



The impact of internal attributes of corporate governance on firm performance

Evidence from Pakistan

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Abstract

Purpose – The purpose of this paper is to investigate whether internal attributes of corporate governance such as board size, outside directors, CEO duality, managerial ownership, and ownership concentration affect the performance of Pakistani firms.

Design/methodology/approach – Panel econometric technique namely pooled ordinary least squares is used to estimate the relationship between internal governance mechanisms and performance measures (i.e., return on assets, return on equity, earnings per share, and market-to-book ratio) using the data of non-financial firms listed on the Karachi stock exchange Pakistan during 2004-2008.

Findings – The empirical results indicate that board size is positively, whereas outside directors and managerial ownership are negatively related to the return on assets, earnings per share, and market-to-book ratio. Ownership concentration is positively related to all measures of performance used in this study. CEO duality is positively related to earnings per share only. As far as control variables are concerned, leverage is negatively related to the return on assets, return on equity, and earnings per share. Alternatively, firm size is positively related to all measures of performance. In sum, empirical results indicate that internal governance mechanisms have material effects on firm performance.

Practical implications – Empirical results provide support to managers to understand how internal governance mechanisms affect the firm performance. Moreover, results provide support to regulatory authorities for enacting laws to make internal governance mechanisms work more effectively in the country.

Originality/value – This paper contributes to the literature by exploring the effects of internal governance mechanisms on firm performance using the data of Pakistani firms. Moreover, empirical findings somehow proceed to confirm that theories of corporate governance surely provide some support to explain the relationship between internal governance mechanisms and firm performance.

Keywords Corporate governance, Firm performance, Non-financial firms, Pakistan

Paper type Research paper



Introduction

Corporate governance is very much an evolving area. The development of corporate governance has been driven by the need to restore investor confidence in capital markets. Generally, corporate governance is a system by which companies are directed and controlled. More specifically, corporate governance deals with the ways in which suppliers of finance to corporations assure themselves of getting a return on their investment (Shleifer and Vishny, 1997, p. 737). More importantly, empirical research on internal governance mechanisms and firm performance has mainly been derived from data from developed countries that have many institutional similarities. However, empirical evidence yields contradictory and inconsistent results. Alternatively, little is empirically known about the firms in developing countries that have different institutional structures. Thus, a limited research on firms in developing countries and equivocal results are a few reasons that have evoked the need for this study.

The main objective of this study is to investigate whether internal governance mechanisms such as board size, outside directors on the board, CEO duality, managerial ownership, and ownership concentration affect the performance of Pakistani firms. Empirical results indicate that board size is positively related to the firm performance. Although this finding is incongruent with most empirical studies in developed economies, it confirms the predictions of resource dependence theory suggesting that increase in board size may yield benefits by developing linkage with the external environment and securing a broader resource base (Pfeffer, 1973). Ownership concentration is positively related to corporate performance. This finding supports the argument of Shleifer and Vishny (1986) suggesting that large shareholders have the incentive to collect the information and monitor the management, thereby avoiding the free-rider problem of control and bringing about value increasing changes in corporate policy. The CEO duality is positively related to earnings per share only. The positive relationship confirms the predictions of stewardship theory suggesting that authoritative decision making under the leadership of a single individual leads to higher performance. Alternatively, outside directors is negatively related to the firm performance. This negative relationship may be because of very low representation of independent directors on the Pakistani firms' boards which encourage the managers to expropriate resources (due to inappropriate governance actions) to maximize their personal utility which in turn negatively influences firm performance. Finally, managerial ownership is negatively related to firm performance. This finding is incongruent with Jensen's (1993) convergence of interest hypothesis, suggesting that managerial shareholdings help align the interests of shareholders and managers and as the proportion of managerial ownership increases the corporate performance also increases. This might be true in the context of developed economies, however, in Pakistan, entrenched managers tend to use the firm's resources for their personal benefits, hence, negatively affecting firm performance. In sum, empirical results indicate that internal governance mechanisms have material effects on firm performance. Furthermore, findings proceed to confirm that theories of corporate governance provide some support to explain the relationship between internal governance mechanisms and corporate performance.

The rest of the paper is organized as follows. The next section presents the review of literature concerning the internal attributes of corporate governance and their impact on firm performance. It is then followed by the empirical part which describes the data,

Review of literature

Although there is an abundance of research which aims to explain the relationship between corporate governance and firm performance, empirical evidence yields contradictory and inconsistent results. Arguments and empirical findings have gone both ways. Some researchers argue that internal governance mechanisms such as board size, outside directors, CEO duality, managerial ownership, and ownership concentration have a positive effect on firm performance, whereas other researchers oppose such claims by arguing that these mechanisms have a negative effect on firm performance. For instance, Mashayekhi and Bazaz (2008) and Yermack (1996) reported a negative relationship between board size and firm performance. Conversely, Jackling and Johl (2009), Abor and Biekpe (2007), and Kiel and Nicholson (2003) observed a positive relationship between board size and corporate performance. Mohd Ghazali (2010) analyzed the data of Malaysian firms and found no significant relationship between board size and corporate performance. Jackling and Johl (2009), Mashayekhi and Bazaz (2008), and Rosentein and Wyatt (1990) have shown that outside directors on the boards are positively related to firm performance. Alternatively, Agrawal and Knoeber (1996) found that outside directors on the boards are negatively related to firm performance. Moreover, Coles *et al.* (2001) found that greater representation of outside directors on the board has a negative impact on firm performance. Abor and Biekpe (2007) found a positive relationship between CEO duality and profitability; whereas, Ehikioya (2009) found that CEO duality adversely affect firm performance. Jackling and Johl (2009) and Mashayekhi and Bazaz (2008) found no significant relationship between the leadership structure and firm performance. Abor and Biekpe (2007) found a positive relationship between insider ownership and profitability. On the other hand, Sarkar and Sarkar (2000), McConnell and Servaes (1990), and Morck *et al.* (1988) reported a non-linear relationship between ownership structure and firm performance. Florackis *et al.* (2009) found no strong inference for intermediate and high levels of managerial ownership; however, they found a support for the existence of the initial alignment effect of managerial ownership at levels lower than 15 percent. Lehmann and Weigand (2000) found a negative relationship between ownership concentration and profitability. Alternatively, Wiwattanakantang (2001) has shown that ownership concentration is positively associated with corporate performance, as measured by return on assets and sales-assets ratio. Demsetz and Lehn (1985) found no significant relationship between ownership concentration and accounting profit returns.

Internal attributes of corporate governance

A brief explanation of internal attributes of corporate governance in relation to different theories of corporate governance and their impact on firm performance is presented below. These attributes are denoted as board size, outside directors, CEO duality, managerial ownership, and ownership concentration.

Board size. The board of directors leads and controls a company and an effective board is fundamental to the success of a company. Lipton and Lorsch (1992) suggest that larger boards are less effective than smaller boards because some directors may free-ride on the efforts of others. Therefore, limiting the board size may enhance the value

of the firm. Similarly, Jensen (1993) states that when boards get larger, they are less likely to function effectively. Yermack (1996) analyzed the data of 452 large US industrial corporations. He found an inverse relationship between board size and firm value. Moreover, he observed that greatest incremental costs arise as boards grow in size from small to medium. The loss in firm value when boards grow from six to 12 members is estimated to be equal to the value lost when boards grow from 12 to 24. Mashayekhi and Bazaz (2008) found that board size is negatively associated with firm performance which indicates that larger board size generally reflects weaker control.

Alternatively, resource dependence theory suggests that larger boards with high levels of links to the external environment improve the company's access to various resources, which in turn positively influence corporate performance. According to Pfeffer and Salanick (1978), the greater the need for effective external linkage, the larger the board should be. Van den Berghe and Levrau (2004) argued that increasing the number of directors provides an increased pool of expertise because large boards are likely to have more knowledge and skills than small boards. Anderson *et al.* (2004) found a negative relationship between board size and the cost of debt financing. In addition, they showed that an additional board member is associated with about a ten basis point lower cost of debt financing, which indicates that larger boards help in procuring debt capital at reduced cost, hence positively affecting firm performance. Jackling and Johl (2009) analyzed the data of 180 top listed Indian companies. They found a positive relationship between board size and financial performance, which is consistent with the predictions of the resource dependence theory. Ehikioya (2009), using the data of Nigerian firms, found a positive relationship between board size and return on assets. Kiel and Nicholson (2003) analyzed the data of 348 publically listed firms in Australia. They observed that board size is positively correlated with firm value.

Outside directors. In general, the value of outside directors is related to their ability to judge firm performance independently. Inside directors have valuable knowledge about a firm's activities, while outside directors may contribute both expertise and objectivity in evaluating managers' decisions. Thus, a high degree of board independence enables non-executive directors to monitor a firm more closely and take appropriate governance actions, which may even involve the removal of some top managers. Several empirical studies have substantiated the monitoring role played by outside directors. For instance, Brickley and James (1987) observed that the presence of outside directors tend to reduce managerial consumption of perquisites. Weisbach (1988) found that the higher the proportion of outside directors on a board, the more likely the board will replace the firm's CEO after a period of poor performance. Hermalin and Weisbach (1988) argued that outside directors are more likely to join a board after a firm performs poorly. Li (1994) analyzed the data of 390 large manufacturing firms from ten industrial countries. He found that state-owned firms tend to have more outside directors on their boards in order to effectively monitor the actions of the management. Anderson *et al.* (2004) found a negative relationship between board independence and the cost of debt. Moreover, they showed that debt cost is 17.5 basis points lower for firms with boards dominated by independent directors relative to the firms with insider-stacked boards suggesting that bondholders view board independence as an important element in the pricing of a firm's debt. Rosentein and Wyatt (1990) observed that the appointment of outside directors leads to significant and positive share price reaction. Mashayekhi and Bazaz (2008) found a positive relationship between outside directors on boards and firm performance.

Jackling and Johl (2009) found a positive and significant relationship between outside directors and financial performance, as measured by Tobin's Q. Conversely, Agrawal and Knoeber (1996), using the data of nearly 400 US firms, have shown that outside directors are negatively related to firm performance. Moreover, Coles *et al.* (2001) observed that greater representation of outside directors on a board has a negative influence on firm performance, as measured by the market value added. Similarly, Ehikioya (2009) found that outside directors on a board has a negative influence on firm performance, as measured by return on assets and price-earning ratio.

CEO duality. In general, CEO duality refers to a situation when a firm's CEO also serves as the chairman of the board of directors. Agency theory suggests that CEO duality reduces the monitoring effectiveness of a board over management. Fama and Jensen (1983) suggest that the roles of a CEO (i.e. decision management) and chairperson (i.e. decision control) should be separated, otherwise a person holding both positions will dominate a board and could make a board ineffective in monitoring the managerial opportunism. Alternatively, stewardship theory suggests that CEO duality could promote a unified and strong leadership rather than weakening a board's independence from management and its monitoring role. In addition, resource dependence theory suggests that corporate boards are a mechanism to manage external dependencies and reduce environmental uncertainties. Thus, combining both roles (i.e. decision management and decision control) into a single position provide support in making timely and optimal decisions which in turn positively influence a firm's performance. Moreover, Pfeffer and Salanick (1978) argued that leaders with greater discretion would be better able to implement their strategic decisions and more likely to overcome organizational inertia. According to Brickley *et al.* (1997), there is no single optimal leadership structure because both duality and separation perspectives have related costs and benefits. Therefore, CEO duality will be valuable for some firms, whereas separation is likely be valuable for others. Similarly, Boyd (1995) has shown that CEO duality can have a positive effect on performance under certain industry conditions and a negative effect under other conditions.

Empirical evidence on the relationship between CEO duality and corporate performance yields equivocal results. For instance, Abor and Biekpe (2007) found a positive relationship between CEO duality and performance using the data of small and medium enterprises in Ghana. Alternatively, Ehikioya (2009) found that CEO duality adversely affects firm performance suggesting that both roles (i.e. decision management and decision control) should not be combined into a single position. Jackling and Johl (2009) found no significant relationship between CEO duality and performance of top listed Indian firms. Elsayed (2007) analyzed the data of Egyptian listed firms and found that board leadership structure does not directly affect corporate performance. Mashayekhi and Bazaz (2008) found no significant relationship between CEO duality and performance of Iranian firms.

Managerial ownership. According to Jensen and Meckling (1976), conflicts between shareholders and managers may arise because managers hold less than 100 percent of the residual claim. Therefore, they do not capture the entire gain from their profit enhancement activities, but they do bear the entire cost of these activities. Owing to this reason, they may invest less effort in managing firm resources and attempt to transfer firm resources for their own personal benefits. This inefficiency may be reduced when managers own the large fraction of the firm's equity. Thus, increases in managerial

ownership may align the interests of managers with those of shareholders by stopping them from consuming more than an optimal level of perquisites. Empirical evidence on the relationship between managerial ownership and performance yields uncertain results. For instance, Morck *et al.* (1988) found that firm value increases as managerial ownership increases to 5 percent, firm value then decreases as managerial ownership increases from 5 to 25 percent, and firm value increases again at ownership levels beyond 25 percent. Alternatively, McConnell and Servaes (1990) found that performance increases in a non-linear fashion until it reaches its maximum at a level of insider ownership of 40-50 percent and then gradually declines for higher levels of ownership. Sarkar and Sarkar (2000), using the data from Indian firms, observed that market-to-book ratio declines by 0.8 percent by every 1 percent increase in directors' holdings up to 25 percent and thereafter it increases by 1.3 percent for every 1 percent increase in directors' holdings. They concluded that the relationship between managerial ownership and corporate performance is non-linear. Florackis *et al.* (2009) found no strong inference for intermediate and high levels of managerial ownership, using the data of UK-listed firms over the period 2000-2004. However, they found a support for the existence of initial alignment effect of managerial ownership at levels lower than 15 percent. Hu and Zhou (2008) analyzed the data of non-listed Chinese firms to investigate the effect of managerial ownership on firm performance. They found a non-linear relationship between managerial ownership and performance. Moreover, they observed that the inflection point at which the relation turns negative occurs at ownership above 50 percent. Ehikioya (2009) has shown that managerial ownership is negatively related to the return on assets and the Tobin's Q.

Ownership concentration. The nature of a firm's ownership structure may affect performance. Generally, two types of ownership structures are discussed in the literature, i.e. concentrated and dispersed. In most developed countries, the ownership structure is dispersed, whereas in developing countries the ownership structure is highly concentrated (i.e. a few shareholders hold a significant proportion of shares issued by the firm) which indicates a weak legal system to protect the interests of small investors. In particular, blockholders are likely to be more efficient than dispersed and small shareholders in monitoring management because they have substantial investment, as well as significant voting power to protect these investments (Berle and Means, 1932; Jensen and Meckling, 1976; Shleifer and Vishny, 1986). On the other hand, they may invest a firm's resources in sub-optimal projects for their personal benefit because the costs will be shared by the other investors. Empirical evidence on the relationship between ownership concentration and firm performance yields mixed results. For instance, Wiwattanakantang (2001) analyzed the data of 270 non-financial listed firms in Thailand. He found that ownership concentration is positively associated with accounting-based measures of performance (i.e. return on assets and sales-assets ratio). Moreover, he observed that family-controlled and foreign-controlled firms as well as firms with more than one controlling shareholders have higher return on assets relative to firms with no controlling shareholders. Ehikioya (2009) analyzed the data of 107 Nigerian firms and found that ownership concentration is positively related to the return on assets and the price-earnings ratio, whereas it is negatively related to the Tobin's Q. Lehmann and Weigand (2000) analyzed the data of 361 firms from German mining and manufacturing industries. They found a negative relationship between ownership concentration and firm's profitability, as measured by

the return on total assets. Demsetz and Lehn (1985) using the data of 511 US firms found no significant relationship between ownership concentration and accounting profit returns.

Control variables

Several empirical studies estimating the relationship between corporate governance mechanisms and firm performance used leverage and firm size as a control variable. According to Jensen (1986), debt reduces the agency costs of free cash flow by reducing the cash flow available for spending at the discretion of managers. This mitigation of conflicts between managers and outside shareholders may increase firm value. In general, larger firms are more diversified and are less likely to default on their debt obligations. Moreover, larger firms have greater variety of capabilities and can enjoy economies of scale which in turn positively influence firm performance. Several studies, such as Ehikioya (2009), Gleason *et al.* (2000), and Majumdar and Chhibber (1999), reported a positive relationship between firm size and financial performance. Alternatively, Mohd Ghazali (2010) analyzed the data of non-financial listed firms in Malaysia and found that firm size is negatively related to corporate performance.

Data and methodology

Data

The aim of this paper is to investigate whether internal attributes of corporate governance affect the performance of Pakistani firms. Data relevant to internal attributes of corporate governance and performance measures were taken from the annual reports of companies listed on the Karachi Stock Exchange (KSE) Pakistan during 2004-2008. Every listed company is bound to prepare its financial statements in accordance with the approved accounting standards as applicable in Pakistan. Data relevant to the market price of shares were taken from the annual diaries of KSE. The final sample set, after deleting firms with incomplete data, consists of 770 observations for 154 firms over a period of five years. Firms included in the sample belong to seven distinct industrial groups such as cement, chemical, engineering, fuel and energy, paper and board, sugar and allied, textile, and miscellaneous.

Variables

On the basis of research objectives, variables (dependent and explanatory) used in this study and their definitions are largely adopted from existing literature. Notably, accounting-based as well as market-based measures of performance such as return on assets, return on equity, earnings per share, and market-to-book ratio were used as dependent variables. Key explanatory variables include board size, outside directors, CEO duality, managerial ownership, and ownership concentration. Moreover, some control variables such as leverage and firm size were also included in the estimation model in order to control the firm-specific characteristics that may affect firm performance. Definitions of these variables are listed in Table I.

Methodology

We used panel data methodology because the sample contained data across firms and over time. Moreover, panel data sets are better able to identify and estimate effects that simply are not detectable in pure cross-sectional or pure time-series data. The pooled

Variable	Definition
<i>Dependent variables</i>	
Return on assets (ROA_{it})	Ratio of profit before taxes to total assets
Return on equity (ROE_{it})	Ratio of profit before taxes to stockholders equity
Earnings per share (EPS_{it})	Ratio of profit before taxes to outstanding common shares
Market-to-book ratio (MBR_{it})	Ratio of average of the high and low market price per share for the year to book value per share
<i>Explanatory variables</i>	
Board size (BS_{it})	Log of firm's board size. Board size is determined by the total number of directors in a firm's board
Outside directors (OD_{it})	Ratio of outside directors to total directors in a firm's board
CEO duality (CD_{it})	A dummy variable, 1 if CEO is the chairman of the board, 0 otherwise
Managerial ownership (MO_{it})	Ratio of shares owned by the CEOs, directors and their immediate family members to total outstanding common shares
Ownership concentration (OC_{it})	Ratio of shares held by the five largest shareholders to outstanding common shares
<i>Control variables</i>	
Leverage (LEV_{it})	Ratio of total book debt to total assets
Size (SZ_{it})	Natural logarithm of sales

Table I.
Definition of variables

ordinary least squares (OLS) method is used to estimate the relationship between the internal attributes of corporate governance and the measures of performance:

$$ROA_{it} = \beta_0 + \beta_1 BS_{it} + \beta_2 OD_{it} + \beta_3 CD_{it} + \beta_4 MO_{it} + \beta_5 OC_{it} + \beta_6 \sum_{j=1}^n Control_{ijt} + \varepsilon_{it} \quad (1)$$

$$ROE_{it} = \beta_0 + \beta_1 BS_{it} + \beta_2 OD_{it} + \beta_3 CD_{it} + \beta_4 MO_{it} + \beta_5 OC_{it} + \beta_6 \sum_{j=1}^n Control_{ijt} + \varepsilon_{it} \quad (2)$$

$$EPS_{it} = \beta_0 + \beta_1 BS_{it} + \beta_2 OD_{it} + \beta_3 CD_{it} + \beta_4 MO_{it} + \beta_5 OC_{it} + \beta_6 \sum_{j=1}^n Control_{ijt} + \varepsilon_{it} \quad (3)$$

$$MBR_{it} = \beta_0 + \beta_1 BS_{it} + \beta_2 OD_{it} + \beta_3 CD_{it} + \beta_4 MO_{it} + \beta_5 OC_{it} + \beta_6 \sum_{j=1}^n Control_{ijt} + \varepsilon_{it} \quad (4)$$

where ROA_{it} is return on assets for the i th firm at time t , ROE_{it} is return on equity for the i th firm at time t , EPS_{it} is earnings per share for the i th firm at time t , MBR_{it} is market-to-book ratio for the i th firm at time t , BS_{it} is board size for the i th firm at time t , OD_{it} is outside directors for the i th firm at time t , CD_{it} is CEO duality for the i th firm at time t , MO_{it} is managerial ownership for the i th firm at time t , OC_{it} is ownership concentration for the i th firm at time t , $Control_{ijt}$ is the j th control variables for the i th firm at time t , β_0 is the intercept, ε_{it} is the random error term for the i th firm at time t .

Empirical results

Descriptive statistics and correlation of variables

Descriptive statistics of dependent and explanatory variables used in this study are presented in Table II which indicates that average return on assets and return on

Table II.
Descriptive statistics

Variable	Obs.	Mean	SD	Minimum	Maximum
<i>ROA_{it}</i>	770	0.0670	0.1050	- 0.2323	0.7967
<i>ROE_{it}</i>	770	0.1248	0.3369	- 2.9435	2.7371
<i>EPS_{it}</i>	770	11.748	26.573	- 43.454	248.91
<i>MBR_{it}</i>	770	1.4284	1.5645	0.08461	20.379
<i>BS_{it}</i>	770	0.8937	0.0663	0.8450	1.1461
<i>OD_{it}</i>	770	0.0617	0.0909	0	0.4
<i>CD_{it}</i>	770	0.2558	0.4366	0	1
<i>MO_{it}</i>	770	0.2529	0.2238	1.45×10^{-06}	0.8862
<i>OC_{it}</i>	770	0.5825	0.1841	0.0731	0.9734
<i>LEV_{it}</i>	770	0.5952	0.1862	0.0454	0.9852
<i>SZ_{it}</i>	770	21.254	1.3972	13.250	25.783

equity is 6.70 and 12.48 percent, respectively. In addition, the average earning per share is Rs 11.74 and the market-to-book ratio is 1.42. The mean log of board size is 0.89, whereas the average representation of outside directors on firms' boards is 6.17 percent. The average of CEO duality indicates that in 25.58 percent of the cases the CEO also serves as the chairman of the board. On average, 25.29 percent of the total outstanding shares are owned by the CEOs, directors, and their immediate family members. Notably, five largest shareholders on average hold 58.25 percent of outstanding shares, which shows that a few members of a firm hold a significant proportion of ownership. Moreover, a high degree of ownership concentration indicates the weak legal and institutional environment in the country. Leverage ratio indicates that 59.52 percent of a firms' total assets are financed with total debt. The profound dependence of Pakistani firms on debt capital may be due to limited equity markets combined with low levels of trading in the country.

In addition, results of the pair-wise correlations presented in Table III indicate that most cross-correlation terms for the explanatory variables are fairly small, thus giving no cause for concern about the problem of multicollinearity among the explanatory variables.

Regression results

During the data analysis process, a total of four equations were estimated in order to illuminate the significant links between the internal governance mechanisms and performance measures. Empirical results presented in Table IV indicate that board size and ownership concentration are statistically significant and positively related to the return on assets. On the other hand, outside directors and managerial ownership are statistically significant and negatively related to the return on assets. CEO duality is negatively related to the return on assets, but the relationship is insignificant. As far as control variables are concerned, leverage is negatively whereas firm size is positively related to the return on assets.

Results shown in Table V indicate that ownership concentration is statistically significant and positively related to the return on equity. Board size and CEO duality are positively, whereas outside directors and managerial ownership are negatively, related to the return on equity, but the relationship is insignificant. The control variable leverage is negatively, whereas firm size is significantly and positively, related to the return on equity. Results presented in Table VI indicate that board size, CEO duality,

Variable	ROA_{it}	ROE_{it}	EPS_{it}	MBR_{it}	BS_{it}	OD_{it}	CD_{it}	MO_{it}	OC_{it}	LEV_{it}	SZ_{it}
ROA_{it}	1										
ROE_{it}	0.7***	1									
EPS_{it}	0.6***	0.5***	1								
MBR_{it}	0.3***	0.2***	0.5***	1							
BS_{it}	0.1***	0.09**	0.2***	0.1***	1						
OD_{it}	-0.06*	-0.02	-0.08**	-0.1***	0.1***	1					
CD_{it}	-0.1***	-0.04	0.005	-0.09**	-0.06*	0.05	1				
MO_{it}	-0.2***	-0.1***	-0.2***	-0.1***	-0.1***	-0.05	0.1***	1			
OC_{it}	0.1***	0.1***	0.1***	0.1***	-0.01	-0.00	-0.04	0.03	1		
LEV_{it}	-0.4***	-0.2***	-0.2***	0.01	0.04	0.06**	0.09***	0.07***	-0.02	1	
SZ_{it}	0.3***	0.2***	0.4***	0.2***	0.3***	0.02	-0.04	-0.2***	0.0***	-0.02	1

Note: Significant at: *10, **5, and ***1 percent levels

Table III.
Correlation of variables

Table IV.
The effect of explanatory variables on return on assets (ROA_{it})

Variable	Coefficient	SE	<i>t</i> -statistic	Prob.
<i>C</i>	-0.2496	0.0576	-4.3269	0.0000
BS_{it}	0.1187	0.0504	2.3516	0.0189
OD_{it}	-0.0578	0.0344	-1.6805	0.0933
CD_{it}	-0.0052	0.0072	-0.7274	0.4672
MO_{it}	-0.0462	0.0146	-3.1575	0.0017
OC_{it}	0.0281	0.0104	2.6825	0.0075
LEV_{it}	-0.2637	0.0167	-15.748	0.0000
SZ_{it}	0.0172	0.0024	6.9933	0.0000
R^2	0.3411	Mean dependent variable		0.0670
Adjusted R^2	0.3350	<i>F</i> -statistic		56.357
SE of regression	0.0856	Prob. (<i>F</i> -statistic)		0.0000

Table V.
The effect of explanatory variables on return on equity (ROE_{it})

Variable	Coefficient	SE	<i>t</i> -statistic	Prob.
<i>C</i>	-0.9694	0.2105	-4.6040	0.0000
BS_{it}	0.1303	0.1842	0.7074	0.4795
OD_{it}	-0.0757	0.1256	-0.6033	0.5465
CD_{it}	0.0045	0.0263	0.1738	0.8620
MO_{it}	-0.0537	0.0534	-1.0064	0.3145
OC_{it}	0.1035	0.0383	2.7039	0.0070
LEV_{it}	-0.4582	0.0611	-7.4981	0.0000
SZ_{it}	0.0566	0.0090	6.2886	0.0000
R^2	0.1473	Mean dependent variable		0.1248
Adjusted R^2	0.1394	<i>F</i> -statistic		18.804
SE of regression	0.3125	Prob. (<i>F</i> -statistic)		0.0000

Table VI.
The effect of explanatory variables on earnings per share (EPS_{it})

Variable	Coefficient	SE	<i>t</i> -statistic	Prob.
<i>C</i>	-151.17	15.541	-9.7271	0.0000
BS_{it}	59.657	13.600	4.3863	0.0000
OD_{it}	-32.518	9.2722	-3.5070	0.0005
CD_{it}	4.8182	1.9472	2.4744	0.0136
MO_{it}	-15.646	3.9449	-3.9661	0.0001
OC_{it}	9.8052	2.8277	3.4675	0.0006
LEV_{it}	-26.763	4.5110	-5.9327	0.0000
SZ_{it}	5.8504	0.6654	8.7911	0.0000
R^2	0.2531	Mean dependent variable		11.748
Adjusted R^2	0.2462	<i>F</i> -statistic		36.889
SE of regression	23.070	Prob. (<i>F</i> -statistic)		0.0000

and ownership concentration are positively, whereas outside directors and managerial ownership are statistically significant and negatively related to the earnings per share. The control variable leverage is negatively, whereas firm size is positively, related to the earnings per share.

Empirical results reported in Table VII indicate that board size and ownership concentration are positively, whereas outside directors and managerial ownership are

Variable	Coefficient	SE	t-statistic	Prob.
C	-4.6401	0.9954	-4.6615	0.0000
BS_{it}	3.2712	0.8711	3.7552	0.0002
OD_{it}	-2.4593	0.5938	-4.1412	0.0000
CD_{it}	-0.1551	0.1247	-1.2441	0.2138
MO_{it}	-1.0037	0.2526	-3.9725	0.0001
OC_{it}	0.6166	0.1811	3.4048	0.0007
LEV_{it}	0.3254	0.2889	1.1264	0.2603
SZ_{it}	0.1422	0.0426	3.3381	0.0009
R^2	0.1161	Mean dependent variable		1.4284
Adjusted R^2	0.1080	F-statistic		14.301
SE of regression	1.4776	Prob. (F-statistic)		0.0000

Table VII.
The effect of explanatory
variables on
market-to-book ratio
(MBR_{it})

significantly and negatively related to the market-to-book ratio. CEO duality is negatively related to the market-to-book ratio, but the relationship is insignificant. The control variable firm size is positively related to the market-to-book ratio. Leverage is also positively related to the market-to-book ratio, but the relationship is insignificant.

In summary, board size is positively, whereas outside directors and managerial ownership are negatively, related to the return on assets, earnings per share, and market-to-book ratio. Ownership concentration is positively related to all measures of performance used in this study. CEO duality is positively related to the earnings per share only. Results concerning the control variables indicate that leverage is negatively related to the return on assets, return on equity, and earnings per share, whereas, firm size is positively related to all measures of performance used in this study.

Discussion of empirical results

Development of corporate governance in Pakistan

The development of corporate governance has been driven by the need to restore investor confidence in capital markets. The government of Pakistan has taken various steps to foster investors' confidence on the Pakistani capital market. The establishment of Securities and Exchange Commission of Pakistan (SECP) was an important step taken by the government of Pakistan to improve the level of corporate governance in the country. The SECP started its operation in January 1999 with the aim to develop a fair, efficient, and transparent regulatory framework based on international legal standards and best practices to protect the interests of all stakeholders, especially those of minority shareholders. The SECP has initiated a number of reforms with the aim to improve the corporate governance policies, structures, and frameworks in the country. The most important initiative taken by the SECP was the introduction of the code of corporate governance (CCG) in March 2002. The CCG is a compilation of "best practices" designed to provide a framework by which companies listed on Pakistan's stock exchanges are to be directed and controlled with the objective of safeguarding the interests of stakeholders and promoting market confidence. The CCG is based upon the experience of other countries in structuring corporate governance models, in particular the experience of those countries with common law traditions similar to Pakistan's [1]. More specifically, CCG lays emphasis on openness and transparency in corporate affairs and requires directors to perform their fiduciary responsibilities diligently in the larger interest of all stakeholders.

Debate on regression results

A positive relationship between board size, and firm performance confirms the predictions of resource dependency theory suggesting that a board with high levels of links to external environment would improve a firm's access to various resources, hence, positively affecting firm performance. More importantly, the results may reflect the nature of the environment in which Pakistani firms operate, whereby larger boards serve as a means to obtain various resources at reduced costs, which in turn have a positive influence on corporate performance. A positive relationship between board size and firm performance is congruent with the findings of Jackling and Johl (2009), Ehikioya (2009), Abor and Biekpe (2007), Van den Bergh and Levrau (2004), Anderson *et al.* (2004), and Pfeffer (1973).

A most commonly examined relationship regarding internal governance mechanisms is the relationship between the independence of a board (outside directors) from the management and firm performance. Generally, greater board independence allows non-executive directors to monitor a firm more closely and take appropriate governance actions, which in turn positively influences a firm's performance. Empirical results indicate that an outside director is negatively related to firm performance. A very low (6.17 percent) representation of independent directors on firms' boards might encourage managers to expropriate firm resources (due to poor monitoring and inappropriate governance actions) for their personal benefits, hence negatively affecting firm performance. The negative relationship between outside directors and performance is consistent with the findings of Ehikioya (2009), Kiel and Nicholson (2003), Coles *et al.* (2001), and Agrawal and Knoeber (1996). The CEO duality is positively related to earnings per share. This finding is in contradiction to the predictions of agency theory, suggesting that combining both roles (i.e. the decision management delegated to the CEO, and the decision control delegated to the chairman of the board) into a single position would weaken board control, and negatively affect firm performance. Alternatively, the positive relationship is congruent with the predictions of stewardship theory suggesting that authoritative decision making under the leadership of a single individual leads to higher performance. A positive relationship between CEO duality and firm performance is consistent with the findings of Abor and Biekpe (2007), Lin (2005), and Donaldson and Davis (1991).

A negative relationship between managerial ownership and firm performance is incongruent with Jensen's (1993) convergence of interest hypothesis suggesting that managerial shareholdings help align the interests of shareholders and managers, and as the fraction of managerial equity ownership increases, so does firm performance. This might be true in the context of developed countries where increases in managerial equity ownership may align the interests of managers with shareholders by constraining the consumption of perks. However, in Pakistan, the situation reverses where entrenched managers tend to use a firm's resources in order to maximize their own personal utility, which in turn negatively influences the corporate performance. The negative relationship between managerial ownership and firm performance is consistent with the findings of Ehikioya (2009).

In Pakistan, ownership structure is not widely dispersed as in the USA and UK. In general, few members of a family tightly hold the significant proportion of shares issued by the firm. This is evident from the fact that on average the five largest shareholders in Pakistan hold 58.25 percent of total outstanding shares, which shows

the weak legal and institutional environment in the country. A positive relationship between ownership concentration and firm performance is incongruent with the agency explanations suggesting that controlling shareholders expropriate corporate assets, hence negatively influence the firm performance. Rather the positive relationship indicates that blockholders are the effective monitors and have more ability than dispersed shareholders to monitor management effectively and force them to take those actions that enhance the value of the firm. The positive relationship between ownership concentration and firm performance is congruent with the findings of Ehikioya (2009) and Wiwattanakantang (2001).

In addition to internal attributes of corporate governance, two control variables were included in the regression equations to control the firm-specific characteristics that may affect the performance. These control variables include leverage and firm size. Leverage is negatively related to corporate firm performance which indicates that agency issues may lead firms to use higher than appropriate levels of debt, which in turn increase a lender's influence that might limit managers' ability to manage the operations effectively, hence negatively affecting the performance. The negative relationship between leverage and firm performance is consistent with the findings of Ebid (2009), Abor (2007), and Gleason *et al.* (2000). Alternatively, a positive relationship between firm size and performance indicates that large size firms enjoy the benefits of scale economies which in turn positively affect firm performance. The positive relationship between firm size and performance is consistent with the findings of Abor (2007) and Gleason *et al.* (2000).

In summary, although the SECP introduced various reforms to restore investors' confidence in the country's capital market, Pakistani firms still have weak internal governance mechanisms compared to firms in developed economies. Notably, empirical results indicate that internal governance mechanisms have material effects on firm performance. Moreover, empirical findings somehow proceed to confirm that theories of corporate governance surely provide some support to understanding the relationship between governance mechanisms and firm performance.

Conclusions

This study investigates whether internal attributes of corporate governance, such as board size, outside directors, CEO duality, managerial ownership, and ownership concentration, affected the performance of non-financial firms listed on the KSE Pakistan during 2004-2008. Empirical results indicate that board size is positively related to the firm performance. This finding is congruent with the predictions of resource dependence theory suggesting that a board with high levels of links to the external environment can improve a firm's access to various resources, hence positively affecting firm performance. The outside director is negatively related to corporate performance. The negative relationship may be because of very low representation (6.17 percent) of independent directors on the Pakistani firms' boards, which might encourage managers to expropriate the firm's resources for their personal benefits, hence negatively affecting performance. A positive relationship between CEO duality and firm performance is in contradiction to the agency explanations suggesting that combining both roles (i.e. the decision management and the decision control) into a single position would weaken board control, and negatively affect firm performance. Alternatively, a positive relationship is congruent with the predictions of stewardship theory suggesting that authoritative decision making under the leadership

of a single individual leads to higher performance. The negative relationship between managerial ownership and performance is incongruent with the proposition made by Jensen and Meckling (1976) suggesting that increases in fraction of equity owned by managers might mitigate loss by aligning the interests of managers with shareholders. However, in Pakistan the situation is reversed where entrenched managers tend to use a firm's resources for their personal benefits, which in turn negatively influence performance. The positive relationship between ownership concentration and performance indicates that blockholders are the effective monitors and have more ability than dispersed shareholders to force management to take those actions that enhance the value of the firm.

As far as control variables are concerned, the negative relationship between leverage and performance indicates that agency issues may lead firms to use higher than appropriate levels of debt in their capital structure, which in turn increase a lender's influence that might limit the managers' ability to be creative and innovative, which is critical for a firm to thrive and succeed. A positive relationship between firm size and performance indicates that large size firms enjoy the benefits of scale economies, which in turn positively affect the performance.

In summary, empirical results indicate that internal governance mechanisms have material effects on firm performance. Moreover, findings somehow proceed to confirm that theories of corporate governance provide some support to explain the relationship between internal governance mechanisms and firm performance. Notably, this study has laid some groundwork by exploring the effect of internal attributes of corporate governance on firm performance upon which more detailed evaluation of Pakistani firms can be based. Finally, this study proposed to explore the impact of external governance mechanisms on performance of Pakistani firms.

Note

1. Manual of corporate governance issued by the SECP.

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