Determinants of Board Effectiveness: Logit Model

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This research is on the basis of self finance.

Abstract
This study examines the relationship between financial variables and corporate governance particularly the board of director’s effectiveness in Pakistani listed companies. Logit analysis is used to investigate that the whether board of directors is influenced by financial variables: firm Size, Profit, Turnover, D/E, ROE, Sector (financial or non-financial), and type of firm (local or international). This empirical analysis for board effectiveness, composition and size is done on the cross-section of the 50 firms for the year 2009 to examine how the cross firm differences in the type of firm, the sector to which firm belongs, the size, profitability, capital structure of the firm influence this crucial corporate governance component board composition and effectiveness in Pakistan. Most of the results of the study reveal that financial variables are less likely to influence the board effectiveness. The performance (ROE and Turnover) of the firms have significant association with large board size. Moreover, firms with high performance in terms of ROE conduct more board meetings.

Keywords: Determinants ; Board Effectiveness: ; Logit Model

1. Introduction
Good Corporate Governance enhances the performance potential of an organization and increase organizations’ chances to attract outside capital, this in turn results in a stable and progressing economic development. Role of good corporate governance is even more important in emerging markets where many public policy objectives are achieved through corporate governance. Like; it helps in reducing transaction and capital cost and move towards development of capital market; it helps in overcoming financial crises and support to strengthen property rights. Corporate Governance gives importance to relationship among all stakeholders for producing better results. Stakeholders include major shareholders, management of the company, its Board of Directors and other shareholders etc. Corporate Governance is an important area for research in corporate sector and it is more even important after its publication by Securities & Exchange Commission of Pakistan as code of conduct under banner of Corporate Governance Code 2002 for the companies which are listed on Stock Exchange.

SECP introduced code of Corporate Governance in early 2002, it is main step towards corporate governance reforms in country. Many recommendations included in
this code are aligned with good practices followed internationally. There are two main area of enforcement one; Reforms of BODs to make the board responsible and answerable to all shareholders and second; ensuring better disclosure for the companies with internal & external audits in improved manner. Guidance regarding risk management, internal controls and board is not available and code’s limited provision on independence of directors remains voluntary.

Various studies based on corporate governance find that countries having weakest investor protection have less developed debt and equity markets than those having strongest investor protection (La Porta, et al. (1997), Demirguc-Kunt and Maksimovic (1998), Javid and Iqbal (2010) for Pakistan). These studies come to one important implication that external control mechanisms are vital to keep a balance between interest of managers and those of shareholders, but the question arises what happens in the absence of these mechanisms as in case of Pakistan. According to Javid and Iqbal (2010) and La Porta et al., (1998), minority shareholders do not participate heavily in those financial markets where their rights are not well protected; however, researchers provide concentrated ownership a key factor. The reason behind is monitoring of management generally by large shareholders.

The main focus of this study is to find out the relationship between corporate governance and financial variables particularly the board of directors’ effectiveness on Pakistani listed companies for 2009. In Pakistan, where ownership tends to be centrally concentrated, agency issues or problems can be settled/solved by way of using Boards to watch and keep an eye on top-level management, ensuring legally protected rights of minority investors and an active market to exercise corporate control over it. In developed countries, corporate governance rely more upon investors outside and capital markets. However, contrary to that in Pakistan corporate sector efficiency is achieved through more reliance of corporate governance on financial institution and on inside investors with large investments. In this particular situation, relatively smaller outside investors are exposed to the risk as chances are increased that the wealth flow to large shareholders.

1.1 Problem Statement

Impact of firm size, Performance measures (ROE), Capital Structure, Profit, Sector and Type of Industry on Board Effectiveness in KSE listed companies.

1.2 Objective of the Study

The main objective of the study is how board composition (board size, independent directors, and no. of BOD meetings) audit independence is influenced by sector to which the firm belongs (financial or non-financial), type of industry to which firm belongs (local or international) and capital structure (D/E) after controlling for size and profitability of the firm.

- To measure the board of directors effectiveness and composition of Pakistani firms.
To explore empirically which financial factors (size, profit, capital structure, ROE) more strongly influence board composition characteristics.

To examine the relationship between firm’s financial variables and overall corporate governance compliance.

1.3 Significance of the study

The current study has twofold significance. At one end it will educate the investors and management practitioners about the existence of Corporate Governance practices in Pakistani companies regarding Boards. On the other end, SECP is going to revise corporate governance code so this study would highlight the importance of board in revision. This study addresses some of the underline factors that promote efficient boards and examine some of the strengths, weaknesses, and economic implications related to board composition.

1.4 Organization of the Study

Rest of the study is organized as follows. Section two provides literature of corporate governance. The methodology and data is discussed in section three. The empirical results are discussed in section four and last section concludes the study.

2. Literature Review

Corporate governance has attained the attention of practitioners as well as academic researchers (Bebchuk and Cohen 2004). The need to improve corporate governance practices for effective financial reporting process has been highlighted in the literature (Levitt 1998, 1999, 2000). In Sarbanes-Oxley Act 2002, efficacy of the audit committees has been emphasized and responsibility to ensure the authenticity of financial reports is on management and board of directors. Audit committee and Board of Directors have been focal point for the accounting profession and earlier research. For example corporate governance was defined by Public Oversight Board as "those oversight activities undertaken by the board of directors and audit committee to ensure the integrity of the financial reporting process". A narrowed view of Corporate Governance, however, made its scope limited to monitoring of activities only and this may undervalue the role of Corporate Governance and thus the potential remain unused. Relationship among various actors and mechanisms within Corporate Governance arena is an important thing to consider. E.g. To achieve a quality full financial reporting and effective governance crucial factors on the scene are interaction among the internal auditors, audit committee, external auditor, the management and the board (Sarbanes-Oxley Act 2002). Management considerably influenced these parties; as revealed from an interview based study with experienced auditors (Cohen, et al.2002).

La Porta, et al. (1997) studied forty nine developing and developed countries and found that the countries having weakest investor protection have less developed debt and equity markets than those having strongest investor protection. These findings have significant insinuation for corporate governance study in economies outside U.S and other advanced economies. External control mechanisms, for example, are vital to keep a balance between interest of mangers and those of shareholders, but the question arises
what happens in the absence of these mechanisms? La porta et al. (1998) concluded evidence that shareholders with minor and branched out investments are not likely to take part actively and on big scale in financial markets of countries where their rights are not protected due to concentrated ownership. For this, there is a simple explanation, dominant shareholder with large investments/shareholding are more active to observe the management at the cost of disadvantageous diversification. This claim is supported by Empirical evidence; in countries dominated by French Civil Law, ownership tends to be concentrated as compared to Common Law countries. Bhagat & Black (2002) studied the firm performance affected by independent Directors. They found that companies with low profit are more tend to increase independent directors on the board, without even having concrete evidence whether or not this strategy works for them. For this common belief that performance can be improved through independent board, no statistical support or data was available. In this particular study, data for 934 firms was used for the period 1985-1995. Denis and Sarin (1999) also considered a long period from 1983-1992 on boards and they used data from 583 during the above mentioned period of study. They found from the study that ownership and changes in board have strong relationship with corporate events such as turnover of top executive and stock performance in a period, whereas, the same have weak relationship with threats to corporate control. Impact of size of board on firm’s performance is another important factor that has been area of interest for the research. Yermack (1996) studied a sample of 452 large firm in United States for the period 1984 to 1991 and found that size of board have negative relation with firm value. His study suggested that small size boards are more likely to dismiss CEO for poor performance and they set compensation of CEO in relation with firm performance.

Cheema, et al. (2003) suggested that In Pakistan, if the Corporate Governance system come in line with the goal of increasing external equity through capital markets, then foreign Direct Investment can be attracted and Pakistan increase saving through capital. Mainly, corporate structure, here in Pakistan, is characterized as family concentrated management, related directorships. Then there are pyramid structures and there are cross-shareholdings. The main objective of the reform is to protect minority shareholders that may reduce profit-maximizing incentives for families. Optimizing both the objectives, i.e. protection of minority shareholders and keeping the profit maximization incentive intact for family controlling hands is the challenge for policy makers. Progressive companies have to take initiative and contribute towards efforts for Corporate Governance Reforms. Rais and Saeed (2005) analyzed corporate Governance Code 2002 under Regulatory Impact Assessment (RIA) framework and its application and enforcement to comprehend the dynamics of public decision-making and consider the usefulness of the regulations of SECP in the area of corporate governance. The study showed that although the listed companies are making themselves prepared to adopt the code, yet there are reservations about the draft and enforcement of code and there too are some constraints. Ghani, et al. (2002) studied the impact of business groups on corporate governance in Pakistan for non-financial firms for 1998-2002. Evidence of the study showed that business groups are viewed by the investors as a mechanism to walk off with wealth of minority shareholders. On the other side, results of comparative financial performs showed that, In Pakistan- business groups are proficient economic arrangements substituting the missing or uneconomical/inefficient outside markets and institutions.
Ashraf and Ghani (2005) found in their study that rights protection, legal inefficiencies, and fragile enforcement mechanisms are the key factors in clearing up the state of accounting in Pakistan.

Corporate governance refers to how companies should be run, directed, and controlled (Gompers et al., 2003). The corporate governance is concerned with the relationship between the internal governance mechanism of corporations and society’s idea of the scope of corporate responsibility (Deakin & Hughes, 1997). The board size has been a well known significant antecedent of corporate governance effectiveness in theoretical studies (Lipton & Lorsch, 1992; Jensen, 1993). Jensen (1986) found that with high leverage ratios have a larger board size. On the other hand, in Berger et al. (1997), debt level is lower when there is a larger board size. The limited board size will also limit the no. of independent directors available to serve on the audit committee and reported evidence that the audit committee independence increases with the board size (Beasley & Salterio, 2001; Klein, 2002). Experimental research has concluded that size of Board and number of meetings of Boards of Directors may have relation with performance and results of a firm (Eisenberg et al., 1998).

3. Methodology
To test the hypothesis that the role of the board of directors is crucial, when the shareholders are not well protected because of less developed financial markets. (La Porta, et al., (1997); Javid & Iqbal (2010)). The board composition and dynamics is modeled following Hermalin and Weisbach (1998). Logit analysis is used in a multivariate setting to investigate that the whether board of directors is influenced by financial variables: firm size, profit, D/E, ROE, turnover and sector (financial or non-financial), type of firm (local or international). The logit model is used in this study to test the determinants of board effectiveness.

The multivariable logistic response function is given by

\[ E(Y_i) = \frac{e^{\beta_i X_i}}{1 + e^{\beta_i X_i}} \]

The log-likelihood function is given by (Neter et al., 1996)

\[ L(\beta) = \sum_{i=1}^{n} Y_i (\beta_i X_i) - \ln(1 + e^{\beta_i X_i}) \]

The maximum Likelihood estimation technique is used. The model becomes:

\[ Y_i = \beta_i X_i + \varepsilon_i \]

Where \( \beta_i \) is vector of coefficients and \( X_i \) consist of set of explanatory variables and \( \varepsilon_i \) is random error term.

Compositions of Boards brings in autonomy of boards, ensure structure and results in effectiveness. To measure autonomy many indicators of boards’ independence can be used like independent and outside directors on board, making two different slots
of CEO and Chairman to keep them apart, a CFO looking financial affairs. Autonomy enhances board’s capability and increases its ability to make right judgments and execute them properly. It assesses executive directors critically and by having on board non-executive members, influential control of management over boards reduces considerably. Also, more the number of outside directors on the board, higher the company performance will be. A smaller board, due to factor of social cohesion potential, can easily be taken under control and is manageable for CEO (Shaw, 1981). In case of large Board of Directors, CEO requires more time and has to put more efforts to get consensus of Board on different matters and decisions. Thus, a larger board enjoys more independence as CEO’s influence become weak and his dominance over the board is more difficult to achieve. Larger boards have some evidences in their favour. Chaganli, Mahajam and Sharma (1983) studied relationship between size of a board and chances of bankruptcy of the firm. They found that non-financial firms inclined to have large size of board than the board size of financial firms. Larger boards enjoy more autonomy and independence and that is why larger boards are related with higher performance. The dependent variable consists of following:

Board Size (DBS) = 1 if member in board is greater than 6
= 0 otherwise

Independent Directors (DIND) = 1 If there are independent directors
= 0 otherwise

No. of BOD meetings (BOGM) = 1 If there are meeting more than 4
= 0 otherwise

Audit Independence (DAUDIT) =1 if audit committee is independent
= 0 otherwise

The set of explanatory variable includes

Sector (Sec) = 1 if the firm is financial firm (bank or other)
= 0 otherwise (energy, textile, chemical, food and miscellaneous)

Size = log (total asset)
ROE = Net return/Total equity
D/E = Total debt/ Total equity
Turnover = No of shares traded
Profit = log (net earnings)
TYPE = 1 if firm is international
0 otherwise

Therefore, the model becomes:

$$ Board_i = \beta_0 + \beta_1 SIZE_i + \beta_2 TO_i + \beta_3 Profit + \beta_4 TYPE + \beta_5 SEC_i + \beta_6 ROE_i + \beta_7 D/E_i + \epsilon_i $$
4. Results and Discussion

This empirical analysis for board effectiveness, composition and size is done on the cross-section of the 50 firms for the year 2009 for examine how the cross firm differences in the type of firm, the sector to which firm belongs, the size, profitability, capital structure of the firm influence this crucial corporate governance component board composition and effectiveness in Pakistan. Most of the results of the study reveal that financial variables are less likely to influence the board effectiveness.

First, the study examines the board size and six numbers of board members are taken as benchmark following the empirical literature on this area (Goodstein et al; 1994). The board size is the characteristic of corporate that measures the board’s ability to monitor. The results reported on Table 1 indicate that financial firms are more likely to choose large boards. The performance (ROE), D/E and Turnover have a significant association with large board size. Therefore, the firms having high ROE, D/E and Turnover are more likely to have reasonably large boards. The findings regarding board size are mixed, for example, Goodstein et al (1994) argued that smaller board from four to six might be more effective because they make timely strategic decisions, while large board are capable of monitoring decisions of the top management. Yarmack (1996) found smaller boards are more efficient. Whereas, other financial variables including Profit, size and Type of Industry do not matter in determining the Board size for this sample.

The result of Table 2 reveals that the firms which are financial and international with high performance (ROE, Turnover) has more probability to include more independent directors in their boards. The numbers of independent directors are more, firms are less likely to rely on debt because the outside directors keep an eye on the mangers and debt reliance is reduced. The same result is found by Wen et al (2002) and opposite results is found by Jensen (1986), Berger et al (1997) that the firms with more outside directors have high level of debt.

Board meetings are important because boards do on the behalf of the company and there is process of board acting collectively. Mode of acting collectively is by passing resolution on board meetings. More meeting means more chances of considering different decisions by the boards and quickly reaching to final results. Board meetings are less likely to depend on financial characteristics of firms, however the firms which are financial and international and have high performance in terms of ROE has more probability of holding more meetings as shown by results of Table 3. The findings regarding BOD meetings are consistent with the study of Gonzalez and Garay (2003).

As regards the extent of independent audit committee the results of Table 4 indicate that the performance (ROE, Turnover), debt to equity ratio is positively associated with it. The Local and non-financial firms have more probability of having independent audit committee. These results are similar to the larger board size because lager board assures independent committee for audit. Jensen (1986) and Berger et al (1997) find the same result.
5. Conclusion

Good corporate governance contributes to sustainable economic development by enhancing the performance of companies and increasing their access to outside capital and reducing vulnerability of the financial crises, reinforcing property rights; reducing transaction cost and cost of capital and leading to capital market development. In Pakistan, where ownership tends to be centrally concentrated, agency issues or problems can be settled/solved by way of using Boards to watch and keep an eye on top-level management, ensuring legally protected rights of minority investors and an active market to exercise corporate control over it. In developed countries, corporate governance rely more upon investors outside and capital markets. However, contrary to that in Pakistan corporate sector efficiency is achieved through more reliance of corporate governance on financial institution and on inside investors with large investments. In this particular situation, relatively smaller outside investors are exposed to the risk as chances are increased that the wealth flow to large shareholders.

This study indicates that financial firms are more likely to choose large boards. The firms having high ROE, D/E and Turnover are more likely to have reasonably large boards. Moreover, the international and financial firms whose profitability is high have more independent directors that reduce debt reliance of their firms. Financial and international firms with high performance in terms of ROE conduct more board meetings. The local and financial firms in relation to financial and international firms mostly rely on independent audit committees that are positively related to performance. At the same time, larger board size assures to have more independent committee for audit.

5.1 Limitations and Recommendations

In this study different Boards characteristics like Inside Directors, Board Ownership, DCEO Duality, managerial ownership and Corporate Governance Compliance have not employed due to non-availability of data for full sample set. Future research can be conducted by considering all these variables. The current study has been conducted on small sample size i.e. 50 for 2009. The future research can be carried out on a more informative sample.

5.2 Policy Implications

Above findings have important implications for researchers, policy makers and corporate Boards: Efforts to improve Corporate Governance should focus on reasonable large board because it assures independent committee for audit. Boards should also consider the extent of independent audit committee since it is positively related to performance (ROE, Volume), and Capital Structure.
References


### Tables

**Table 1. Relationship between Board Independence and Financial Variables**  
Dependent variable Dummy = 1 if the size of the board is larger than 6, 0 otherwise

<table>
<thead>
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<th></th>
<th>Beta</th>
<th>Sig.</th>
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<td>ROE</td>
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<td>Sector (1)</td>
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<td>SIZE</td>
<td>-.215</td>
<td>.243</td>
<td>.806</td>
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<tr>
<td>D/E</td>
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<td>Turnover</td>
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<td>Profit</td>
<td>.63</td>
<td>1.190</td>
<td>1.065</td>
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<tr>
<td>Type ind(1)</td>
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<td>1.97</td>
<td>1.322</td>
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<td>Constant</td>
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<td>McFadden R²</td>
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**Table 2. Relationship between Board Independence and Financial Variables**  
Dependent variable Dummy = 1 if board has independent directors, 0 otherwise

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<tr>
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<td>Turnover</td>
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<td>Profit</td>
<td>.63</td>
<td>1.190</td>
<td>1.065</td>
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<td>Constant</td>
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<td>0.38</td>
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### Table 3. Relationship between Board Meeting and Financial Variables

Dependent variable if the firm BOD meetings are greater than 4, 0 otherwise

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<td>Profit</td>
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McFadden R² 0.32

### Table 4. Relationship between Audit Independence and Financial Variables

Dependent variable Dummy = 1 if audit is Independent, 0 otherwise

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McFadden R² 0.35