as a mechanism to align the interest of managers and shareholders. Agency theory suggests that there exists a conflict of interest between the firm's managers and shareholders where managers follow their own objectives. Higher leverage under such circumstances can play a disciplining role by reducing the free cash flow at the managers' disposal (Jensen, 1986) and may expose the managers to external monitoring of lenders (Easterbrook, 1984; Rozeff, 1982). Grossman and Hart (1982) further argue that to escape the personal cost of bankruptcy, managers will like to have less leverage in the firm's capital structure. Consequently, a better corporate performance is expected in the presence of high leverage. An alternative view held by the researchers like Jensen and Meckling (1976) and Myers (1977) targets the agency cost created by different priorities of bondholders and stockholders. Shareholders indulge in moral hazards by investing in risky projects and enjoy the win-win situation at the cost of bondholders who share in losses if the projects fail and do not share in gains if risky project are successful. Myers (1977) conjectures that a firm foregoes positive NPV projects in the presence of risky-debts, which is known as the underinvestment problem. This set of arguments suggests a negative relationship of leverage with firm performance.

A large strand of literature that provides evidence of both positive and negative relationship of leverage and firm performance is a clear signal of disagreement among researchers in this area. Mahakud and Misra (2009) attributed this disagreement to the definition of corporate performance used by different researchers.

2.6.2 Firm size

Size of a firm has a significant role to play in determining performance of the firm. Large firms are expected to be more diversified both in terms of demographics and product offerings which make them less vulnerable to the risk of bankruptcy (Titman and Wessels, 1988). Fama and French (1992) found significant size premium in a sample of more than 5000 US firms from 1927 to 1987. This indicates riskiness of small firms. This premium might also relate to low resources endowment, poor product quality, lack of research, lower provision for training and development of employees, and absence of qualified management in small firms. A counter argument is that big firms might suffer from inefficiencies due to tall bureaucratic structures. Also, agency problems are expected to be severe in big firms. The relative big size of a firm might not necessarily be a result of honest efforts of the management. Instead, the managers might have invested in non-value maximizing projects to ensure continued employment in the firm, get more bonuses, or for empire-building (Murphy, 1985). It will be interesting to see which of these competing arguments is corroborated by the empirical findings. In a meta-analysis, Capon, Farley and Hoenig (1990) reported that the relationship between firm size and financial performance was flat based on the results of 88 empirical studies.

2.6.3 Growth (how performance can affect growth)

Capon et al. (1990, p.1157) commented on growth while discussing the implication of their meta-analysis of determinants of financial performance that,

“High growth situations are desirable; growth is consistently related to profits under a wide variety of circumstances.”

Literature provides several explanations for the positive association between growth and firm performance. For example, sales growth has positive impact on factors that include internal motivation, promotion and retention of talented employees. Growth facilitates all the way to the implied opportunities for investments in new equipment and technologies that upgrade the production process as a whole. In addition, sales growth provides opportunities or economies of scale (Gale, 1972; Buzzell et al., 1975) and learning curve benefits. However, sales growth might not always lead to better corporate performance. According to agency theory, managers pursue growth because growth helps them achieve personal objectives. Growth guarantees employment and salary increases for managers due to the greater responsibilities of managing a larger firm (Murphy, 1985).

2.6.4 *Beta (Market risk)*

The Capital Asset Pricing Model (CAPM) of Sharpe (1964), Lintner (1965) and Black (1972) and predict a positive relationship between required /observed rate of return on a stock and its beta. Beta is the ratio of covariance between a given stock return and the market return to the variance of the market return. CAPM assumes that beta is a proxy of all systematic risks of a stock. As beta of a stock increases, investors will require higher risk premium which will result in lower share price of the given stock. As a result, it is expected that beta is negatively related with the market performance of a firm.

2.6.5 *Idiosyncratic Risk (Standard Error)*

Theory of CAPM suggests that firm-specific risk is irrelevant because the negative covariance between assets' returns cancel out unsystematic risk of the assets when sufficiently large numbers of assets are included in a portfolio. However, when investors do not invest in large number of securities, the unsystematic risk of their investments will affect them. Majority of the firms are owned and controlled by families, blockholders and associated companies in Pakistan. The holdings of these investors are necessarily not diversified. Thus, it is expected that unsystematic risk and market performance are negatively related in Pakistan.

2.6.6 *Sales Turnover (ST)*

A firm's financial performance can also depend on how efficiently the management uses the firm's assets. A firm with better utilization of firm's resources, like a firm with higher sales turnover, is expected to perform well in comparison to other firms.

2.6.7 *Tangibility (TG)*

Assets tangibility refers to the percentage of a firm's fixed assets to total assets. Assets tangibility can be a proxy for the firm's operating leverage or availability of collaterals which can be offered against debt financing. Operating leverage has implications for both risk and returns. In good times, firms with higher operating leverage will perform better than other firms and vice versa. In perfect markets, the risk-return trade-off will make the share price insensitive to operating leverage. On the other hand, if tangibility is considered a proxy for the availability of collaterals, then it is supposed to reduce the worries of the lenders which in turn would help in lowering the cost of borrowing. Additionally, literature suggests that the collateral can solve several issues related to asymmetric information. Chan and Kanatas (1985) argue that the collateral has more stable value which gives more confidence to the lender in lending decision. The apparent advantage in getting external financing at favorable terms should lead to a better firm performance.

3. Data and Methodology

3.1 Sample and data sources

The study uses the financial and ownership data of 183 firms listed on the Karachi Stock Exchange over the period 2003 to 2008. Initially, the sample consisted of all the firms with the data available on the pattern of shareholdings. We also require the firms to satisfy the following criteria:

A firm should not be financially-distressed such as firms with negative equities,

A firm should not be a financial firm,

A firm should not be owned by the Government of Pakistan,

Firms with abnormal or influential data can create goodness of fit problems and make the generalization of results difficult. For this reason, all such firms or observations were identified with Cook's D and/or studentized residuals and were removed.

It is important to note that the data on ownership variables is available but sometimes with gaps. This restriction necessitated time series averages of the ownership variables for every cross-sectional unit. Theoretically, averages can reduce or miss yearly variations in the ownership variables. However, it is expected that this problem would not be severe in Pakistan. Since blockholdings are ubiquitous and many firms are owned by families and business groups in Pakistan, therefore, ownership structures of the listed firms can be expected to show considerable persistence over short periods.

Data on ownership variables is obtained from the annual reports of the sample firms. The firms listed on KSE are required by the Companies Ordinance, 1984 and by the Code of Corporate Governance, 2002 under clause XIX (i) to provide information on the pattern of shareholdings in their annual reports. Financial data has been taken from the "Balance Sheet Analysis of Joint Stock Companies Listed on the Karachi Stock Exchange", a publication of the State Bank of Pakistan.

3.2 Specifications of the Models

A framework of panel data is used to test different hypotheses developed in the previous section. Panel data, as noted by Hsiao (1986), has several distinct advantages. For example, panel data provides more degrees of freedom, increases variations in the data and thereby reduces the chances of multicollinearity, and makes it possible to control for fixed effects, etc. We test the hypotheses using the following methodology.

The econometric methodology adopted in this study is broadly borrowed from the study conducted by Demsetz and Villalonga (2001). They consider firm performance and ownership structure as endogenously determined. To account for the endogeneity issue, a method of two stages least square (2SLS) is applied. Unlike Demsetz and Villalonga (2001) who use time series averages, this study uses panel data framework because panel data analysis has several advantages over simple cross section or time series analysis. Due to data limitation, variables such as advertising expenditure, research and development expenditures and firm concentration ratio were dropped from the econometric model. The final form of the model estimated has the following two equations,

$$FP_{it} = \alpha + \beta_1(DIRC_i) + \beta_2(INST_i) + \beta_3(TANG_{it}) + \beta_4(GROW_i) + \beta_5(BETA_i) + \beta_6(SER_i) + \beta_7(ROA_{it}) + \beta_8(LEV_{it}) + \beta_{9-36}INDUST_i + \beta_{37-42}Year_i + \varepsilon_{it} \quad (1)$$

$$DIRC_i = \alpha + \beta_1(FP_{it}) + \beta_2(INST_i) + \beta_3(SIZE_{it}) + \beta_4(GROW_i) + \beta_5(BETA_i) + \beta_6(SER_i) + \beta_7(ST_{it}) + \beta_8(LEV_{it}) + \beta_9(TANG_{it}) + \beta_{10}(ROA_{it}) + \beta_{11-38}INDUST_i + \beta_{39-44}Year_i + \varepsilon_{it} \quad (2)$$

3.3 Testing for Endogeneity

If the problem of endogeneity does not exist, then 2SLS regressions yield inefficient estimates (Woodridge, 2001). To test whether ownership variables and firm performance are endogenously determined, a test suggest by Durbin–Wu–Hausman (1978) can be used which directly compares the OLS and 2SLS estimates and determines whether the differences are statistically significant. If estimates from the two regressions differ significantly, it can be suspected that ownership variables and firm performance are endogenous. Operationally, this can be accomplished by in two steps. In the first step, directors’ ownership percentage is regressed on all variables in the Q regression plus instrumental variables that are supposed to be correlated with director’s ownership but uncorrelated with the error term. Then from this auxiliary regression, residual values are predicted. In the second step, the predicted residual values are then added to the Q regression as an explanatory variable. If residuals are found to be statistically significant, it is taken as an evidence of endogeneity. As for the results of this study are concerned, the residual values were highly significant and that is why the preferred model for the analysis of data is 2SLS regression.

A summary of the variables used in this study, their measurement and the symbols used in the analysis are reported in Table 3.1.

Table 3.1: Names, Measurement and Symbols of Variables Used in this Study

Variable	Symbol	Measurement
Directors' ownership	<i>DIRC</i>	Shares owned by directors / total shares
Institutional shareholders' ownership	<i>INST</i>	Shares owned by financial institutions / total shares
Associate companies ownership	<i>ASSO</i>	Shares owned by associate companies / total shares
Blockholders ownership	<i>BLOC</i>	Shares owned by 5 largest blockholders / total shares
Individual shareholders' ownership	<i>IND</i>	Shares owned by individuals/ total shares
Dividend payout ratio	<i>DVD</i>	Dividend paid / net income
Tobin's Q	<i>Q</i>	(book value of debt + market value of equity) / book value of assets
Return on Assets	<i>ROA</i>	Net income / total assets
Firm Size	<i>SIZE</i>	Natural log of total assets
Growth rate	<i>GROW</i>	Geometric mean of annual percentage increase in assets
Firm's systematic risk	<i>BETA</i>	Ratio of covariance between stock returns and market returns to the variance of market returns
Firm's idiosyncratic risk	<i>SER</i>	firm-specific error term in the beta regression
Sales turnover ratio	<i>ST</i>	Gross sales / total assets
Financial leverage	<i>LEV</i>	Total debts / total assets
Fixed assets ratio	<i>TANG</i>	Net fixed assets / total assets
Financial performance	<i>FP</i>	A general term used for both <i>ROA</i> and <i>Q</i>
Operational risk	<i>CV</i>	Coefficient of variation of net income

4. Results and Discussion

In this Section, we present and discuss descriptive statistics and results of various specifications which were discussed in the Section 3.

4.1 Descriptive Statistics

Table 4.1 shows correlation matrix of the variables used in the regression analysis. With the exception of correlation between Q and ROA, none of the other variables are correlated to an extent that warrants attention. The two alternative measures of performance i.e. Q and ROA have a correlation of 0.53, which shows a reasonable level of correlation and hence they can prove to be good alternative measures of performance.

Table 4.1: Matrix of Correlation among the Variables

	<i>Q</i>	<i>DIRC</i>	<i>INST</i>	<i>GROW</i>	<i>LEV</i>	<i>TANG</i>	<i>ROA</i>	<i>SER</i>	<i>BETA</i>	<i>ST</i>	<i>SIZE</i>
<i>Q</i>	1.00										
<i>DIRC</i>	-0.21	1.00									
<i>INST</i>	0.08	-0.36	1.00								
<i>GROW</i>	0.15	-0.03	0.04	1.00							
<i>LEV</i>	-0.11	0.09	-0.09	0.05	1.00						
<i>TANG</i>	-0.11	0.18	-0.05	-0.15	0.07	1.00					
<i>ROA</i>	0.53	-0.21	0.14	0.25	-0.33	-0.28	1.00				
<i>SER</i>	-0.31	0.18	-0.24	-0.17	0.09	0.16	-0.35	1.00			
<i>BETA</i>	0.03	-0.16	0.16	0.07	-0.03	0.12	0.07	-0.23	1.00		
<i>ST</i>	0.25	-0.15	0.09	0.08	0.02	-0.30	0.36	-0.22	-0.05	1.00	
<i>SIZE</i>	0.13	-0.29	0.25	0.12	0.17	-0.01	0.16	-0.34	0.26	0.05	1.00

Table 4.2 reports mean Tobin Q for groups of firms which are based on the 50th percentile of the financial and the ownership variables. The results indicate that Tobin's Q is significantly higher in firms where the percentage ownership of associated holdings and block holdings is above their respective 50th percentiles. This supports the view that associated-holdings and blockholdings reduce agency costs, and/or create positive signaling effect. Tobin's Q is also higher in larger firms and in firms with higher sales turnover ratios. Firm size can be a proxy for financial distress (Titman and Wessel, 1988) or information asymmetry (Petit and Singer, 1985). In either case, the effect of firm size is expected to be positive on the market performance. And sales-turnover ratio is a gauge of operating efficiency of the firm. The results indicate that better operating efficiency leads to higher market performance. On the other hand, Tobin Q is significantly lower in firms where directors' and institutional ownership percentage is above their respective 50th percentiles. These results partially support the results in the previous section where it was found that directors do not pay dividends willingly. As the directors' percentage of shareholdings increases, they become more powerful in their decisions. As shown in Table 4.2 and 4.3, directors' unwillingness to pay dividends does not decline even if a firm faces lower or no transaction costs of external financing. Results in Table 4.2 show that market is cognizant of this fact. With increasing ownership stake of directors in a firm, the chances of expropriating other external shareholders increase which in turn lead to lower Q. The negative association between Q and institutional shareholding is somehow unexpected. Given their monitoring role and signaling effects, the association should be positive. One might postulate that institutional shareholders are viewed by the market as large entities that collude with managers. However, we need to prove this point with stronger evidence that might come from 2SLS regressions.

Table 4.2 reports that firm with high systematic risk and idiosyncratic risk have lower Qs. In the edifice of capital market theory, only systematic risk is priced into the valuation of securities. However, in less-diversified markets, like ones where shares are held not according to diversification principles but motivated by control consideration, idiosyncratic risk will be a relevant factor. This argument seems to be true in Pakistan as many firms are controlled by families. Shareholders in these firms are not fully-diversified. They are affected to a larger extent by firm-specific risks. And finally, Q is low in firms that experienced higher growth rate in their assets in previous years. This indicates that the market views growth in assets merely as empire building by managers, and not as valuable projects that would maximize the shareholders wealth.

Table 4.3 is similar in construction and analysis to Table 4.2, except that this table reports mean ROA for groups of firms divided on the basis of median values (50th percentile) of selected ownership and financial variables. This analysis is useful in a sense that ROA depict a picture of operational performance, whereas Q is the market perception of this performance. For example, Table 4.3 shows that mean ROA is significantly lower in firms where directors' ownership is higher than in firms where directors ownership is low.

Table 4.2: Tobin's Q by 50th Percentile of Firms' Variables

Variables	Below 50th Percentile	Above 50th Percentile	Difference	T-Value
<i>DIRC</i>	1.967	1.151	-0.816	-4.959
<i>INST</i>	1.874	1.287	-0.588	-3.545
<i>BLOC</i>	1.145	1.986	0.841	5.120
<i>ASSO</i>	1.153	1.991	0.838	5.101
<i>GROW</i>	1.774	1.350	-0.424	-2.567
<i>LEV</i>	1.589	1.545	-0.045	-0.268
<i>TANG</i>	1.222	1.073	-0.149	-3.846
<i>ROA</i>	0.915	1.377	0.462	12.985
<i>SER</i>	1.823	1.315	-0.508	-3.059
<i>BETA</i>	1.894	1.242	-0.652	-3.916
<i>ST</i>	1.027	1.268	0.241	6.313
<i>SIZE</i>	1.076	1.218	0.142	3.655

This finding corresponds to results reported in Table 4.2 where Q is significantly lower in firms with higher percentage of directors' ownership. As stated previously, higher ownership stake makes the directors powerful enough to influence many decisions in their favor. If agency predictions of Jensen and Meckling's (1986) model are correct, higher stakes of directors will give them ample incentives to improve the firm performance and increase the firm's value. But if

they know that private benefits are greater than maximizing the overall value of the firm, they would still act opportunistically and adopt strategies that enhance their own welfare. This can be expected in a system which provides room for opportunistic behaviors. If this argument is true, managers might try to hide the true profits of the firm by colluding with suppliers of raw material and intentionally inflate costs of production in books of accounts. Doing so, they directly pocket the cash not paid to suppliers but shown in costs of production. Consequently, this will deprive minority shareholders of dividends and government of taxes. Though profitable, yet the firm will look less profitable in books. Accounting-based measure of firm performance, such as ROA will be lower for firms where directors have more control on the firms' decisions. Since market participants can recognize this fact, Tobin's Q is also expected to be low. The results from both ROA and Tobin's Q mean-comparison analysis in Table 4.2 and Table 4.3 are aligned.

ROA is higher in firms where institutional ownership is above the 50th percentile but the difference in mean ROAs of the two groups of firms is marginally significant at 10% level. In Table 4.2, institutional shareholding is negatively associated with Q. Overall, we do not see a clear picture of how institutional investors influence firm's performance. Table 4.3 reports that ROA is significantly higher where the percentage ownership of blockholders and associated ownership is above their respective 50th percentiles. The reason attributed to this positive association can be the possible monitoring role.

Among the financial variables, ROA is higher in larger firms, firms with higher growth rate, and firms where ratios of sales-to-tangible assets are higher. It is interesting to see that ROA is higher in growing firms, but Tobin Q is lower in such firms. This discrepancy is difficult to explain. Explanations for the other variables are the same as offered with Q in Table 4.2. Two of the variables that measure riskiness of a firm's stock price warrant some explanation. Diversified investors do not concern themselves with idiosyncratic risk (which is measured by the standard error of the regression on observed stock returns and returns of the market index, denoted by SER). However, at firm's level, this risk might matter for a stand-alone firm. If a firm faces higher idiosyncratic risk and the firm is not part of a group of firms, even this risk might increase the probability of default of the firm. On the other hand, systematic risk (which is measured by coefficient of market return in the regression of observed stock returns and returns of the market index, and denoted by BETA) affects both diversified and non-diversified firms. Both SER and BETA increases the firm's risk, and hence its cost of capital. The results in Table 4.3 show that ROA is lower in firms with higher SER and BETA. It is inferred that firms with higher idiosyncratic risk and systematic risk face higher costs of borrowing which results in lower ROA.

Table: 4.3: ROA by 50th Percentile of Firms' Variables

Variables	Below 50th Percentile	Above 50th Percentile	Difference	T-Value
<i>DIRC</i>	0.125	0.070	-0.055*	-7.521
<i>INST</i>	0.091	0.105	0.014	1.857
<i>BLOC</i>	0.085	0.111	0.027*	3.609
<i>ASSO</i>	0.071	0.124	0.053*	7.307
<i>GROW</i>	0.081	0.114	0.033*	4.394
<i>LEV</i>	0.130	0.066	-0.064*	-8.876
<i>TANG</i>	0.116	0.072	-0.044*	-6.030
<i>Q</i>	0.049	0.140	0.091*	13.48
<i>SER</i>	0.126	0.071	-0.055*	-7.546
<i>BETA</i>	0.110	0.086	-0.023*	-3.117
<i>ST</i>	0.056	0.133	0.077*	11.070
<i>SIZE</i>	0.0797	0.109	0.029*	3.975

4.2 Regression Results of Tobin's Q and ROA

The results of regression models are presented in Table 4.4 and Table 4.5 where the dependent variables are Tobin's Q and return on asset (ROA), respectively. These tables report coefficient of the explanatory variables for both OLS and 2SLS models. Table 4.10 and 4.11 report results of the regressions where the variable INST (a proxy for institutional investors) has been replaced with ASSO and BLOC which represent ownership percentage of associated holdings and blockholders. In fact, Table 4.6 and Table 4.7 show results of regressions for robustness checks. The coefficients of the explanatory variables are given outside the small parenthesis whereas their standard errors are given inside the parentheses. The *, **, and *** indicate statistical significance at 1%, 5%, and 10% respectively. Since we treat managerial ownership as endogenously determined, Table 4.4 and Table 4.5 report results of both Q regressions and DIRC regression. Under the columns DIRC, we report results of regressions where directors' ownership percentage is the dependent variable.

In all Q regressions, results are consistent as far as the coefficient of the DIRC is concerned, except in Table 4.6 where ownership percentage of associated holdings is used as a proxy of external monitoring. The results of both OLS and 2SLS estimations show that Tobin's Q is inversely related with the ownership percentage of directors. These results are in line with the argument of Shleifer and Vishny (1997) who proposed that large shareholders may distribute wealth in a manner that adversely affects the interest of minority shareholders (known as the expropriation hypothesis). When the directors' ownership percentage increases, they gain more and more control over the decisions of the firm which makes the expropriation of minority

shareholders more likely. Expropriation exacerbates agency costs and negatively affects firm value. The literature provides one more explanation for the results. Fama and Jensen (1983) discussed in their seminal paper the costs of insiders' holdings. They argued that higher ownership percentage but induce other costs make managers entrenched (formally known as the

Table 4.4: OLS and 2SLS regressions for Q

	Q	
	OLS	2SLS
<i>DIRC</i>	-0.369(0.079)*	-4.664(1.779)*
<i>INST</i>	-0.165(0.12)	-2.033(0.811)**
<i>GROW</i>	0.489(0.159)*	0.765(0.357)**
<i>LEV</i>	-0.232(0.093)**	0.222(0.272)
<i>TANG</i>	-0.015(0.056)	0.549(0.261)**
<i>SER</i>	-5.795(0.765)*	-6.414(1.642)*
<i>BETA</i>	-0.055(0.03)***	-0.204(0.088)**
<i>SIZE</i>	0.008(0.014)	-0.151(0.072)**
Constant	1.545(0.129)*	3.566(0.877)*
F-Statistics	17.22	4.08
P-value(F-Statistics)	0.00	0.00
R ²	0.14	0.13
Adj.R ²	0.1323	0.1298

entrenchment hypothesis). The likelihood of firing or challenging the decisions of directors who have larger chunk of shareholdings in their hands is theoretically small. Consequently, higher ownership stake of the manager in the firm may not necessarily align their interest with that of the other shareholders. The negative sign of *DIRC* coefficient approves the entrenchment and expropriation hypotheses against the alignment of interest hypothesis. As argued in previous sections, legal protection and investors' activism are weak in Pakistan. Insiders try to exploit outsider minority shareholders and avoid taxes as and when the opportunity arises. One indication of this was reported in the case of dividends in the earlier analysis. The dividend payout ratios were found to be significantly lower in firms with higher directors' ownership percentage. This was true whether or not the firm faced transaction costs of external financing. Weak legal protection of the investors' rights like in case of Pakistan aggravates the costs of entrenchment. Recognizant of this fact, the market values firms less favorably where directors owns a substantial fraction of the firm shares.

In ROA regression, the sign of the coefficient of the *DIRC* is still negative; however, it is statistically insignificant in all regressions. The results indicate that increasing ownership stake of directors in a firm does not improve the operating performance of the firm which negates the

prediction of alignment of interest hypothesis, proposed by Jensen and Meckling (1976). When one considers this finding in combination with Q results, it can be argued that managerial ownership is not a source of value creation to the firm; instead it is a source of value destruction.

The three proxies used for external monitoring effect yield conflicting results. In Table 4.6, the linkage between INST and Q is negative both in OLS and 2SLS, though the coefficient is statistically significant only in the later. BLOC and ASSO are positively and significantly affect Q only in OLS regression. These findings are against what one might expect.

Table 4.5: OLS and 2SLS regressions for ROA

	ROA	
	OLS	2SLS
<i>DIRC</i>	-0.008(0.013)	0.163(0.153)
<i>INST</i>	0.022(0.019)	0.083(0.058)
<i>ST</i>	0.058(0.004)*	0.062(0.005)*
<i>GROW</i>	0.13(0.027)*	0.082(0.049)***
<i>LEV</i>	-0.161(0.015)*	-0.16(0.016)*
<i>SIZE</i>	0.019(0.002)*	0.026(0.007)*
Intercept	-0.062(0.022)*	-0.19(0.12)
F-Statistics	31.31	25.98
P-value(F-Statistics)		0
R ²	0.53	0.441
Adj.R ²	0.51	0.4203

Intitutional shareholders, blockholders, and associated companies have potentially more incentives and capabilities to monitor and actively participate in running of the firm. Two explanations can be given for the negative coefficient of the INST. First, it is possible that institutional investors collude with managers and collectively expropriate minority shareholders. Second, it is expected that institutional shareholders sell their shares when market values of the firm's shares are high, possibly because they speculate that better performance will be followed by worst performance. This explanation will hold true especially in highly volatile markets. Like many emerging markets, Pakistani stock market is also characterized by higher volatility. Demsetz and Villalonga (2001) provide similar justification when they found that director's ownership declined significantly when Tobins' Q was high.

Table 4.6 shows that market performance of the firms included in the sample increases with the increase in ownership percentage of associated companies and blockholders. However, these results are statistically significant only in the OLS regressions. ROA regressions display similar

statistics. Results in Table 4.7 show that ownership percentages of associated companies or the blockholders in a firm have significant impact on the operating performance of the firm. These findings are incongruent with the view that significant ownership by blockholders in a firm or the association of a firm with a group of companies have positive externalities in the form of reduced agency costs or benefiting from the experiences and resources-sharing of the group companies. It is important to note that previous research studies use the term ‘blockholders’ for external large shareholders who are not part of the executive management. However, the data do not allow us to differentiate between internal and external blockholders. In Pakistan, as argued before, family holdings is a prominent feature of the corporate sector. Therefore, in the absence of complete information, the compelling assumption is that blockholders are either directors or family members of the top management. Based on this assumption, BLOC should reduce problems between management and shareholders. But it might give birth to another agency problem that exists between the majority and the minority shareholders (Shleifer and Vishny, 1997). This way, higher ownership percentage of blockholders presents a trade-off between the benefits of reduced agency costs against the costs of minority expropriation. If these two are equal in amount, the ownership percentage of blockholders should be inconsequential to the value of the firm.

Similarly, the ownership percentage of associated companies presents a trade-off. As discussed previously, association of a firm with a group of firms can help the firm in financial matters, technology transfers, experience sharing, and in overcoming many imperfections in product, capital, and labor markets (for a survey of this literature, Tarzizán (1999) can be seen). Moreover, it is believed that business groups do not act opportunistically due to their reputation as these groups are highly visible (Dewenter et. al, 2001). Thus, group association should have a positive impact on the firm’s operating and market performance. On the other hand, a complex web of inter-group transactions might make it difficult for analysts and investors to know about opportunistic behavior, thus the complexity of their intra-group transactions increases the probability of their opportunistic transactions. Again, if the benefits of group association and costs of opportunistic behavior of group firms are equal in amount, the ownership percentage of associated companies in a firm should be inconsequential to the value of the firm. Unfortunately, it cannot be said in the current analysis whether the irrelevance of ownership by blockholders and associated companies in firm performance is due to these trade-offs or due to passive roles of these shareholders.

Among the control variables, idiosyncratic risk and market risk are still negatively related to market performance of the firm as they were in the mean-comparison tests in Table 4.2. The Capital Asset Pricing Model (CAPM) of Lintner (1965), Black (1972) and Sharpe (1964) predict a positive relationship between required /observed rate of return on a stock and beta (a measure of systematic risk) of the stock. CAPM argues that firm-specific risk (firm-specific error term in

the beta regression) is cancelled out when sufficiently large number of assets are included in a portfolio which is why idiosyncratic risk is irrelevant. The coefficient of systematic risk, BETA, is negative in the regression used for an analysis. As mentioned above, CAPM predicts that higher beta leads to a higher expected return, which is possible only when the firm's stock price is low. In other words, beta and stock price should be negatively related. Thus, as far as the firm's systematic risk is concerned, the results support CAPM but are not in line with the findings of Fama and French (1992) who found that the relationship between beta and returns is flat. The reason one may give in support of negative and statistically significant linkage between idiosyncratic risk, SER, and Tobin's Q is that investors in Pakistan do not hold diversified portfolios. Majority of the firms are owned and controlled by families, blockholders and associated companies. The holdings of these investors are necessarily not diversified. In the parlance of capital market theory, idiosyncratic risk will be irrelevant only if investors hold diversified portfolios. Negative coefficient of SER proves the above assertion.

Firm size, which is used as a control variable in the Q and ROA regressions, has negative impact on market performance and positive impact on operating performance of the firm. Larger size helps a firm to have more economies of scale, face lower information asymmetry (Petit and Singer, 1985) and face lower chances of bankruptcy (Titman and Wessels, 1988). Both the market and operating performance of the firm should be positively related to the size of the firm. One explanation for the results might be that opportunistic managers may increase size of a firm irrespective of whether such an increase maximizes the shareholders' wealth or not which is why larger firms are viewed unfavorably by the market. However, the discrepancy in the results of ROA and Q regression is not explainable.

Table 4.6: OLS and 2SLS regressions for Q

	Blockholders		Associated Companies.	
	OLS	2SLS	OLS	2SLS
DIRC	-0.285(0.075)*	-4.048(1.548)*	-0.046(0.095)	11.219(11.034)
BLOC/ASSO	0.427(0.079)*	-0.084(0.262)	0.426(0.085)*	6.674(6.126)
GROW	0.453(0.157)*	0.751(0.336)**	0.518(0.157)*	0.459(0.664)
LEV	-0.224(0.091)**	0.306(0.283)	-0.167(0.092)***	-0.361(0.432)
TANG	-0.033(0.055)	0.495(0.242)**	-0.008(0.055)	-0.837(0.844)
SER	-5.937(0.748)*	-4.726(1.571)*	-5.661(0.748)*	-7.364(3.561)**
BETA	-0.034(0.03)	-0.222(0.097)**	-0.03(0.03)	0.663(0.691)
SIZE	0.003(0.013)	-0.165(0.073)**	-0.007(0.014)	0.123(0.14)
Constant	1.299(0.13)*	3.074(0.771)*	1.357(0.128)*	-3.745(5.024)
F-Statistics		21.16	5.73	20.56
P-value(F-Statistics)		0	0	0
R2		0.1672		0.1633
Adj.R2		0.1593		0.1553

Table 4.7: OLS and 2SLS regressions for ROA

	Blockholders		Associated Companies	
	OLS	2SLS	OLS	2SLS
DIRC	-0.011(0.012)	0.127(0.132)	-0.028(0.015)***	0.055(0.087)
ST	0.057(0.004)*	0.059(0.005)*	0.059(0.004)*	0.057(0.005)*
GROW	0.13(0.027)*	0.091(0.045)**	0.125(0.027)*	0.116(0.028)*
LEV	-0.163(0.015)*	-0.166(0.016)*	-0.165(0.015)*	-0.163(0.015)*
SIZE	0.019(0.002)*	0.026(0.007)*	0.02(0.002)*	0.022(0.003)*
BLOC	0.004(0.013)	0.009(0.014)	-0.028(0.014)**	0.015(0.048)
Intercept	-0.06(0.023)*	0.16(.102)	-.04(.02)*	-.04(.06)***
F-Statistics	31.2	27.1	31.01	30.01
P-value(F-Statistics)	0.00	.00	.00	.00
R ²	0.53	0.46	0.53	0.52
Adj.R ²	0.51	0.44	0.51	0.5

5. Conclusion

The main objective of this paper was to highlight the importance of the ownership structure and its impact on the financial and the market based performance of the firm. These objectives are accomplished by empirically evaluating the data of 183 non-financial firms listed on the Karachi Stock Exchange for the period 2003 to 2008. The impact of the ownership structure on firm performance is investigated in detail. The results indicate that Tobin's Q is significantly higher in firms where the percentage ownership of associated holdings and block holdings is above their respective 50th percentiles. This supports the view that associated-holdings and blockholdings reduce agency costs, and/or create positive signaling effect. Tobin's Q is also higher in larger firms and in firms with higher sales turnover ratios.

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