

**The Impact of Corporate Governance Reforms on Board Structure and
Board Roles: An Empirical Study of Pakistani Listed Firms**

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ABSTRACT

This study examines the impact of corporate governance reforms (SECP code in Pakistan) on board structural characteristics, board roles and firm performance. Related research questions are: a) how and which board roles mediate the relationship between board structural characteristics and firm performance? b) And what is the influence of corporate governance reforms on this relationship? Based upon the existing literature, a model has been developed that relates board structural characteristics (Proportion of non-executive directors, CEO Duality, Diligence and Independence of Audit Committee) with firm financial performance (ROA, Tobin Q) through intervening variables of dual board roles namely board monitoring role (Frequency of board meetings) and board resource dependence role (Board size) using multi-theoretic lens.

This thesis uses an exclusive balanced panel data set of 200 companies listed on Karachi Stock Exchange to examine the impact of SECP code on the model for the two equal time windows. The first panel comprises of the data for the years from 1999-2001 which is the era before the implementation of SECP code and second panel comprises of data for the years from 2003-2005. The data set straddles the year 2002 which is the year when SECP code was enforced.

The study contributes to a sparse empirical literature on boards using data from Pakistan via multi-theoretic perspective to advance some understanding that if the boards' monitoring and resource provision roles are strengthened through board restructuring, the financial performance (Tobin Q) of the organization has shown signs of improvement. However, the main findings of the study indicate that the mediated relationship between board structural variables and firm performance is stronger in the post SECP code era. The study also shows that firm value (Tobin Q) increased in the post SECP code era; however, the implementation of SECP code didn't reflect any improvement in the profitability of the firm (ROA).

This study has significant policy implications. It recommends the constitution of independent nomination committee on the board and envisaging an evaluation criterion for the board members performance. The study concludes that overall companies adopted a box-ticking approach for reporting corporate governance. The study concludes lastly that the SECP code overall proved ground breaking and the corporate governance canvas in the country embraced the global calls for the reforms.

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Chapter 1

Introduction

1.1 Outline of the Research Project

The area of corporate governance has generated a large amount of interest both in the academic and public debates in the last two decades. Within public debates this is reflected in the ongoing development of the ‘soft’ codes of best practices in corporate governance. These codes evolved over time starting from the Cadbury Report (1992), then on to The Combined Code (2003). After the Financial Crisis of 2008-2009, a new wave of reports and reviews followed. In the UK, Sir David Walker was asked to review the governance of Banks and other financial institutions, and the Financial Reporting Council (FRC) decided to bring forward the code review and most recently the Kay Review (2012) was conducted for the equity market. All these reviews have contributed to the most updated UK Combined Code of 2012. South Asia recognised the importance of corporate governance reforms much before East Asian crisis and India, took the lead by constituting the Bajaj committee on corporate governance in 1995. Pakistan was the second in the region to frame the corporate governance reforms by enacting the Securities and Exchange Commission of Pakistan Act in 1997 and the introduction of the Code for Corporate Governance in 2002 (Gregory, 2002). However and regardless of the late start, the basic reason for corporate governance reforms was more indigenous as the local banks (mostly state owned) were not having sufficient liquidity to finance the growing operations of the corporate sector. This led to corporate governance reforms in order to mobilize domestic savings and foreign portfolio investment (Younas, et al., 2011). The development of soft codes in the UK and in India has been accompanied by a publication of Sarbanes-Oxley Act (SOX, 2002) – a US government legislation relating to corporate governance.

This increasing attention to corporate governance by the government departments has also been followed closely by the academia and a vast amount of literature emerged particularly over the past decade. Nevertheless, an overwhelming magnitude of research regarding corporate governance has adopted a finance and economics perspective by adopting Agency theory as their primary research mechanism (Shleifer and Vishny, 1997; Gompers et al., 2003; Dahya and McConnell, 2005). However, recently many researchers (e.g., Daily et al,

2003; Ghoshal, 2005; Roberts et al, 2005) has raised questions on the capacity of agency theory to cover all aspects of corporate governance. Specifically, many researchers in the field of corporate governance consider the assumptions of agency theory too narrow to identify and explain the board roles performed at various organizations (Roberts et al., (2005; Pye and Pettigrew, 2005; and Aguilera, 2005).

These shortcomings of agency theory have encouraged the scholars in the field of corporate governance to develop and propose an alternative theoretical framework. The closest alternative theoretical framework available to researchers has been Resource dependence theory (Pfeffer and Salancik, 1978). However, the researchers such as (Hillman and Dalziel, 2003, Hermalin and Weisbach, 2003) are of the view that there is no single theoretical framework comprehensive enough to explain the dimensions of corporate governance in its entirety rather they are of the view that there is need to look on corporate governance particularly board related research through a multi-theoretic perspective.

In the more recent times, research in corporate governance has more progressively moved away from conventional studies examining directly the impact of board structural characteristics on firm performance towards a greater interest in mediation based studies, which examine the impact of corporate governance reforms on board structural characteristics and firm performance through some intervening or mediating mechanism like board roles (Van Ees et al., 2008; Wan and Ong, 2005; Zahra and Pearce,1989). This thesis maintains this convention by developing and examining a model, derived from the extensive literature, to judge the impact of corporate governance reforms in shaping the board structural characteristics to strengthen the board roles and firm performance by combining agency and resource dependence theories perspective. Therefore, this study seeks to contribute to our understanding of board structural characteristics, board roles and firm performance in the backdrop of corporate governance reforms. The literature reviewed in chapter 2 identifies a research gap which shows that direct relationship of board structure and firm performance is ambivalent. This provides sufficient grounds for this study to question how board roles mediate their relationship and what is the influence of corporate governance reforms on it?

Specifically, the objectives of this study are:

- ❖ To develop and examine a model of the relationships between board structural characteristics, board roles and firm performance;
- ❖ To investigate the factors affecting board structure and firm performance relationship under multi-theoretic lens;
- ❖ To judge the influence of SECP code on board structure and firm performance in Pakistan;
- ❖ To develop recommendations for board members and policy-makers on their role to contribute to add value to the firm overall.

1.2 Rationale for the Study and Contribution to the Knowledge

This research is based in the recent tradition of input-mediation-output studies based upon board structure and board roles studies to explore this relationship. Through this research, a greater understanding has been developed of how the board roles can be strengthened by shaping the board structure. To investigate board governance, a model is developed and tested from a review of the existing literature using the listed firms from Karachi Stock Exchange (KSE) by building a dataset consisting of two balanced panels for two different time periods of three years each. Specifically, this study examines the relationship between board structural characteristics, board roles, and firm performance after the implementation of corporate governance reforms in Pakistan under multi-theoretic perspective.

The study uses a deductive, quantitative, positivist approach (Popper, 1959). It is often believed that quantitative research is primarily concerned with setting up causal relationships between theoretical constructs and endeavours to establish that the results of a particular research study can be generalised regardless of the research location (Podsakoff and Dalton, 1987). The key characteristic of the quantitative research is to judge the application of established findings in a different context or physical setting (Bryman and Bell, 2007). The data were collected from annual reports of the listed companies from year 1999 to 2005. The nature of the study is such that it needs data on board members over 10 to 15 years, in order to obtain information about the control and resource provision aspect of the board. The

problem is that board members moved from one to other organizations in this time period and for their interactions we can't depend solely on their memories. Therefore, the only option left for the reliable repository of data is the annual report of a company to test the model and hypotheses and it is widely used as a quantitative approach in the social science field (Alreck and Settle, 2004; Blumberg et al., 2008; Bryman and Bell, 2007).

The original contribution to knowledge of this study is three-fold. First, board roles are found to be a partial mediator of the relationship between board structural characteristics and firm financial performance. Second, the study provides new knowledge about the boards structure and board roles after corporate governance reforms in Pakistan. It is the first empirical, quantitative study to examine board structural characteristics and their impact on board role and firm performance using data from Pakistani firms. Specifically, this study contributes to the existing literature in several ways.

First, from a theoretical and empirical perspective, the study has used a multi-theoretic approach to illustrate the mediation of board roles between board structural characteristics and firm performance with respect to market based and accounting based measures of firm performance. Secondly, the study examines the effectiveness of corporate governance reforms in the context of Pakistan and thus contributes theoretically and empirically to knowledge on board structural change and board roles, in a previously little explored context. Thirdly, it provides firms with information pertaining to board structural characteristics that are likely to strengthen board roles and enhance firm performance.

Specifically from empirical perspective this study has a number of contributions to knowledge on boards of directors. To summarise the contribution, firstly, the monitoring role and the resource dependence role are found to be partial mediators of the relationship between proportion of non-executive directors, separation of CEO/Chair duality, diligence and independence of audit committee and firm performance with respect to market measure of Tobin Q. There are three specific findings of note with regard to the mediation effect. One, both the control role and the resource dependence role of the board partially mediate the relationship between proportion of non-executive directors, separation of CEO/board chairman, independence of audit committee and firm performance. Two, the diligence of audit committee has a significant relationship with monitoring role of the board but independence of audit committee has a relationship with monitoring as well as resource dependence role of the board to find the firm performance. Three, SECP code influences

board structure which has an impact on firm value through the execution of the monitoring and resource dependence roles of the board.

1.3 Summary of the Thesis

This thesis contains seven chapters including the introduction. The following section provides a general summary of the content of these chapters.

Chapter 2 – This chapter review previous corporate governance literature particularly focusing on the conventional board structure-firm performance empirical studies. It also covers the Agency theory and resource dependence theory which are the basic theoretical approaches used in this research. These are also the foundations to develop and test the model presented in chapter 3. This chapter identifies the research gaps based upon the literature reviewed. First there is need to understand the board roles under the multiple theoretic framework. Second, much of the focus of empirical work examining board structural characteristics and board roles has been limited to USA and UK mostly, with little attention paid to Pakistani boards. This lack of large empirical studies in the Pakistan examining board structural characteristics and their potential contribution to board roles and firm performance is a gap in the research requiring attention. Third, there is an observable lack of research specifically measuring influence of Pakistani corporate governance reforms (SECP code) on board structural characteristics, board roles and firm performance.

Chapter 3 – In this chapter the researcher has built up the conceptual model and hypotheses to examine the relationship between board structural characteristics, board roles, and firm performance in the context of corporate governance reforms. Based upon the research gaps identified in the chapter 2 the conceptual model introduces board governance concepts derived from agency and resource dependence theories of corporate governance. The model takes the lead by investigating the impact of corporate governance codes on board structure to strengthen the board roles and financial performance of the organization. The model attempts to depict the board structure variables effect on board roles and firm performance after the enforcement of SECP code. The code specifically emphasized on the restructuring of the boards by inducing more non-executive directors (NEDs), mandating the separation of CEO from the role of chairperson of the board, and constituting the audit committees for better internal control. Therefore the board structure variables included in the model are proportion

of non-executive directors (NEDs) on the board, board leadership structure, diligence and independence of audit committee. The board roles roped in the model are control role and resource dependence role based upon the two most influential streams in board research: agency theory and resource dependence theory respectively. The model maps the firm performance by market and accounting based measures. Therefore, this model provides a valuable contribution to this research by forwarding the relationship brought in the model in the Pakistani context than hitherto has been considered in the board roles literature. In addition, the model encapsulates the influence of board structural characteristics in strengthening the board roles for better corporate performance. This is a departure from previous studies which uses input-output model of the research. Overall, the model summarizes the hypotheses developed based upon various theoretical foundations.

Chapter 4 - elaborates the philosophical foundations and methodological choices of the study. The researcher has employed the quantitative approach to study the proposed relationship. The data is panel in nature and the researcher has used panel estimation techniques using random effects. The sample frame was derived from the companies registered on Karachi Stock Exchange (KSE) in time span of 1999-2005. Data on a total of 200 out of 464 companies were available for the two panel datasets for 1999-2001 and 2003-2005. The chapter discusses different approaches to research methodology and reports the process of research design, sampling, panel data analysis, specification test and random and fixed effects in the data. It also reports on the mediation and moderation measurement to test the model. Issues pertaining to the panel data sets are also discussed.

Chapter 5 - presents the outcomes and findings of the examination of conceptual model and hypotheses to investigate the relationship between board structural characteristics, board roles, and firm performance. Random effect regression analysis is employed to test the hypotheses developed in chapter 3. The findings of the research show that proportion of non-executive directors, separation of CEO/Chair of the board, diligence and independence of the audit committee were significantly related with Tobin Q after the implementation of SECP Code, 2002; mediated by the monitoring role of the board. Similarly, it also showed that proportion of non-executive directors, separation of CEO/Chair of the board, and independence of audit committee were also significantly related with Tobin Q after the implementation of SECP Code, 2002; mediated by the resource provision role of the board. Consequently that the overall results show support for the notion that the introduction of the SECP code created conditions in which change in board structures caused strengthened board

roles and enhanced firm performance with respect to the market based measure (Tobin Q) which might have been the good signal for the progress of the stock market as well. Overall the study outlines more support for the marketing measure of financial performance (Tobin Q) as compared to the accounting measure of the financial performance (ROA). However, the results show no mediation by board roles of the relationship between corporate governance indicators and ROA.

Chapter 6 - This chapter debates the findings of the investigation from chapter 5 corresponding to existing literature. The contributions to knowledge sprung from this study are identified and discussed. The chapter outlines the implications for board theory and repercussions for board procedure and policy as well. The study particularly finds out that there is a clear trend of increased activity from the period before the implementation of SECP code to after the implementation of SECP code. The values for the performance measures show an increasing trend. Similarly there is increase in the proportion of non-executive directors after the implementation of SECP code which is in line with the requirement of the code. Therefore, this study is more comprehensive in a way that it accounts for the board structural changes leading to various board roles and firm performance as a result of corporate governance reforms by comparing two independent but related time periods. The study posts that all structural variables influence the higher board activity monitoring role while proportion of non-executive directors (NEDs), separation of CEO/Chair duality, and independence of audit committee also influence the board resource dependence role. A unique contribution of this research is the finding that the monitoring role and/or the resource dependence role of the board partially mediate the relationship between a number of board structure variables and firm performance. There are three specific findings of note with regard to the mediation effect. First, both the monitoring role and the resource dependence role of the board partially mediate the relationship between proportion of non-executive directors, CEO/chairman separation, diligence and independence of audit committee and firm performance after the enforcement of SECP codes, while independence of audit committee and Tobin Q relationships were partially mediated by board resource dependence role even before the enforcement of SECP codes.. Second, no significant relationship was found between diligence of audit committee and the resource dependence role which is represented here as size of the board. Third and finally, the monitoring role of the board and resource dependence roles showed stronger relationships with Tobin Q as compared with ROA.

Chapter 7 - is a wrap up of the whole project. It concludes the study by underlining the new contributions to knowledge emerging as a result of this research. It also outlines the limitations of this study and suggests some directions for future study. Eventually, the study makes a number of new contributions to knowledge on boards of directors. It depicts that the control role and resource providing role are found to be mediators of the relationship between a number of board structural characteristics and firm performance. Previous research has used the monitoring role and resource role as outcomes. This study shows that the monitoring role and resource dependence role are mediating mechanisms that lead to enhanced firm performance. The study has built a unique corporate governance dataset comprising of two panel datasets that cover both the pre- and post-SECP code implementation periods. It also has investigated the changes took place in board structural characteristics since SECP was implemented. It proves that more members were added on the boards after the reforms to make use of member resources. This novelty will allow future research to assess the value creating potential of boards. The future research can be conducted by using the literature regarding top management team literature to measure the board roles by using an interactive process instead of using fixed proxies as well as adding more structural variables and expanding the size of data panels.

Chapter 2

Corporate Governance Reforms, Board roles and Firm Performance

2.1 Introduction

The researchers in the past have argued that context plays the most important role in the development and implementation of various rules and regulations (Federowicz and Aguilera, 2003, Pye and Pettigrew, 2005). The study explores the corporate governance reforms and practices in a unique context of Pakistan. The country possesses the multi-layered legal as well as financial system. Being in South Asia, it traces its background from the Anglo-India tradition of common law which got blended with Islamic laws after its independence in 1947 (Rais and Saeed, 2005). The country offers some interesting insights in its corporate governance structure. On the one hand, its stock market has shown promising progress and the country was second to India only in embracing the corporate governance reforms, on the other hand, founding families of the local corporates still enjoy an influence on the overall administration. Therefore, this study intends to look deeper into this interplay of various corporate governance practices, board roles and firm performance.

This chapter mainly reviews the literature regarding corporate governance practices, research context, and more specifically the literature about board of directors to identify the research gap that will be used to guide this research. The chapter starts with the introduction of the corporate ownership and control debate within which this research is broadly positioned as a prelude to discussing various mechanisms of corporate governance control under the agency theory. The literature review moves further to review first the more conventional structure-performance approach to corporate governance and identifies the limitations of agency theory. The next section discusses the introduction, adoption of worldwide corporate governance reforms and their implementation in Pakistan as SECP code, 2002. The chapter also elaborates on the corporate control environment and legal context of Pakistan. The chapter concludes by outlining the research gaps and proposing the research aims, objectives, and the research question.

2.2. Corporate Ownership, Control, Mechanisms and the Agency Theory

This study is situated within a wider debate on corporate governance and the observation that the modern companies are run by professional managers, who are unaccountable to disperse

shareholders. It has long been recognized that modern firms suffer from a separation of ownership and control problem (Berle and Means, 1932). The issue is how to ensure that managers follow the interests of shareholders.

Agency theory offers a well-established view on how to address the corporate governance problem associated with dispersed owners (Van Ees et al., 2009; Huse, 2005). Predominantly the agency theory has been using the areas of finance and economics to explain the success of Modern Corporation regardless of the separation of ownership and control functions. There has been not much literature to theoretically explain the success of modern organization except the seminal work of Berle and Means (1932) regarding the discussion on 'Separation of Ownership and Control' in modern corporations. Therefore, the agency theory put forward by Jensen and Meckling (1976) as an explanation of the nature and existence of Modern Corporation in the context of self-interested managers whose decisions will not be in the best interest of owners of the organization. The contractual approach has been adopted by the agency theory which states that managers or agents try to maximise their personal utility as compared to striving for the utility of owners or principals in the context of separation of ownership and control in the modern firm (Williamson, 1984; Jensen and Meckling, 1976). The principal faces the agency problem when the agent starts behaving in his best interest as compared to the best interest of the principal. Shleifer and Vishny (1997) have described the agency problems as the costs needed to implement the mechanisms by the board on behalf of shareholders to judge that their money is being used in their best interest.

Therefore, the agency theory primarily addresses the two main problems arising from the principal-agent relationship. Firstly, the cost involved in establishing of some mechanism to monitor the behaviour of agent by the principal and secondly the principal and the agent have fundamentally different perceptions about risk assessment in a certain situation, whereas, mostly the agent is assumed to be risk averse and more focussed on saving his job while the principal will be more risk taking in his best interest (Eisenhardt, 1989). These problems have been referred to as agency cost by Jensen and Meckling (1976), incurred to establish a mechanism to judge that the agents make decisions in the best interest of principals. Therefore, the agency costs include all costs involved to develop and maintain a structure to monitor the agents (Jensen, 1983).

The proponents of the contractual approach in the agency theory (Williamson, 1984; Fama and Jensen, 1983; Jensen and Meckling, 1976) has viewed the firm as a legal entity created as

a nexus of contracts either written or unwritten amongst the factors of production and customers. Another view is that nature of the firm is not different from the commonly existing marketing contract between any two people (Alchian and Demsetz, 1972). This contractual framework endeavours to explain that how the funds will be used by the agents provided by the principals. The basic objective of such contracts is to align the interests of principals and agents in the best possible manner. However, the optimality of such contract lies on the extent of information symmetry. If the principal can observe the behaviour of the agent then the contract will be behaviour-based and alternatively if it is not possible then the contract will be outcome based (Eisenhardt, 1989).

The agency theory also offers a very special characteristic in countries whose economy is not fully developed, as explained by Dharwadkar et al. (2000), called principal-principal problem. This is a distinctive situation, different from traditional principal-agent paradigm, when large or majority shareholders control the firm in such a way that minority shareholders are deprived of their due rights on their investments in the organization. This usually results from weak governance provisions (Lemmon and Lins, 2003).

However, under usual business settings where the information is incomplete and asymmetrical and level of uncertainty is higher, normally shareholders can't ascertain precisely the level of effort put forth by the agent to maximise the wealth of shareholders. Therefore, various classifications of corporate governance mechanisms have been identified by the researchers that can be employed to align the interests and objectives of agents with shareholders. In the next section, these categories of corporate governance have been elaborated.

2.2.1 Mechanisms of Corporate Governance

Based upon the discussion in the last section, it is needed to discuss the mechanisms required for effective corporate governance. These mechanisms have been classified in two categories as internal mechanism and external mechanism (Jensen, 1983). The internal mechanisms of corporate governance are fundamentally related with ownership structure including the capital structure of the firm and board of directors including their role in a firm (Gillan, 2006). Jensen (1986) is of the view that the external mechanisms are primarily concerned with the laws and regulations regarding companies' operations and market for corporate control which act as a mechanism of last resort. The vast body of research regarding corporate governance mechanisms has converged around these classifications as internal or

external. The overwhelming majority of the academia have taken their motivation from finance and economics while working on agency theory and have adopted a direct approach in elaborating the corporate governance and firm performance relationship (Dahya and McConnell, 2005; Johnson et al., 2004; Shleifer and Vishny, 1997).

Research on boards has generated a substantial body of literature. Most of the empirical studies on the governance follow the direct link of governance performance linkage; however, the empirical results show lack of consensus regarding relationship between corporate boards and firm performance (Aguilera, 2007; Zajac and Westphal, 1996). Through the lens of agency theory the next section of this chapter introduces studies on board characteristics and firm performance in more detail.

2.3 Board Structural Characteristics and Firm Performance

There is an established theoretical consensus that board of directors and internal controls mechanisms help in bringing the concerns of shareholders with the interests of management team, thereby reducing the agency related costs (Netter et al., 2009; Jensen, 1983). Amongst these various internal control measures corporate boards are considered the most important to follow the shareholders objective for wealth maximization (Fillatotchev and Boyd, 2009; John and Senbet, 1998). Therefore, this is the prime responsibility of corporate boards to be more active in the changing circumstances to protect the shareholders' from the vested interests of managers (Jensen, 1993; Brennan, 2006). The experts and activists of corporate governance have long advocated changes in the board structure by proposing reforms in corporate governance codes. The last decade witnessed the global initiative for reforms in corporate governance. UK and USA took the lead in this regard and introduced various reforms which will be discussed in detail later in this chapter (Section 2.6). Pakistan also introduced the corporate governance reforms in 2002 in response to pressure from international financial institutions (Rais and Saeed, 2005). Apart from other aspects, the most important aspects of the newly introduced reforms in Pakistan were mainly consisting of induction of non-executive directors on the board, separation of role of CEO and board chairperson and composition of audit committee (Bari et al., 2003). These changes in the board structure brought forward as a result of SECP code are also supported by the literature (Van den Berghe and De Ridder, 1999). They suggested various changes for example, the appointment of independent directors, the constitution and working of independent board committees in those areas where conflicts of interest might appear as well as the separation of

the roles of CEO and chairman of the board. It is further highlighted that right board and board subcommittees' structure will lead to effective and efficient boards (Van den Berghe and De Ridder, 2004).

The more recent perspective is that effective board monitoring is not only achieved through balanced board composition but also through adequately structured, staffed and efficiently managed board sub-committees e.g. audit committee. Therefore, some studies for example Klein (1998) even go beyond just the board composition and elaborate that committee composition and performance is more important for better firm performance. It can be discerned from here that presence of non-executive directors on the committee may be helpful to tackle the agency issues while inside directors may better use their firm related knowledge for the issues like investment, finance etc. This kind of reasoning shows that composition and performance of board sub-committees will be having an effect on firm performance.

Out of various board-subcommittees, the audit committee's role is very crucial in monitoring and financial reporting (Carcello et al., 2002). Therefore, focussing particularly on the working of audit committee, the role of independent non-executive directors may provide important monitoring insight for the diverse shareholders as it can perform relatively more candid role being directly responsible for monitoring and audit related functions. This is also in line with recommendations of Blue Ribbon committee.

Xie et al., (2003) claim that although an audit committee composed and headed by non-executive directors may be better suited for effective monitoring but its efficient-functioning will largely depend upon its actively working. This argument is also in line with Sharma et al., (2009) who claim that in addition to the independence of audit committee, its efficient working is also important. Raghunandan and Rama (2007) have termed the efficient working of audit committee as diligence. However, it is difficult to measure the diligence physically for which they have used the frequency of the meetings of the committee as proxy for diligence. The same measure has also been used by De Zoort et al., (2002) in the past as well.

Therefore, it can be inferred here that not only the structure of audit committee is paramount but also its diligence is of equal importance for performing the effective monitoring function within the organization. These structural mechanisms are considered to be important ways to enhance the board power for protecting shareholders rights and curtailing the self-serving agenda of the management (Becht et. al., 2002; Westphal, 1998). Therefore the next section

discusses the traditional relationship of some major characteristics of board governance and firm financial performance by advancing a critique on its equivocal nature.

2.3.1 Non-Executive Directors and Financial Performance

The prior literature provides us with equivocal evidence regarding the relationship between proportion of non-executive directors (NEDs) and financial performance of the firm. The boards dominated by insiders or executive directors are considered less answerable according to the conventional theories like agency and resource dependence theories as compared to their counterparts having majority of non-executive directors (Fama, 1980; Sonnenfeld, 2002). The recent studies in board literature have argued that board dominated with non-executive directors not only bring the objective and independent decision making to the firm but also enrich the firm with resources such as diverse experience, expertise, and strong business connections (Cadbury Report, 1992; Chhaochharia and Grinstein, 2007).

There is a positive relationship between proportion of NEDs on the board and market related performance measure of the firm (Tobin Q) (Weir et al., 2002). Similarly there is another study by Elmehndi (2007) on the Tunisian firms and reported the same positive relationship between NEDs and firm performance. The outside world takes the leaving of an NED from the board of a firm as negatively and Gupta and Fields (2009) report that, on average, there is net loss of more than 1% in a firm's market value when an NED resigns from a firm. This means that the investors and shareholders assume that presence of NEDs on the board will cause an organization to better align itself with the shareholders' interests. In the backdrop of recent steps taken by stock exchanges to ensure stringent corporate governance measures, the studies report that there are lesser chances of a firm to be suspended from a stock exchange if its board is dominated by NEDs (Mangena and Chamisa, 2008). This suggests that listed firms with a higher percentage of NEDs are less likely to be suspended from the stock exchange. On the other hand, there is no scarcity of studies who have reported a negative relationship between proportion of NEDs on a firm's board and its financial performance (Yermack, 1996; Agrawal and Knoeber, 1996; Laing and Weir, 1999; Bozec, 2005). Bozec (2005), in a longitudinal study of Canadian firms from 1976 to 2005, reports an inverse relationship between the proportion of NEDs and firm financial performance. On a lesser extent, Haniffa and Hudaib, (2006), couldn't find any significant relationship between presence of NEDs and firm performance in a sample of Malaysian firms. In their review of the economic literature on boards, Hermalin and Weisbach (2003) post that they couldn't find the conclusive

evidence to link structural characteristics of boards and firms' performance. Similarly, Daily et al. (2003) have also reported that they couldn't find the clear empirical support between monitoring role of the board with respect to shareholders. The above inconclusive and mixed studies results suggest that multiple intervening variables mediate the relationship between NED and firm performance. This provides us with a reason to enquire whether the relationship between NEDs and firm performance could be considered afresh and through a different theoretical lens.

2.3.2 CEO/Chair Duality and Firm Performance

Traditionally the roles of the CEO and chair of the board have been merged together to be performed by one individual but over time, it was found that it caused more entrenchment in the boards. Although, the dual role of CEO and board chair has been under the lens by a large number of researchers yet empirically, the evidence regarding the relationship between CEO duality and firm financial performance is mixed.

The situation of duality in an organization occurs when the same person holds the positions of Chief Executive Officer (CEO) and the chairperson of the board. This is typical of CEOs with long tenure (Coles, McWilliams and Sen, 2001). Most of the researchers in Agency theory have expressed their concerns about CEO duality and concentration of executive board members (Van Ness et al., 2010; Gibbs, 1993). The practice of duality is considered unacceptable because it undermines the independence of the board and poses serious threat to objective corporate decision making (Shivdasani and Yermack, 1999). There is convincing evidence that a firm's market value declines under the practice of duality (Carter et al., 2003) although this problem may be curtailed when the board is dominated by NEDs (Chowdhury and Wang, 2009). In fact, there have been calls in the corporate governance field since as early as 1980s regarding separation of the positions of CEO and Chairperson Board (Westphal and Khanna, 2003). Nevertheless, there have not been much attention to these calls and the powerful and autocratic CEOs maintained their dominance in the corporate world (Sheppard, 1994). Powerful CEOs tend to constrain boards' input to strategic decision-making (Ruigrok et al., 2006).

The extant literature discusses that dual role of CEO is the symbol of entrenchment activity by the CEO, which compromises the monitoring role of the board members as well as reducing the board activity, which will cause reduction in board resource provision role (Lehn, et al., 2004). While we know that increased board activity is instrumental in reducing

entrenchment and improves firm performance (Kiel and Nicholson, 2003). Board activity can be affected when the CEO is the chair of the board of directors (Brick and Chidambaran, 2010). Considerable attention has also been given to the role of boards in monitoring managers and in removing non-performing CEOs. Jensen (1993) observes that a lack of independent leadership makes it difficult for boards to respond to failure in top management team. Fama and Jensen (1983) also argue that concentration of decision management and decision control in one individual reduces board's effectiveness in monitoring top management.

The relationship between dual role of CEO/Board Chair and firm financial performance calculated by three different accounting based measures proved that companies avoiding the dual role were performing relatively better than the firm with practicing duality (Rechner and Dalton, 1991). However, the results of Rechner and Dalton (1991) were criticised by Donaldson and Davis (1991) because of the reasons: firstly, they used all accounting based measures of performance and no other measure of performance was included and tested, secondly, they sampled only large firms and lastly they didn't control for firm and industry specific measure like firm size and industry characteristics, therefore, these results couldn't be generalised for other industries in different settings. However, the results from a study by Dahya et al. (1996) in UK revealed that when using a market based measure of firm performance (Tobin Q) the separation of roles of CEO and board chairperson was responded positively by the market and share prices went up. These researches favour that the role of CEO and chairperson of the board should be separated for the better firm performance.

However, on the contrary, there is another chunk of studies which shows otherwise and comes up with the results that practice of CEO duality has a positive relationship with firm financial performance by clearly showing that companies practicing role Duality outperformed their counterparts with separate roles of CEO and board chairperson (Donaldson and Davis, 1991; Boyd, 1995; Kiel and Nicholson, 2003). These researchers were of the view that role duality encourages the unity of command and the decision making becomes more focussed. The similar kind of study was conducted in Australia by Kiel and Nicholson in (2003) and it also reported that combining the role of CEO and chair of the board produced positive results with respect to market based financial performance indicator Tobin Q.

The above discussion highlights that evidence regarding the relationship between CEO duality and firm financial performance is elusive and raises serious questions about the convincing nature of this relationship (Rechner and Dalton 1991; Brickley et al., 1997; Weir et al., 2002). Consequently, this necessitates further investigation of this relationship by omitting the direct relationship between board characteristics and firm performance outcomes.

2.3.3 Diligence of Audit Committee and Financial Performance

The role of audit committee has been important in providing mechanism for supervision and check and balance for a company. However, in the backdrop of recent corporate governance reforms this role has become crucial. Nevertheless, the literature regarding the working of audit committee and firm performance has been at a developing stage.

The limited literature on this topic reveals that frequency of audit committee meetings will increase with the firm growth (Vafeas, 1999). It is reasonable to anticipate that audit committees will meet more frequently if more important corporate events are taking place. Adams et al., (2003) is of the view that firm performance is an important determinant of audit committee activity. The principal function of the audit committee is to meet regularly with the external and internal auditors of the company to examine the internal controls system of the firm and to oversee the firm financial statements and audit process. This helps alleviate the agency problem by facilitating the timely release of unbiased and authentic accounting information by managers to shareholders, creditors, and so on, thus stimulating the effective monitoring which leads to higher day-to-day firm performance. To maintain integrity of their monitoring function, audit committees are required to perform their responsibilities effectively and diligently through showing more activity. As it is difficult to observe directly the performance of an audit committee, therefore, the researchers have used the meeting frequency of an audit committee to act as a proxy for the diligence of an audit committee (Bhasin, 2012; Raghunandan and Rama 2007). But the picture is not that rosy as there is another stream of literature which reports that there is a negative relationship between diligence of audit committee and firm financial performance represented by Tobin Q (Vafeas, 1999, DeZoort et al. 2002). However, DeZoort et al., (2002) are of the view that there is some evidence that those audit committees meeting relatively more frequently may have caused the better performance but there performance was realised in coming time period as the firm needed sometime to absorb the effect of these meetings which may bring enhanced

performance in the forthcoming years. Therefore, it may be a good idea to use longitudinal studies to get the grasp of the relationship between diligence of audit committee and firm performance.

Prior research also suggests frequent audit committee meetings reduce the extent of financial misreporting (DeZoort et al. 2002) which enhances the market performance of the firm. Under such circumstances, the audit committee may be under greater pressure to meet more frequently for improved monitoring of management. Cohen and Hanno (2000) find that management control philosophy and corporate governance activities affect corporate audit related judgments. Klein (1998) reports that when he tried to judge the association between board committee workings and firm performance the results were ambivalent but he is of the view that working of board sub-committees is linked through the roles and working of the board.

Consequently, in the light of above literature the equivocal association between the presence and working of board committees and firm performance makes it ripe area for further study (Dalton et al., 1998; Laing and Weir, 1999). The little available evidence also largely focuses on developed markets, such as the UK and the US. This makes generalisation difficult. Further, the limited evidence also offers contradictory results as Cohen et al (2008) are of the view that working of board committees may not be judged only under agency perspective. Therefore, board committee structures and financial performance is a fertile area for further research to be conducted under a different theoretical lens without directly examining this relationship.

2.3.4 Independence of Audit Committee and Financial Performance

Monitoring the actions and decisions of the management is the primary purpose of the board. The board discharges its functions through internal control mechanisms (Shleifer and Vishny 1997; Klein 1998). It is likely that an independent audit committee will ensure a sound internal control to strengthen the monitoring role of the board and at the same time the presence of independent board members in an audit committee will lead to resource dependence perspective and outside auditors will give more importance to the internally audited statements. This, in turn could mitigate the outsiders' concerns about the authenticity of the financial data and soundness of the internal controls of the organization (Bell et al., 2005; Cohen, 2008). These results are also according to the findings of Chhaochharia and Grinstein (2007) who have reported after examination of market reaction before and after the

inclusion of NEDs in audit committees that there was a significant improvement in share returns following the establishment of audit committees, which suggests that the presence of independent audit committees can enhance managerial accountability to shareholders in the eyes of investors. Similarly, Vafeas (1999) has also documented that organizations having independent audit committees were enjoying confidence of investors and shareholders. This implies that independence of audit committee can improve board quality, which may ultimately improve the effectiveness with which the board carries out its monitoring and resource provision roles. This indicates that independence of the board committees also influences their monitoring and resource provision roles and firms are under increased pressure to ensure that board committees are more independent. Carcello et al. (2002) suggest that the proportion of independent directors on the audit committee contribute to superior monitoring, meaning that independent directors on the board and in the audit committee may demand more monitoring over the financial reporting process because of their financial skills which will not only protect their reputation but will also increase their value in the market as a financial connoisseur.

On the other hand, several studies show that there is either inconsistent or negative relationship between independence of board committees and the role which they perform. For example, Brown and Caylor (2004) show that independent audit committees are not positively related to financial performance. However, Klein (2002) documents that independence of audit committee didn't have any relationship with restatement of earnings. Anderson et al., (2004) find that if a firm has entirely independent audit committees its debt financing costs will be lower.

By looking at the results of a study from Pakistan conducted by Ashraf and Ghani in (2005) it is clear that weaker enforcement mechanism are the biggest hurdle in performing the standard accounting practices in developing countries. They have argued that instead of cultural issues as widely believed, the lack of investor protection laws and dismal situation of implementation of the law through the courts makes it difficult for the investors to maintain their confidence in the capital markets.

Like boards, it is also important for audit committee to be composed of non-executive members (UK Combined code, 2003) but its relationship too with firm performance has not been unequivocal (Bell et al., 2005). The above studies show that the association between audit-related governance factors like presence of independent members on the committee and

performance is mixed. Therefore, it is needed to conduct further research in the area of board sub-committees and board roles and their performance in different contexts.

2.4 Limitations of Agency Theory Research and direct relationship of board structural characteristics and firm performance

For the last one decade Agency theory has come under mounting disparagement as the primary theoretical lens to undertake corporate governance research (Ghoshal, 2005; Roberts et al, 2005). Although the vast majority of the corporate governance researchers have taken an agency theoretic approach, however, the evidence supporting its recommendations is mixed. Therefore, increasingly the researchers are apprehensive of the much advocated fundamental role of the agency theory with respect to board roles and corporate governance (Dalton et al., 2003; Hermalin and Weisbach, 2003).

A host of researchers have criticised the capacity of agency theory to explain various facets of the relationship between board roles and firm performance (Aguilera, (2005); Forbes and Milliken (1999); Lynall et al (2003); and Roberts et al (2005). They are of the view that agency theory is unable to explain the corporate governance and particularly board related matters and their relationship with firm performance. Therefore, in the backdrop of these studies there are increasing numbers of calls regarding investigating the relationship between board structural characteristics and firm performance through different theoretical lens by making use of intervening variables. The studies increasingly are deviating from the traditional direct relationship between corporate governance and firm performance to an indirectly measured relationship. There is no significant support found from the studies based upon the empirical testing of agency theory to work as a vehicle to explain the relationship between board structural characteristics and firm performance (Roberts et al., 2005). Similarly, Hermalin and Weisbach (2003) conducted a detailed literature review for the research published in a decade regarding corporate governance and they also came up with not much different conclusion that there is a scant evidence to talk convincingly about the relationship between board structural characteristics and firm performance directly. Similarly, in a review of the management literature and from a shareholder value perspective, Daily et al., (2003) couldn't find the support for only monitoring or control approach to governance. Therefore, it appears that board composition is not related to firm profitability. Another point along similar lines emerges from board theorists such as Forbes and Milliken (1999) and Pettigrew (1992) who elaborate the tendency of agency theorists to examine the impact of input variables, such as board composition, to output variables, such as firm performance,

without examining the roles/functions, and mechanisms that link the inputs to the outputs. Consequently, and significantly for this study, a recent trend in board studies has been to examine board characteristics and firm performance relationship through different theoretical lens mediated through board roles (Roberts et al., 2005). In one of the first attempts to model boards of directors and firm performance, Forbes and Milliken (1999) suggest that both board characteristics and board roles influence firm performance. The role of board with reference to corporate governance practices and firm performance will be discussed further in the next chapter to converge to a single point and to build a model for testing. In the last, the most potent criticism on agency theory is that it highlights only the monitoring related role of the board and doesn't throw much light on the role of the board as strategic resource provider. They are of the view that agency theory not only ignores the resource dependence role of the board but gives undue importance to the monitoring activity of the board (Dalton et al., 1998; Dalton et al., 2003; Daily et al., 2003). This has led a number of theorists such as Dalton et al., (1999) to advocate the application of resource dependency theory (Pfeffer and Salancik, 1978) to the study of boards of directors. Resource dependency theorists argue that the provision of resources is a basic function of board in an organization (Pfeffer, 1972; Boyd, 1990). The researcher will explore the resource dependency theory later in more details to discuss the application of this theory in the corporate governance literature.

Hillman and Dalziel (2003) argue that agency and resource dependence theories will complement each other and in the theoretical setting the combination of both perspectives will be better able to explain the various features of the relationship between board structural characteristics and firm performance. They were of the view that board size is not only important in monitoring role but also in the resource dependence role of the board. This is the argument which this study will take further to look deeper into this relationship.

This seems to be a point of agreement in literature that progress in the field will largely depend on a better understanding of the roles performed by a board of directors (Hermalin and Weisbach, 2000; Pettigrew, 1992). Although there is an ample literature following the stream of qualitative design of analysis for board dynamics (Huse, 2005; Nicholson and Kiel, 2004; Sundaramurthy and Lewis, 2003; Forbes and Milliken, 1999), however, the empirical studies regarding finding the mediating or intervening variables are scarce and unclear. Nicholson and Kiel, (2004) are of the view that board quality or effectiveness is determined through the set of roles they perform. But this set of roles is often not defined as an integrated set of activities. In contrast, based on diverging theoretical assumptions, the role of the board

is conceptualized in a multiple, and in some cases contradictory, way (Johnson et.al., 1996; Hung, 1998). Therefore, building upon the above discussion, the study discusses the board roles in more detail in the next section.

2.5 Board Roles

The board roles research is conceptually based upon the organizational theories like agency and resource dependency theories (Van den Heuvel et al., 2006). Zahra and Pearce (1989) were quicker than the other to give a theoretical explanation of board roles and they proposed three different types of board roles: monitoring, strategy and service or resource provision roles. Forbes and Milliken (1999) were of the view that boards mainly had two main functions: the monitoring and resource provision to the organization. Bainbridge, (2012) is of the view that amongst many roles of corporate boards, three are the most important; management, oversight, and service. The relative balance among these roles has always been difficult to maintain. He also elaborates that with the introduction of new stringent measures of corporate governance reforms the boards are no more passive structures, as argued by Eisenberg et al., (1998); rather they have become active monitors of top management team. While Hillman and Dalziel (2003) working in the same grounds proposed the monitoring and resource dependence roles of the board by linking the agency and resource dependence theory.

The board members primarily work through a mechanism of collaboration and control on boards (Sundaramurthy and Lewis, 2003). So, either the board may place greater attention and resources on monitoring management (an agency role), and/or the board may emphasize proactively assisting management in helping provide access to external resources (a resource dependence role) (Cohen et al., 2008). This study gives more importance to the two-fold board role set comprising of the monitoring or control role and the resource dependence role. Different arguments underpin our choice. Previous studies on boards of directors have relied on a single theoretical perspective favouring one board role at the expense of the other, resulting in an incomplete depiction of board roles (Hillman and Dalziel, 2003). This researcher, therefore, will discuss the roles put forth by Hillman and Dalziel, (2003), to make the roles of board of directors more parsimonious.

2.5.1 Board Monitoring Role: The Agency Perspective

The literature gives much emphasis on the boards by arguing that boards have the lawful duty to oversee the work of management and provide them with direction continuously. The corporate governance experts are of the view that in the Anglo American context it is rightly expected from the directors that they will perform their duties diligently and with great care and loyalty to the shareholders and investors (Levrau, 2007). The board's duty to monitor management and corporate performance has also been addressed in other disciplines than law. Initially, the prevailing disciplines in the field of corporate governance were finance and economics, therefore, the dominant perspective has been monitoring role of the boards. Monitoring has widely been considered as the predominant role of corporate governance reflected in the wide array of literature in the fields of law, finance, sociology, and strategic management as the agency perspective (Baysinger and Hoskisson 1990; Bathala and Rao 1995, Klein 2003). The monitoring role of boards (Bainbridge, 2012; Pearce and Zahra, 1991; Zahra and Pearce, 1989; Johnson, et al., 1996) relates directly to the responsibility of directors to monitor managers' performance and behaviour on behalf of shareholders. This perspective assumes that managers usually work in their own interests and their decisions fall short of the prime objective of maximizing the wealth of shareholders. This perspective of managers will cause an increase in the agency costs. To trim down these agency costs, various contractual mechanisms, including corporate boards, are designed to align the interests of the management with those of the stockholders (Shleifer and Vishny 1997; Klein 1998). Hence, monitoring the actions and decisions of management is the primary focus of the agency perspective. If a board places importance on maintaining a strong monitoring perspective (an "agency" lens), it is likely the board activity will increase consequently.

The monitoring of the firm by the board becomes crucial when the executives and managers are inclined to follow their own agenda instead of pursuing the shareholders goals of profit maximization, thereby increasing the agency costs (Berle and Means, 1932). Effective monitoring by boards may improve the firm performance by decreasing the agency costs (Fama, 1980; Mizruchi. 1983; Zahra and Pearce, 1989).

2.5.2 The Board Resource Provision Role: The Resource Dependence Perspective

Resource dependency theory views organisations as open systems which are linked with their external environment (Pfeffer and Salancik, 1978). It highlights the interdependence between

organizations and their environment suggesting that firms are not independent and they have to depend on their external environment for survival (Hillman et al., 2007).

As Agency theory propounds more towards monitoring role of the board, the resource dependence theory leans towards resource provision role of the board (Hillman et al., 2000; Pfeffer, 1972; Pfeffer and Salancik, 1978). According to Pfeffer and Salancik (1978), there are expectations from organisations from board members in terms of the resources they provide. The board helps in endurance of the firm by linking it to the outside world through its connections which may act as a resource for the organization (Singh et al., 1986; Wernerfelt, 1984). This proposes that composition of the board should be an ongoing process and it should reflect the changes taking place in the external environment. The same has been proved empirically by Hillman et al., (2000) that composition and structure of the board changes as a result of change in the external environment in which an organization is working.

However, some researchers have used Institutional theory context as well to explain the development of corporate governance in various cultures (Stedham and Beekun, 2000). They are of the view that similar to resource dependence theory, institutional theory also deals with the interaction between firm and its external environment, by assuming that firms deal with the external environment through board linkages to build legitimacy for their functions (Sherer and Lee, 2002). However, resource dependence theory goes one step further and tries to depict that how the firms have to adapt and innovate in the backdrop of availability of external resources to survive and to comply with the external regulatory pressures to explain the resource provision or service role of the board (Hessels and Teriesen, 2008). Therefore, resource dependence theory and agency theory will remain the main theoretical lens in this study, following Hillman and Dalziel, (2003) to discuss further literature, however, institutional theory may be used at the end to explain the study findings if required.

The resource dependency theory based research has depicted that boards prove to be the resource of the organization and they help improve the character and repute of the organization to the investors in the outside world and provide guidance in policy making and advice to the management (Carpenter and Westphal, 2001; Westphal, 1999). Therefore, it may be inferred here that as more directors are added to the board size, the diversity and strength of the links increase to the external environment. This may help take better decisions on the basis of the board expertise and experience. There is also ample evidence that board

diversity achieved through this process improves functioning of the board (Brennan, 2006; Baranchuk and Dybvig, 2009). The board diversity is also supported by agency theory and resource dependence theory simultaneously, whereas proponents of agency theorists believe that presence of diverse background members on the board enhance its independence and its capability to monitor the executives (Van der Walt and Ingley, 2003; Baranchuk and Dybvig, 2009) and proponents of resource dependence theory are of the view that by adding directors from outside the organization will help secure critical links from the external environment regarding much sought after skills, legitimacy, and business contacts (Goodstein et al., 1994; Rose, 2007).

The discussion made on the resources provided by the boards in the above paragraph makes it clear that effective boards would have the capability to fulfil both the resource dependence and monitoring roles of the board (Jensen 1993; Pfeffer and Salancik 1978; Reingold 2000). Thus, rather than relying on one or the other role, the study proposes an integration of the two ways of viewing board roles may be more valuable for both practical and theoretical reasons. The study theoretically develop the argument regarding integrating the two roles and their relationship with board structural characteristics and firm performance in the next chapter. The next section of this chapter engages with the topic of corporate governance reforms as a way to introduce the research context of Pakistan.

2.6 Corporate Governance Reforms

The last decade witnessed the rapidly increasing trend in governance codes promulgation and adoption by a number of countries of the world. Two different mechanisms for code implementation have been adopted in the world: hard and soft regulations. The two approaches can be explained by considering the two classic examples of legislations by US Sarbanes and Oxley (SOX) Act of 2002 and the UK combined code of 2003 (Balgobin, 2008). The UK combined code (2003) has been upgraded to UK combined code (2012) as a result of various governance reviews conducted over time. For example, The Walker Review (2009) for reforms in banks and other financial institutions and The Kay Review (2012) for reforms in equity markets. The demands by transnational institutions also pushed other countries to developing and adopt the corporate governance codes.

Chhaochharia and Grinstein (2007) have propounded that the governance structure and characteristics have been influenced by the corporate governance reforms diffused in the last decade. Aguilera and Cuervo-Cazurra (2009), and Aguilera et al., (2008) also conclude that

governance structures worldwide have been changed after the implementation of corporate governance reforms. It is relevant here to discuss the examples of US and UK governance reforms because this study looks into the influence of corporate governance reforms on structural characteristics of the board to enhance the firm financial performance and also because Pakistan follows the Anglo-Saxon tradition of common law as the basis for her commercial laws (Ibrahim, 2005). The next sections discuss the mechanisms developed as a result of corporate governance reforms to protect the investors, focusing on the US and the UK to set the stage for introducing the research context.

2.6.1 Corporate Governance Reforms in US

United States is the only country who adopted a hard code approach of legislation to implement the corporate governance regulations. The most prominent development in this regard is the 2002 Sarbanes-Oxley Act (SOX). The law requires the compulsory implementation of the Accounting Industry Reform Act of 2002 (O’Shea, 2005). The underlying objective of this enactment was to implement the laws in their true letter and spirit and not just to leave it to the discretion of the companies for selective implementation (MacNeil and Li, 2006). The law not only explains clearly the tasks and responsibilities of top management team but also it provides a procedure to independent directors for more diligence and effective monitoring (Linck et al., 2008). The law is not toothless and it has the provision to prosecute the perpetrators of wrong practices (Klein, 2003; Buccino and Shannon, 2003). This act has permanently changed the landscape of board role in the corporate management arena. Bainbridge (2012) states that as a result of SOX the monitoring role of the board has become more dominant than the rest of the roles. He is also of the view that now boards have to establish the sub committees to ensure the internal controls on each entity of the board.

2.6.2 Corporate Governance Reforms in UK

UK is the leader amongst the countries who adopted an alternative approach of soft codes. These codes are based upon the “comply or explain” mechanism. It says that if a listed company in a certain situation does not comply with the code then it has to explain the reasons for that. The logic behind this approach is to provide flexibility to some extent to the companies to adjust to the new laws as well as an assumption that the capital market pressure will dictate the company to implement these laws to be competitive in the business place in the eyes of the investors. These codes help not only in structuring the boards but also in

making the board roles more important from management and monitoring aspects (Aguilera and Cuervo-Cazurra, 2009; Aguilera et al., 2008). Due to the influence of transnational institutions these cross national codes are converging closely to the shareholders or Anglo-Saxon model. Although, there have been some changes in “comply” or “explain” characteristics of these codes, however, the case of developing and transition economies is more complex as they have less developed systems of corporate governance (Cuervo, 2002; Roberts, 2004; Okike, 2007; Reaz and Hossain, 2007). Dewing and Russell (2004) are of the view that as the corporate governance codes progressed since Cadbury Committee Report of 1992, there have been gradually more stringent measures prescribed in the subsequent versions of codes such as Higgs review (2003) discussed the role of NEDs, Walker review (2009) came as complete overview of the previous corporate governance codes in the aftermath of financial crisis of 2008-2009 and finally the Kay review discussed and prescribed the good working practices in the equity markets which culminated into UK combined code (2012) .

Therefore, most of the codes adopted in the last decade are no more the initial voluntary compliance codes rather they are tougher and provide with stern consequences if not complied with e.g. suspension from stock exchange or losing the status of a public limited company. As the codes have been revised the new requirements are more prescriptive and hard in nature in order to address the investor concerns (O’Shea, 2005). There are substantial penalties associated with boards that fail to exercise due diligence. Most of the governance code implemented as a result of recent governance reforms makes it easier to prosecute securities fraud, particularly financial fraud. In particular the developments in the UK combined codes over the passage of time have been based upon leadership, effectiveness, accountability, remuneration, and relations with shareholders (Lowe, 2013). These principles have been the cornerstone for the corporate governance reforms in Pakistan known as SECP code first introduced in 2002. The SECP code is more vocal about board of directors’ composition, qualification and meeting frequencies. The code also made mandatory to have independent and working audit committees to implement an internal control system in the organization. This study will make use of these code guidelines to further progress with our research model. However, the code didn’t say anything particularly about the remuneration for the directors as these things are not part of disclosure requirements by the code. The markets initially gave a positive reaction but in the long run there have been weaknesses in the compliance mechanisms. They also argue that mere compliance to the code doesn’t

necessarily lead to better financial performance (MacNeil and Li, 2006; Maassen et al., 2004). Yet, it is not clear whether the provisions of these rules indeed lead to more effective supervision and to higher market value. Therefore, the next section discusses the relationship between corporate governance codes and firm performance in more detail.

2.6.3 Impact of Corporate governance Reforms on firm performance

The adoption and development of corporate governance codes and regulations globally also paved the way for the corporate governance reforms in Pakistan through Securities and Exchange Commission of Pakistan (SECP) in 2002 called SECP code.

The compliance levels have significant variations depending upon the nature of country's internal and external governance mechanisms and rule of law. The influence of these corporate governance reforms world over has been crucial in determining the board structures and board effectiveness as measured by firm performance (Hermalin and Weisbach, 2003; Daily et al., 2003) in different countries (Aguilera and Cuervo-Cazurra, 2009). But the studies show an inconclusive relationship between code compliance and firm performance. For example, Nowak, (2004) doesn't report any association with the impact on the German capital market performance. The studies also reveal that straightforward applications of a U.S. market-based model in settings outside the U.S. context should only be made with great caution (Davis and Useem 2002). This means that it is needed to understand the diverse multinational nature of corporate governance before developing global solutions (Huse, 2005). The question should not be which theory of governance is universally valid, but under which contexts or contingencies may one theory have explanatory power over another. That is why, the studies during the last decade has confirmed that there are no universally best corporate governance methods.

The past studies in the field of corporate governance have been overwhelmingly under the influence of corporate governance and firm performance direct relationship but the empirical evidence produced by these studies is unable to prove the exact nature of this relationship. Therefore, the practitioners are not sure that the current wave of implementation of corporate governance reforms world over in the shape of either hard or soft codes will bring something concrete to the field of corporate governance in general and board roles in specific (Dalton et al., 1998; Bhagat and Black, 2001). Consequently, following Hermalin and Weisbach, (2003), it can be said that it is needed to evaluate the more trivial linkage between board structure and firm performance through some intervening variables mechanism.

Nevertheless, in Pakistan, corporate governance reforms served as a push factor for companies to assume the governance requirements that catalysed the changes into structures of corporate boards (Rais and Saeed, 2005). This also paves the way for the current study to make a novel and timely contribution to the development of understanding of board structure and board roles in light of the Pakistan code of corporate governance (SECP code). Next, the Pakistani research context is discussed.

2.7 Research Context and its Significance

Federowicz and Aguilera, (2003) and Pye and Pettigrew (2005) were amongst the first to point out that the role played by context and variations in context reveal differences in the dynamic interplay of practices, processes, and performance over time. They were critical of the popular stance ‘one size fits all’ solutions often put forth in response to ineffective boards. They were of the view that there is a need for a strong argument for an increase in multilevel, multi-theoretic considerations of board roles. In the same line, there is another study that states that an essential and helpful international perspective on issues of board roles is important to judge the governance in different countries. This study argues that understanding impact of governance codes on board structure and board roles in the context of a global environment offers a strong foundation for advancing our theoretical understanding of governance codes and board structure and board roles beyond the boundaries of any one country or institutional setting (Aguilera, 2005). The context issue was further highlighted by Dalton and Dalton (2005) by understanding and presenting the relationships of board composition, leadership structure, and size with corporate financial performance as a way of demonstrating that agency theory is limited in its ability to provide prescriptions for effective board conduct. Their arguments provide an insightful look at many of the contextual factors that affect the board roles and remind us that only a multi-theoretic perspective examining both board role and structure can hope to provide a complete picture of the modern-day board of directors.

There are some empirical studies that analyze the impact of different corporate governance practices in various countries (La Porta et al., 1999). An important study in this context has been conducted by Mitton (2001) with Korean Malaysian, Indonesian, Philippines, and Thailand firms’ level. The study found East Asian crisis was the basic reason behind promulgation of various corporate governance codes in this part of the world and it was identified that low compliance and loose corporate governance rules were also one of the

cause of the crisis in 1997, 1998. These differences in context of various countries have catalyzed to make their corporate governance practices more effective to attract more incentives. The basic reason for the differences among various countries' control mechanisms is that their financial systems had developed separately and differently (Aguilera and Jackson, 2003). Over time a host of countries have issued their local corporate governance guidelines to develop mechanism for better corporate governance practices.

The national legal systems of countries are the basic reason to issue different set of corporate governance guidelines for every country. The literature regarding developed economies like USA and UK is abundantly available on the evolution and shaping of their corporate governance culture and rules and regulations but it lacks fundamentally for the developing economies, therefore there is a need to fill this gap to know the differences in corporate governance mechanisms context used in various countries (Aguilera, 2010; La Porta et al., 1999; 2000). These cross national codes mainly include recommendations for the structure of the board but does not reflect board structure contribution in shaping the board roles (Aguilera and Cuervo-Cazurra, 2009). Furthermore, US-based evidence clearly reveals shortcomings in the practices and the role of the board in addressing risks, the importance of the board as a governance mechanism is not uniform and may significantly vary across different national settings (Ahrens et al., 2011). The advocates of the rule argue that such rules are necessary for the improvement of monitoring mechanism in the public corporations in US and to some extent in UK, while it is unclear that the passing of these laws have really lead to effective governance and improved corporate value in developing South Asian countries such as Pakistan.

2.7.1 The Research Context of Pakistan

The corporate governance canvas in South Asia can't be compared with the developed countries such as in US or UK in terms of development and compliance (Shil, 2008). During the last decade, corporate governance has become an important area of research in Pakistan, but most of the studies have used one-year cross-sectional data (Shaheen and Nishat, 2004; Shaheen and Nishat, 2005), Very few studies (Javid and Iqbal, 2007) have used three years data from 2003 to 2005 but they didn't present a comparison of pre and post corporate governance law implementation effects on the corporate sector in Pakistan. In sum, we find a gap in the literature regarding development of governance codes in different countries and

their impact on shaping the board structure to foster the board roles for better financial performance. This further strengthens our motivation to conduct this research project.

There is no uniformity in code compliance amongst different countries and the range of compliance is quite diverse (Aguilera and Cuervo-Cazurra 2009; Aguilera et al., 2008). New corporate governance laws and codes are important because they set the stage for change. But given the vast differences in business practices and enforcement capabilities in developing economies such as Pakistan, merely believing that these codes will be having the same impact level as in UK and USA would be a mistake. What makes it trickier is that business and political circles are closely entwined, and the mechanisms for managing conflicts of interest are underdeveloped in developing economies. The problem gets further aggravated when the regulators face lack of trained staff and lack of adequate budgets to conduct thorough investigations thus exposing the weakness of the legal system and making prosecution even difficult.

Furthermore, in Pakistan, a large number of companies have been family owned unlike the Anglo-American model of dispersed shareholding structure. These majority shareholders manage and control the organization and generally avoid raising equity which potentially may dilute their grip on the boards (Ibrahim, 2005). This situation is not much different from the rest of the world where, according to La Porta et al., (1999) even in the wealthy industrialised nations 30% of the firms have been closely held family owned companies. But according to Javid and Iqbal (2007) the board which are dominated by family members become less competitive in protecting the rights of minority shareholders. They are also of the view that family dominant companies become complacent and less motivated to excel in their relevant business areas. Although, it is found out in a study by Klein et al., (2005) that a particular ownership structure including family ownership structure doesn't really affect the firms' overall performance.

However, a country wide assessment report on corporate governance by the World Bank (2005) indicates contrary to initial concerns of various administrative and public quarters about low compliance culture in Pakistan, most of the family controlled firms have been improving on the corporate governance compliance standards by implementing the guidelines of SECP code in creating a more transparent structure. These family owned firms have also introduced the independent non-executive directors which is the major step towards modern corporate governance structure.

Therefore, this is also heartening to know that the governments are now giving more attention and allocating more budgets to enhance the authority of the regulators and enacting adequate procedures to make it tougher and easier to prosecute. Countries now need to harmonize their local standards with international rules due to the pressure on transnational institutions to attract more foreign investments either directly or in their respective stocks (Balasubramanian et al., 2010). Generally there has been low compliance of corporate governance codes reported in various studies in case of particularly the developing economies (Krambia-Kapardis and Psaros, 2006). While adopting the universally accepted governance guideline through transnational institutions, the countries have significant variations in the contents of the codes and their implementation mechanisms overall (Aguilera and Cuervo-Cazurra 2009). They are of the view that context specific studies are important to be added to the literature as there are contrasting differences between strength of governance mechanisms, for example, free market controls, weaker capital markets, underdeveloped legal systems, and unreliable information flow. The immediate impact on the shaping of the board structure can be easily traced as a consequence of these regulatory reforms across the countries (Linck et al., 2008). Therefore, it is necessary to analyze the implementation of these codes in the context specific studies, which also provides motivation for the current study.

Our case for context-specific studies is also supported by the fact that although the last decade has witnessed an increase in the number of articles published in corporate governance, their context has been predominantly USA and its organizations as the unit of analysis. The increase in publications shows the maturity and rigour in methodology but very few studies reported single country researches other than USA (Durisin and Puzone, 2009).

A very limited number of studies have been found in the cross national context (Aguilera and Cuervo-Cazurra 2009) but there is real dearth of studies in the context of single countries. Most of the single country context studies are in European contexts, which are quite different from the South Asian contexts (Gollakota and Gupta, 2006). Therefore, it can be argued that the results from these studies can't be generalized for the South Asian Pakistani perspective and the state of corporate governance research in emerging market context is likely to be different given its unique institutional contexts.

The developments in the field of corporate governance, specifically SOX and various UK combined codes have also affected Pakistan (Malik, 2012). This paved the way for introducing governance codes in Pakistan. However, the corporate governance in South Asia

is not as developed as in UK and USA (Shil, 2008) as there is shortage of adequately qualified independent directors. Unlike most of the Asian economies, in which corporate governance grew in importance as a result of Asian Economic Crisis of 1997 (Chakrabarti et. al, 2008), in Pakistan the governance codes were introduced on the demands of the transnational institutions like International Monetary Fund (IMF) as Pakistan is major beneficiary of IMF debt relief program (Malik, 2012). This required Pakistan to implement these guidelines for its corporate sector as Gulzar and Wang (2010) have opined that to maintain steady and sustainable economic growth, corporate governance guidelines are crucial to be implemented. In a seminal work on Pakistani corporate governance pitch by Ashraf and Ghani (2005) who have recorded the history of accounting reforms and corporate disclosures and have outlined the factors which have influenced most. They recorded that deficiencies in the areas of investor protection (minority rights protection, insider trading protection), judicial inefficiencies, and weak enforcement mechanisms are more critical factors than are cultural factors in explaining the state of accounting in Pakistan. The study construed that it is needed to bring improvements in the enforcement mechanisms in the developing countries to reap the benefits of implementation of corporate governance reforms. In South Asia Pakistan shares the common background with India, where researchers have examined the recent Anglo-American model and its suitability to India (Reed, 2002; Afsharpour, 2009). This has given an edge to India in the global economic agenda and ‘the West’ is turning its attention on India’s companies as strategic business partners (Khanna and Palepu, 2006). This has also created impetus for imposing best corporate governance standards and practices as benchmarks of quality and reliability in Pakistan, which geographically shares the borders with India and China, the two economic giants amongst the BRIC countries (Rais and Saeed, 2005). Javid and Iqbal (2007; 2010) are of the view that the importance of corporate governance has been recently acknowledged in Pakistan and now there is a trend of research in this area. Similarly Cheema (2003) has stated that the most important reason for recognition of importance of corporate governance is to attract the foreign investment through diversification of stock market to bring it at par with international rules and regulations. In short, as a result of this study it would be possible to shed more light on the difference of Pakistani context as compared to US and UK.

2.7.2 Securities and Exchange Commission of Pakistan (SECP) Code of Governance

Institutions are considered the most important mechanisms, in a society, to monitor the interaction process amongst various organizations (North, 1990). They help creating the level

playground for all the organizations and individuals to take benefit of the environment and opportunities arising as a result of rules and regulations (Li, 2004). These rules and regulations are set forth by the relevant institutions in a society to create constraints to avoid rent seeking behaviour by the managers and to define the rules for the fair game play (Li et al., 2008).

Therefore, the government of Pakistan took the initiative and established the Securities and Exchange Commission of Pakistan (SECP) in 1997 to lay down the ground work of good corporate governance by building institutional, legal and regulatory framework for the better management of the corporate sector entities. The SECP has put forward its policy of regulation and endorsed and enforced various laws, bylaws and regulations in order to create a level playing field and an “enabling business environment” to overcome the constraints confronted by the corporate companies for smooth and sustained economic development in the corporate arena of Pakistan. This institution can also be credited to draft the first code of corporate governance in March 2002 in order to further strengthen the regulatory mechanism. The law was enacted in 2002 in response to worldwide corporate governance reforms. It was designed, in part, to alter the behaviour of corporate directors. Among other things, SECP code affects the duties and responsibilities of officers and directors. The law has multiple sections, but some are particularly noteworthy e.g. introduction and proportion of non-executive directors, separation of CEO and Chairperson of the board, and audit committee formation and activities. There is a legal binding on the boards that they should be active and develop a mechanism of internal control through which they are fully aware of the critical corporation conditions and financial reporting. This can be done by creating Audit committees on boards so that the company has an adequate system of internal controls to properly monitor the potential problems, and to preserve the integrity of financial reports. They are to oversee the financial reporting process and confirm the appointment of the independent auditing firm. Additionally, they are responsible for discharging independent auditors when appropriate. The effective corporate governance can only be guaranteed if the code is implemented in its true letter and spirit without just adopting the tick box approach. The rules may be very strong on the paper and look quite strong but it is the implementation mechanism and compliance procedures which make a rule effective. The drawbacks and imperfections of the regulatory framework can be immense and can have severe impact on the capital markets, ownership and control mechanisms, and productivity of firms leading to poor development of economic institutions as a whole. It is the level of compliance which

reflects the strength of any regulatory framework on the whole and the capacity of a governance system to perform (Rais and Saeed, 2005). This calls for a systematic appraisal of the possible impacts of the Code of Corporate Governance adopted by the SECP to make listed companies comply with the principles of corporate governance mechanisms.

The Code was met with criticism from corporations and commentators in the start. Corporations believed that complying with the Code's provisions would be very expensive. Most of the experts on the corporate scene of Pakistan, initially, were of the view that there is lack of indigenous expertise to implement the code and there will be number of political obstacles in its enforcement. In addition, some commentators believed that the Code was defective, outdated, and had "no utility to stakeholders" (Burki and Niazi, 2006).

Nonetheless, the code pioneered the era of corporate governance reforms in Pakistan and despite all odds it brought the capital markets of Pakistan to be integrated with the global trend. Therefore, an overwhelming majority of the companies adopted it despite their initial reservations regarding its drafting and implementation (Rais and Saeed, 2005). Since its implementation, the Code is constantly developing and evolving through the elucidation of its provisions by the courts and the substantial revisions have been made to the Code itself by the SECP. Pakistan's courts, for the most part, have not significantly criticized the Code's provisions in the last three years. However, the courts are apprehensive of the weaker provisions of the code regarding protection of minority shareholders and have been willing to annul the decisions of majority shareholders in certain cases.

The corporate governance background in Pakistan has also been saturated with local corporate scandals and frauds. The local companies like Taj company, Sarah Textiles, Crescent Investment Bank and Mehran bank scandals are but a few to be named here. These frauds shook the Pakistani corporate fraternity and the people started looking for some mechanism to avoid these misappropriations in the future (Dar et al., 2011).

Therefore, global voices for implementation of corporate governance rules and regulations were also heard in Pakistan and when Government of Pakistan along with International Financial Institutions, came up with the idea of corporate governance reforms, it was not resisted much and sooner a bigger part of the market showed compliance to it (Ibrahim, 2005).

The corporate governance scene in the context of Pakistan offers some interesting insights, keeping in view its legal background, cultural diversity and regional location. A survey of

corporate governance conducted in 2007 in Pakistan by IFC shows that high level of compliance is adhered in Pakistan regarding IAS/IFRS. Pakistan lies in the upper middle tier with a score of 70 out of 111 regarding compliance to international accounting practices (Ding et al., 2009).

Therefore, it is multidimensional and is governed by various set of company laws as well as the recently developed corporate governance reforms. Viewing the relevant laws, along with SECP's vision, offers the foundational perspective to understanding Pakistan's corporate governance structure. The SECP code has provided a mechanism for making the board more independent from the influence of top management by introducing the minimum limits on presence of non-executive members and separating the role of CEO from chairperson of the board.

In addition, the SECP appears to be efficient in facilitating and complementing the process of implementing capital market reforms to attract even more foreign investors (Ibrahim, 2005). It imposes penalties on the listed companies in case of non-compliance of the code. Therefore, after the implementation of SECP code, the events of delisting and other punitive actions such as not issuing the certificate of adherence to the principles of corporate governance according to SECP code has increased manifold. This has also resulted in a fifteen times increase in listed capital and an average increase in market capitalization of almost 95%, with fewer companies on board. The entrepreneurial activity also increased with more IPOs on board. The market capitalization grew almost 3.5 times from 1998 to 2005 (KSE Annual Report, 2005). A comparative study of corporate governance practices in Asia commissioned by World Bank has also ranked Pakistan after India and Korea with a score of 39 out of 50 with third position equally shared by Malaysia, well ahead of Vietnam, Thailand and Philippines (McGee, 2008). This shows a progress of capital markets in the country which is noted for bureaucratic restrictions and corruption.

The literature regarding corporate governance in Pakistan is sparse given the lack of research culture in Pakistani academic and institutional areas. Among the comity of South Asian nations, India has relatively higher culture of research and therefore have more literature on boards and corporate governance than any other country (Khanna et al., 1998, 1999; Pankaj, 1996; Goswami et al., 2002; Singh et al., 2002, 2003). Therefore this study strives to bridge this gap by outlining the corporate governance reforms introduced in Pakistan in 2002 by SECP and its impact on the board roles in the organization as a result of structural changes in board composition.

2.8 Chapter Summary and Identification of Research Gaps

This chapter has reviewed the literature on various theoretical perspectives that has been the subject to recent corporate governance reforms and board roles research examining the structural characteristics of boards of directors and how this contributes to firm performance. This literature review has revealed that the research in corporate governance has seen a change in emphasis in recent years. This change is fundamentally in three different areas. Firstly, over the time more and more studies are using the multi-theoretic lens instead of relying on any single theory to study boards and corporate governance. Secondly, the trend is towards examining the impact of intervening or mediating variables and moderating variables which have opened more insights in the research arena. Thirdly, it has been accepted that context or nation specific studies are important and need to be conducted on a wider scale.

Following on these changes, the study identifies and links together three main areas where further research is needed. First, despite some impressive improvements in the knowledge about boards and what they actually do in recent years, many researchers still contend there is much to learn (McNulty et al., 2013; Hillman et al., 2008; Van Ees et al., 2008). Based upon the literature studied in this chapter, it can be argued that only a sub-set of board structural characteristics and board roles have been brought to empirical study, therefore, it is required to understand the board characteristics and roles under the multiple theoretical frameworks. This suggests a study that investigates a more comprehensive set of board roles.

Second, as discussed earlier most of the empirical work examining board structural characteristics and board roles has been limited to USA and UK with almost no attention paid to Pakistani boards. This lack of large empirical studies in the Pakistan examining board structural characteristics and their potential contribution to board roles and firm performance is a gap in the research which demands attention.

Third, the lack of research specifically measuring influence of Pakistani corporate governance reforms (SECP code) on board structural characteristics, board roles and firm performance is a noteworthy absence in the literature.

Fourth, the researcher has responded to imminent calls for the development and empirical testing of alternative more comprehensive theoretical frameworks in corporate governance (Aguilera, 2005; Huse, 2005; Pye and Pettigrew, 2005; Roberts et al., 2005) and specifically to address the need for a multi-theoretic approach is also a research gap identified through the

review of the literature. These gaps in the literature have helped identify the need for the development of a new model to investigate the board roles mediation on board structure and firm performance with a specific focus on corporate governance in Pakistan. There are many issues, yet, uncovered particularly the impact of these reforms revitalising the boards in performing various roles to protect the rights of shareholders has not been unearthed in its true letter and spirit and its effect on the valuation of the firm which is central issue of this area needs in depth research.

Therefore, in the next chapter we strive to develop a model based upon the structural changes proposed in the SECP code (Proportion of NEDs, Board Leadership roles, and Audit Committee composition and working) as well as by Van den Berghe and Levrau (2004) and Levrau and Van den Berghe (2007), board roles and firm performance. This model will be based on a number of hypotheses that will be tested through the data of the boards of Pakistani listed companies.

2.9 Research Aims and Objectives

The main objective of the study is to fill the knowledge gap in the literature by examining the mediational influence of board roles on the relationship between board structural characteristics and firm performance. Specifically, the study aims to look beyond the single theory, such as agency theory, for board structure characteristics and firm performance relationship and discusses this relationship under the multiple theoretical perspectives of role mediation. The thesis also intends to investigate theoretical utility and empirical robustness of established distinctions in the literature about the monitoring and resource dependence roles of board under the multi-theoretic lens. As the literature leaves us with a key finding that direct relationship of board structure and firm performance is ambivalent therefore, the research question is how board roles mediate their relationship and what is the influence of corporate governance reforms on it? Consequently, this study will investigate the mediation of board roles under multi-theoretic lens between board structure and firm financial performance before and after the implementation of SECP code 2002 for the listed firms in KSE primarily for the non-financial sector in Pakistan.

Most specifically, the objectives of the research are:

- To develop and examine a model of the relationships between board structure, board roles, and firm performance;

- To investigate the factors affecting board structure and firm performance relationship under multi-theoretic regime; where more than one theoretical approaches can be combined together to develop a comprehensive theoretical corporate governance framework
- To investigate the influence of SECP code on board structure and firm performance in Pakistan;
- To develop recommendations for board members and policy-makers on their role to contribute to add value to the firm overall.

Chapter 3

Theoretical Framework and Hypotheses Development

3.1 Introduction

The previous chapter reviewed the conventional direct linkage of structure-performance to corporate governance approach in general, and to board of directors specifically. This traditional input-output approach has been heavily criticised for three main reasons. Firstly, the agency theory is heavily reliant on the monitoring role of the board and doesn't give due importance to other roles of the board such as resource provision and discussed in detail in section 2.5.2 (Hillman and Dalziel, 2003; Daily et al., 2003; Huse, 2005; Pye and Pettigrew, 2005; McNulty and Pettigrew, 1999). Second, the conventional approach of direct relationships neglects the role of mediating or intervening variables that connect independent variables with the dependent variables under different environmental settings and the researchers like (Forbes and Millikan, 1999; Hermalin and Weisbach, 2003; Pettigrew, 1992; Roberts et al., 2005) are of the view that board structure help strengthen specific kind of board roles and not directly contributing to financial performance of the firm as well as the board roles like resource dependence and monitoring are not part of the board structure therefore, can't be directly considered as a result of externally imposed regulations. These mediating or intervening variables may be various board roles/functions and environmental settings such as specific context may act as moderating variable to judge the relationship indirectly through input, mediation and output mechanism. This is in fact, a two-step process; in the first step the relationship is tested between predictors and mediating mechanisms, in the second step the relationship is tested between mediating mechanism and outcomes and finally an overall relationship is tested. This whole process has been explained in further details in Figure 5.1 and section 5.5. Third, methodologically, there has been a reliance on single period studies instead of studying the two independent time periods in comparison to each other with respect to before and after the implementation of corporate governance reforms in a country (Brick and Chidambaran, 2010) to provide sufficient understanding of what boards actually do.

Therefore, this chapter will discuss the broader literature studying board roles performed by board structure in the aftermath of corporate governance reforms. Specifically, it seeks to achieve two main goals. Firstly, it attempts to offer a review of the existing theoretical literature that tries to link board structural characteristics to board roles and firm financial

performance. The second objective of this chapter is to develop a conceptual model for conducting the study on board structural characteristics, board roles under multi-theoretic lens and firm financial performance in the context of SECP code in Pakistan. The main curiosity here is to examine whether SECP code changes the board structure and board roles relationship. Specifically, it traces the relevant literature in the context of input-mediators-output model (Ilgen et al., 2004) to develop hypotheses among the variables examined in this study. The discussion then culminates on the development of the conceptual model to work as a blueprint of this study.

3.2 Theoretical Motivation

The study finds its theoretical motivation based upon the two functions of boards of directors (monitoring and provision of resources) and their association with firm performance as discussed in chapter 2. Generally speaking, the agency theory elaborated that the main obligation of the boards is to monitor the management of an organization while resource dependency theory treaded a distinct path, where they believe that the provision of resources as the main function of boards. Apparently, this gap between alternative explanations of theoretical frameworks needs to be embedded together. Therefore, this study looks further into the direction where these two alternative approaches could be combined together to develop a comprehensive theoretical framework under which the corporate governance studied can be examined. Also looking on the theoretical framework proposed by Hillman and Dalziel (2003), it can be said that integration of monitoring role and the resourced dependence role may be instrumental in overcoming the theoretical weaknesses in preferring one approach over another. Huse (2008) also suggested that multiple theoretical perspectives are required to fully understand board behaviour.

Instead of relying on any one or the other role, we propose an integration of the two ways of viewing board roles may be even more valuable for both practical and theoretical reasons. Therefore, the study adopts a multiple-theoretical perspective and will consider board roles not only in agency theory perspective but also in the context of resource dependence theory. We discuss this rationale next and then integrate the two perspectives.

3.3 Towards a More Holistic View of Board Roles

Integrating monitoring and the resource provision roles of the board as an intervening variable between board structure and firm performance are important for practitioners as well as for corporate governance scholars, because directors engage in both functions

simultaneously. The separation of control and ownership in large public listed corporations started to look sharply on the control and resource dependence (Daily et al., 2003; Jensen and Meckling, 1976). The roles are often embedded in such a fine way that the boundaries between the two are often overlapping and sometimes conflicting (Bainbrigde, 2013). In another study the directors reported performing a variety of activities for both monitoring and providing resources, indicating that service on the board is not limited to one or the other but, rather, is a combination of both (Korn/Ferry, 2006). On the similar lines Cohen et al., (2008) elaborate that Board roles are expected to influence board judgements, since the agency and resource dependence roles are two dimensions that add to overall board effectiveness. The close monitoring of management through a strong agency perspective and the strong resource dependence perspective of the board will help mitigate the governance problems and enhance the leadership role of the board.

Therefore, the diverse board abilities to control or monitor have not been considered explicitly by agency theorists and on the other hand the resource dependence theorists have focussed only on the resource provision function of the board. Therefore, it is argued that examining one without the other is insufficient. Specifically following the tradition (Zahra and Pearce, 1989; Hermalin and Weisbach, 2003; Wan and Ong, 2005; Zona and Zattoni, 2007; Cohen et al., 2008) of moving a step further from examining a direct relationship between board structural mechanisms (board composition, working of board sub-committees, CEO/chairman duality) and performance measures such as accounting or stock performance, this study is the first which recognizes that board roles as a determinant of financial performance are shaped as a result of board structure characteristics.

Therefore, in combining the two theoretical perspectives, this study argues that board contributes both monitoring and the provision of resources. An important contribution of this study is a more fully specified and richer model of the relationship between boards' structure and firm performance mediated by board roles and in the context of Pakistan. The study considers both the direct effects of board structure on firm performance as well as the mediation effect of board roles moderated by recent corporate governance reforms. It is argued that proportion of outside directors on the board may bring more activity in the board and boards meet more frequently for effective monitoring as well as boards co-opt more outside directors with more experience and expertise which may increase the board strength and size to improve its capability at both providing resources and monitoring. The additional complexity provided by this integration allows for the development of propositions that shed

light on current mixed empirical results, serve to guide future research, and have implications for practitioners and regulators interested in board composition.

The above studies suggest that the field of corporate governance research remains desperately in need of empirical researches that provide insight into the black-box of board decision making. A board roles perspective provides us with an opportunity to look deeper into the black-box of boards to try and establish the relationship between board structure and firm performance. In short, although there are two large, separate bodies of literature on the agency and resource dependence roles of the board and both have been discussed in depth separately but studying both these roles together is the objective of this study. Based upon the literature discussed regarding board roles, we can conclude that our study is novel in its setting to empirically prove that changes in board structure after the corporate governance reforms will be helpful in strengthening the board roles to achieve the better corporate financial performance. The organizations need such mechanisms through which they establish and achieve strong boards to achieve success and provide vision to the firm by incorporating both agency controls and resource dependence.

We have addressed the question that board roles provide as an intervening mechanism between the relationship of board structural characteristics and firm financial performance. Further, we contend that board structure does not directly help in improving the financial performance of the organization rather it helps strengthening the board roles which in turn help achieve better financial performance for the organizations.

Therefore, in the next section, we discuss the board structure, board roles and firm performance under the lens of agency and resource dependence perspectives to be fully integrated into the central arguments in the context of corporate governance reforms.

3.4 Board Roles and Firm Performance

Although developing a mechanism for measurement of board roles is still a problem as discussed in chapter 2, the researchers are gradually converging to a point that understanding the board roles is vital to understand the corporate governance and firm performance relationship (Hillman et al., 2008; Huse, 2005 and 2007). Drawing on this literature, this research proposes that firm performance is determined by the boards' ability to successfully carry out their monitoring and resource dependence roles.

The South Asian country studies show that the taking notice of corporate governance was motivated not only by the East Asian financial crisis in 1997-1998 and scandals in America, Britain and Canada, in early 1990's, which led to the high profile reports such as Cadbury committee, SOX and UK combined codes, but also by home-grown problems in their own financial and capital markets (Sobhan and Werner, 2003).

The need to study board roles arises directly from two main concerns. Firstly, as a result of corporate governance reforms worldwide, boards are beginning to pay more attention to the way they operate (SOX; UK combined codes; Aguilera and Cuervo-Cazurra, 2009). Secondly, Cohen et al., (2008) noted that board effectiveness has to depend on the roles which the boards perform besides solid structure and substantive content. They argue that recent calls for stringent corporate governance mechanisms has given further impetus to study the board roles in relation with board structural characteristics and firm performance.

The conceptual development of board roles is due to various theoretical domains existing in the board roles research (Van den Heuvel et al., 2006). Forbes and Milliken (1999) are of the view that boards' performance can be measured in terms of their functions of monitoring and resource dependence. Similarly Petrovic (2008) is of the view that these board roles in terms of monitoring and resource dependence roles help achieve the shareholder objectives. Therefore, it can be said that there is no clarity in terms of board roles and different researchers have different views on them (Nicholson and Kiel, 2004; Van den Heuvel et al., 2006). However, we stick to literature in the second chapter that resource provision and strategy role are not mutually exclusive rather they grossly overlap with regards to the set of tasks performed by the board, and therefore, discuss the board meeting frequency as the mechanism for monitoring role and firm performance relationship in the next section.

3.4.1 Monitoring Role: board meeting frequency and firm performance

From an agency theory perspective the principal role that the board has to play is a control or monitoring one (Fama and Jensen, 1983; Jensen and Meckling, 1976). Whilst many researchers have identified the importance of the board's monitoring role (Dalton and Kesner, 1987; Kesner et al., 1986; Mace, 1971; Molz, 1988) there have only been a small number of empirical studies that have endeavoured to gauge the extent to which board structure have influenced the fulfilment of the board's monitoring/control role (Gabrielsson and Winlund, 2000; van Heuvel et al., 2006). Therefore, an important aspect of agency and resource

dependency theories linked with corporate governance and performance is the intensity of board activity.

The boards show its ability to perform through meetings and it can be said that the more they meet the more they perform better their roles as custodians of shareholders rights and wealth (Conger et al., 1998). Similarly the most of the problems organizations face is due to lesser meeting frequencies of the boards as Lorsch (1992) suggest that the most acute problem directors' face is shortage of time to accomplish their duties. This elaborates directors in boards that meet more frequently are more likely to perform their duties in accordance with shareholders' interests.

This study follows the theoretical proposition forwarded by Vafeas (1999) and Conger et al., (1998) that the frequency of board meetings measures the intensity of a board's monitoring role, and the quality or effectiveness of its monitoring. It has been argued that higher frequency of meetings will grant directors with more time and effort to design strategy and to appraise the CEO performance (Vafeas 1999). It can help directors to remain aware and informed about important developments taking place within the firm and putting the directors in a better position to timely address emerging critical issues (Mangena and Tauringana, 2006). Moreover, Sonnenfeld (2002) proposes that presence of directors in regular meeting is considered a quality of the diligent boards. This higher frequency of board meetings will bring the members closer to the organization and they can get sometimes important information through informal sideline communications (Lipton and Lorsch, 1992) which can be instrumental in strengthening the resource dependence role of the directors as well. In the post SOX scenario, the researchers suggest boards are more active than in earlier periods (Roberts et al., 2005). The quality of more active boards is that directors will be actively participating in discussions, helping the execution of specific board roles, and using their skills for the interest of the board (Gabrielsson and Winlund, 2000; Pye and Pettigrew, 2005; Roberts et al., 2005; Shen 2005).

Vafeas (1999) reports a negative correlation between the frequency of board meetings and financial performance measured in terms of market based performance (Tobin Q). But his findings indicate that performance got better after a year of abnormal board activity. This illustrates that board meetings don't yield immediate result and it takes some time for the organization to capitalize on them.

By contrast, there are some researchers who have posted a positive relationship between board meeting frequency and the market based measure of performance (Karamanou and Vafeas, 2005) which indicate that companies having more frequent board meetings had a positive impact on the outside investors. However, another study reports opposite to the above studies and claims that the frequency of board meetings did not has any relationship with financial performance. But the sample used for the study was too small to be generalised in a different setting. However, to get back to the point about significance of meeting frequency to firm performance Lipton and Lorsch (1992) suggest that the higher meetings frequency is likely to result in superior performance. Therefore, generally there is reason to believe board meetings on face value, may be an important resource and therefore frequency of board meetings, may influence the governance performance nexus.

In this study, therefore, the relationship between board structure, board activity measured by board meeting frequency, and firm performance is investigated in the light of compliance with SECP code in Pakistan.

H1 (a): Frequency of board meetings is positively associated with firm financial performance (Tobin Q)

H1 (b): Frequency of board meetings is positively associated with firm financial performance (ROA)

3.4.2 The Resource Dependence Role, Board Size and firm performance

As said by Hillman, (2005); Hillman and Dalziel, (2003) and Pfeffer and Salancik, (1978) and described adequately in chapter 2 that providing resources is the most significant task carried out by resource dependence theory in the field of corporate governance research. The theory further elaborates that board of directors are the primary link of the organization to the external world for provision of resources and reducing the uncertainties faced by the firm (Hillman, 2005; Boyd, 1990).

Literature regarding resource dependence theory suggests that tasks performed by the board of directors range from providing vital resources for the firm thorough networking and counselling for better management to provide direction and strategy to achieve its objectives (Huse, 2007; Davis et al., 1997). Hillman et al., (2000) are of the view that board members inherently have different kinds of qualities depending on their backgrounds which can be helpful to the management and they should not just be judged as solely the monitors of the

management. They judged the importance of board roles by examining the board changing process of airlines when the economic environment got changed from regulated to liberal economic environment.

Guest, (2009) are of the view that size of the board and background of the members are vital for the provision of advice, counsel, management, and policy oversight and monitoring. They also argued that the firms which previously were not compliant to SOX increased their board sizes because they added more outside directors than the insiders removed from the board. Carpenter and Westphal (2001) found that boards which had more resources in terms of networking and social capital caused improved financial performance. Larger boards may have an advantage to be able to attract more renowned directors (Certo, 2006; De Villiers et al., 2011). Therefore, in the light of above literature, it can be said that boards larger in size will be better able to attract more experienced and star directors to their organizations (Daily et al., 1999).

The provision of resources through experienced and well-connected directors is directly associated with firm performance (Hillman et al., 2000; Yawson, 2006). The foremost advantage of the larger boards is that they become instrumental in access to critical resources like finance, raw materials, and vital information for the firm because of their background, expertise, and networking (Haniffa and Hudaib, 2006; Pearce and Zahra, 1992). Another very significant advantage of the larger boards is to enhance the knowledge base to design strategy for getting competitive advantage in managerial capability and better decision making (Yawson, 2006; Pugliese et al., 2009). The enhanced resource capability of the board also increases its capacity for better monitoring of the firm management which shows that larger boards may be better able to perform their control role in the organization (John and Senbet, 1998). The larger boards with diversified skill set of expertise will be better poised to ascertain the quality of decisions made by the CEO and in this way may neutralise the dominance of CEO.

The literature reports that there is a positive association between size of the board of a firm and its market based measure of financial performance Tobin Q (Henry, 2008; Beiner et al., 2006). Similarly the size of the board is also showing positive relationship with accounting based measure of the profitability such as ROA (Haniffa and Hudaib, 2006; Sanda et al., 2005). This suggests that differences exist between investors and companies in their perception of the relevance of larger boards. Theoretically, the finding of Haniffa and Hudaib

(2006) implies that larger boards enhance the knowledge base on which business advice can be sought, which increases resource dependence capability to make important and better business decisions.

SECP code does not specify the exact number of directors that should form a board. However, it encourages having more non-executive board members with diverse backgrounds. This may be the reason to avoid any particular size for all the organization and to provide the organization with liberty to choose and design their board according to their particular business needs (MacNeil and Xiao, 2006). The studies by Guest (2009) elaborates that as the SOX (2002) was implemented in USA, more non-executive directors having background in finance and law were inducted on the board to comply with the law, which led to increase in the board size. The previous research (Goden and Zajac, 2001; Dalton et al., 1999), also shows that by adding a representative from the block shareholders the boards contribute positively to the overall firm performance as it can be assumed that adding the financial experts as per the requirements of SOX (2000) and SECP code and inducting the representative from institutional shareholders on the board will not only bring the required resources/expertise on the board to enhance its capacity but will also add to already existing numbers because usually it is easier to add more numbers as compared to dislodge the existing members. This is also shown in Javid and Iqbal (2007) that in the context of Pakistani companies, board sizes enhanced after the implementation of SECP code which elaborates that large size boards will be consisting of large pool of human expertise and similarly the smaller boards may lack the essential intellectual mix needed for better steering of the organization.

Therefore, it can be discerned that larger boards are likely to include more experienced and knowledgeable directors who possess better expertise to manage firm resources after the implementation of SECP code. In this study, it is endeavoured to empirically examine the relation between board structure, board resources role, measured by board size, and firm performance before and after the enforcement of SECP code in Pakistan.

Brennan (2006) is of the view that an adequate level of efficiency and effectiveness is needed on behalf of board of directors to safe guard the interest of the shareholders. But the effectiveness and efficiency of board of directors, as suggested by the past literature, depends upon the structural characteristics of the board such as composition of the board, leadership structure of the board and board committees structure, amongst others (Baranchuk and

Dybvig, 2009). Therefore, in the light of above discussion the following hypotheses are put forth:

H2 (a): Board Size is positively associated with firm financial performance (Tobin Q)

H2 (b): Board size is positively associated with firm financial performance (ROA)

3.5 Internal corporate governance and corporate governance reforms

As noted in chapter 2, and irrespective of the firms' background the newly shaped board structures have two things in common throughout these global corporate governance codes: the independent non-executive directors (NEDs) and the presence of independent board sub committees like audit committee (Collier and Zaman, 2005). All those directors are called non-executive directors who are not part of the management of the organization (Johnson et al., 1996). They are also called outside directors. The reforms in corporate governance require that non-executive directors will not be related with the organization or the executive directors on the basis of family relationships as well as will not have any business or pecuniary relationship (SECP code, 2002). Usually it is expected that NEDs will monitor the role of CEO which may be difficult to be monitored by the executive directors as being the subordinates which is close to the agency perspective. In addition to that, resource dependence theory proposes that organizations appoint these outsiders on their boards to append more resources from outside, however, proponents of institutional theory claim that appointing the outsiders may be the result of external institutional pressure to comply with the rules and that may not necessarily enhance the firm performance (Peng, 2004). Keeping in view the unique Pakistani corporate governance landscape, closed family shareholding, it might be helpful at the end to interpret the research findings with the help of Institutional theory if necessary, however, agency and resource dependence theories will remain the major theoretical vehicle of the study and all the hypotheses will be framed based upon these two theories.

After the enforcement of Cadbury Committee Report, 1992; combined code, 2003; OECD, 1999, 2004; and Sarbanes-Oxley act, 2002 (SOX), the corporate governance codes have been adopted by most of the countries of the world (Mallin, 2007; Aguilera, 2008). The codes provide recommendations regarding board structures particularly on the proportion of non-executive and independent board members, the presence or absence of dual board leadership structure, and board committees. In a study by Gregory (2000), it is revealed that in almost all developed countries the good governance practices are enforced by the laws. In UK the

Cadbury Report emphasized that the calibre, skill, number and background of non-executive directors is crucial in setting and maintain high standards of corporate governance. The presence of non-executive directors on the board makes the disclosed information reliable for the outside investors and shareholders. Similarly, board leadership structure with respect to the separation of chair of the board from CEO is also very important. Boards have legal obligations to be fully informed about critical corporation conditions and financial reporting. Audit committees are required to show a level of due diligence and independence to ensure that the company has an adequate system of internal controls to foresee the potential problems and to produce the trustworthy financial figures. They are to oversee the financial reporting process and confirm the appointment of the independent auditing firm. Additionally, they are responsible for discharging independent auditors when appropriate (Van Ness et al., 2010). Therefore, the question addressed here is that board roles provide an intervening mechanism between the relationship of board structure and firm financial performance.

We have found out in the chapter 2 that board structure does not directly help in improving the financial performance of the organization rather it helps strengthening the board roles which in turn help achieve better financial performance for the organizations. Our study additionally investigates the impact of corporate governance reforms to shape the board structure which helps invigorating board roles to enhance the firm financial performance. The board structure not only helps in improving monitoring capability of the board as well as improving board resources to advise the top management team. The selected literature will be discussed in the following section to put forward the mediated relationship of board structural characteristics and firm performance through board roles which also sets foundation stage for our conceptual model and provide rationale for this research project.

3.5.1 Non-executive directors, board roles and firm performance

According to Agency and Resource dependence theorists, boards dominated by executive directors are relatively less answerable to diverse shareholders (Fama, 1980; Sonnenfeld, 2002). Therefore, presence of non-executive directors is deemed beneficial for the outside investors. The NEDs are considered useful in bringing independence to board decisions (Combined code, 2012; Chhaochharia and Grinstein, 2007) and adding the resources to the firm in the shape of experience, expertise, business contacts and reputation (Klein, 2003; Haniffa and Hudaib, 2006; Baranchuk and Dybvig, 2009). However, the relationship of

proportion of NEDs with firm financial performance has not been straightforward (as noted in chapter 2 in detail) (Hermalin and Weisbach, 2003; McNulty et al., 2005). Thus, it can be argued that despite the documented role of independent directors as having an important impact on monitoring and resource provision activities (Weisbach, 1988; Cotter et al., 1997; Boone et al., 2007; Guest, 2008), the relationship between non-executive directors and firm performance can't be measured with a direct link Forbes and Milliken (1999); Hermalin and Weisbach (2003) and McNulty et al., (2013).

Therefore, it can be inferred that the relationship between board structural characteristics and firm performance is ambivalent and in line with the arguments by Hermalin and Weisbach (2003), as well as, the nature of the relationship between board structure and firm performance is not of a direct or input-output relationship but, rather, it is mediated through board roles (McNulty et al., 2012). The scholarship in the field of corporate governance has acknowledged various roles played by the directors (Ruigrok et al., 2006; Carpenter and Westphal, 2001; Stiles, 2001). However, the monitoring and resource dependence role of the board in firm management have received wider attention (Hillman and Dalziel, 2003). The monitoring role of the board has been documented by the increased activity of the board in the shape of the frequency of board meetings (Vafaes, 1999; Adams, 2009). The frequency of meeting can be defined as the times the board meets in a year to discuss and approve the key organizational issues (Carcello et al., 2002; Laksmana, 2008).

Brick and Chidambaran (2007) find some evidence of a positive relationship between independent directors and board meetings which can have a plausible explanation that more members would need more time to be briefed about the situation and would consequently need more time to discuss the issues on the board and hence will be demanding more number of board meetings. The evidence also suggests that when board meet infrequently, they are hardly able to exert any meaningful influence over corporate performance (Useem, 2006). Guest (2009) finds a strong empirical foundation for the monitoring role of the board based upon the board size. Al-Najjar (2012) suggests that presence of more independent directors on the board will increase the frequency of board meetings. Consequently, more meetings will permit directors to give more time for strategy formation and performance appraisal. Therefore, if higher board activity facilitates better board monitoring, outside directors are likely to demand more board meetings to enhance their ability to monitor management. Simultaneously, in boards with more outsider participation, more time is likely to be spent in briefing board members than would be required in boards with high insider

membership. Thus there should be a positive relation between the representation of outside directors on the board and the level of board activity. The independent directors will need more meetings of the board as they need more time to brief the board members (Vafeas, 1999).

Furthermore, the literature provides enough evidence that as the proportion of non-executive directors' increases on the board the intensity and frequency of board meetings also increases (Beasley et al., 2000; Klein, 2002; Uzun et al., 2004). In the post SOX scenario, the researchers suggest boards are more active than in earlier periods (Roberts et al., 2005). This is in line with Lynall et al., (2003) that institutions impact firms and in response firms adopt the external institutions' pressures for the sake of legitimacy which is similar to the resource dependence perspective that resources are added by the firms to enhance their legitimacy and reputation. Therefore, over the passage of time, these rules become institutionalized to legitimize their existence.

This provides us necessary reason to believe that presence of more NEDs causes more board meetings which is an important resource and therefore frequency of board meetings, may influence the governance and performance nexus. Therefore, it can be contended that relationship between NEDs and firm performance is mediated by frequency of board meetings (monitoring role) of the board after the implementation of governance reforms.

In the context of NEDs and resource dependence role of the board, Dalton et al., (1999) suggest that larger boards better represent the resource dependence role of the board and are associated with better firm performance. Consistent with these findings and above mentioned arguments regarding NEDs, it can also be contended that board with a higher concentration of NEDs is more likely to objectively direct knowledge and expertise towards stronger resource dependent role. Linck et al., (2008) and Gordon (2007) resolve that board composition changed by adding more lawyers and financial experts and fewer executives than before SOX. They are of the view that the firms which previously were not compliant to SOX increased their board sizes because they added more outside directors than the insiders removed from the board. Therefore, it can be contended that relationship between NEDs and firm performance is mediated by board size (resource dependence role) of the board after the implementation of governance reforms.

In line with this aspect of the study, there is a relevant revelation that firm with higher NEDs on the boards had lesser probability of suspension from the stock exchange (Mangena and

Chamisa, 2008) as found in a study in South Africa. This suggests that listed firms with a higher percentage of NEDs are less likely to be suspended from the stock exchange. Therefore, in combining the two theoretical perspectives, it is argued that board contributes both monitoring and the provision of resources. This shows that it is unlikely that the relationship between NEDs and firm performance would be a simple direct one. Therefore, an important contribution of this study is a more fully specified and richer model of the relationship between boards' structure and firm performance mediated by board control and resource dependence roles.

However, in Pakistan, another very important issue is the induction of closed family members as board members to strengthen the founding family control over the organization. However, this leads to further entrenchment of the board by compromising the rights of minority shareholders. This causes tight alignment of ownership and control in the organization which can only be encountered by introducing independent non-executive directors on the board (Nishat and Shaheen , 2005). This issue has also been addressed by SECP code which requires that independent directors should be appointed on the board. To ensure independence the code requires maximum disclosure should be made regarding the biographies of the directors and a statement regarding their independence should be submitted with the SECP.

Recommendations of SECP code

SECP code requires every public company to appoint at least one third independent NEDs on their boards. The criteria of independence require that a board member shouldn't have been in full time employment with the firm in the last 3 years, shouldn't have a current business stake with the firm, and shouldn't be an immediate family member of any executive or any director of the firm. KSE Listings Rules also require Pakistani corporate boards of directors to consist of a majority of NEDs. SECP code further requires that the majority of the NEDs be independent of management to ensure that minority interests are adequately protected. This suggests that SECP code expects firms with more NEDs on their boards to be better monitors of the firm management and resultantly improved financial performance than those with less NEDs. Consequently, this study proposes to further this research by examining the extent to which governance codes affect board structure to strengthen board roles and firm performance. Accordingly, the following stream of hypothesis would be:

H3(a1): There is positive relationship between proportion of Non-Executive Directors and frequency of board meetings

H3(a2): There is positive relationship between proportion of Non-Executive Directors and board size

H3(b1):The relationship between proportion of NEDs and firm performance (Tobin Q) is mediated by board control role (frequency of board meetings) and board resource dependence role (board size).

H3(b2):The relationship between proportion of NEDs and firm performance (ROA) is mediated by board control role (frequency of board meetings) and board resource dependence role (board size).

H3(c): The above relationships are moderated by SECP code such that they are stronger after the implementation of SECP code.

3.5.2 CEO duality, board roles and firm Performance

The literature discussed in chapter 2 reveals that despite the importance of role duality of CEO/chairperson in both agency and resource dependence theories there is little agreement on how it affects the firm performance. CEO duality refers to a board leadership structure in which one person undertakes the combined roles of chief executive officer (CEO – management) and chairman of the board. The chairman of the board is responsible for managing the board. In contrast, the CEO is responsible for the day-to-day management of the company, including implementing board decisions.

Weir et al, (2002) explain that the resource dependence theory supports the dual role of the CEO and board chairperson as they found that firms with existence of role duality had better performance. This repercussion may have a plausible explanation that with duality CEO becomes more powerful with unity of command and being an insider enjoys strategic knowledge of the firm better than any outsider chairman. According to this theory if the CEO has dual powers he will be able to focus more closely on the firm objectives by knowing the organization affairs in more depth (Haniffa and Hudaib, 2006). This entails that a powerful CEO will have the minimum board interference in his decisions and will be able to carve out a detailed long term strategy for the firm (Haniffa and Cooke, 2002). Lastly a valid reason for duality is considered to be accountability as the responsibility can be easily

fixed to one person as compared to a group of people for poor performance of the organization (Bozec, 2005).

However, there is no scarcity of the literature regarding negative effect of CEO duality on firm performance (Haniffa and Cooke, 2002). As indicated by Jensen (1993) the role duality increases the agency problem because powerful CEOs may not be accountable to the board as well as their role as CEO overshadows their role as chairperson and in this way the board's effectiveness to monitor is compromised and they start protecting and defending the executives. Therefore, separating the roles between two people will improve the board capability to monitor as well as curtail the entrenchment behaviour by a CEO (Lipton and Lorsch, 1992; Haniffa and Cooke, 2002). It will also help get rid of a non-performing CEO (Monks and Minow, 2001). This can help in developing mechanism to curtail agency problems by preventing managers from pursuing goals that advance their self-interests to the disadvantage of shareholders. Therefore, in the light of above discussion, the quandary is that agency theorists reflect that boards' effective monitoring role is affected by role duality and separation of the two roles is necessary for better performance of the firm while the school of thought related with resource dependence theory claims that CEO role will be more effective when coupled with board chair and makes the organization more focussed and efficient (Haniffa and Hudaib, 2006). Hence, it can be contended that relationship between dual role of CEO/chairperson and the firm financial performance is equivocal and can't be determined through a direct link (Boyd, 1995; Kiel and Nicholson, 2003; Finkelstein and Mooney, 2003; Forbes and Milliken 1999). This opens up a way to look into this relationship under the mediation effect of board roles (McNulty, 2013). Various roles have been suggested in the literature by the scholars but control role and resource dependence role have been given more importance (Hillman and Dalziel, 2003). Board activity as meeting frequency is the symbol of process of board which proxies the board monitoring role under agency lens and board size as a measure of board resource dependence role under resource dependence lens. The extant literature discusses that dual role of CEO is the symbol of entrenchment activity by the CEO which compromises the monitoring role of the board members as well as reducing the board activity which will cause reduction in board resource provision role (Linck, et al., 2008). While we know that increased board activity is instrumental in reducing entrenchment and improves firm performance (Kiel and Nicholson, 2003), board activity can be affected when the CEO is the chair of the board of directors (Brick and Chidambaran, 2010). Similarly, the independence of the board can be undermined when the CEO also serves as the board

chairman (Boyd, 1994; Westphall and Zajac, 1994). Coalescing the roles of the CEO and board chairman places a great deal of power with one person and therefore causes agency problems in the form of increased information asymmetry between the CEO and the board (De Villiers et al., 2011).

Consistent with this argument, empirical evidence has linked CEO duality to reduced board activity causing unfavourable outcomes for shareholders, resulting from decisions imposed on the board including excessive managerial compensation (Boyd, 1994). It can be furthered that in this case CEO would be able to monopolize board meetings and advance its own agendas which might not be congruent with the aspirations of shareholders of the firm (Kelton and Yang, 2008). Conversely, the separation of the CEO and board chairman roles will increase the board activity by making the CEO accountable to his actions. As this study has adopted the Vafeas (1999) argument that board activity measures the board monitoring capability, it can be contended that boards with an insider chairman would meet less frequently.

Hermalin and Weisbach (1998) suggest a model in which board structure is the product of an intercession between the CEO and outside directors. While Lehn et al., (2003) are of the view that monitoring is more efficient with a larger board having a sizable proportion of outside directors because of better repository of joint shareable information. Therefore, separation of roles of CEO and Chairman will be instrumental in expanding the board memberships with more people having diversified backgrounds from outside. The same is resolved by Guest, (2008) and Gordon (2007) that board composition changed by adding more lawyers and financial experts and fewer executives after the implementation of SOX. Evidence shows that firms that require more advice gain greater value from larger boards (Coles et al., 2006). Therefore, following Hermalin and Weisbach (1998) and arguing that a CEO with duality will be more likely to promote his/her cronies and executives to the board, leading as a result to a smaller and less independent board.

Historically in Pakistan, a large number of companies have been following the family-owned structure where family head is traditionally the chief executive as well as the chairman and other members of the family are appointed as directors on the board. This arrangement though seems quiet expedient but has been risk laden as public money is involved in the business of listed companies (McGee, 2010). That is why; many stakeholders consider this arrangement as one of the basic reasons for weak monitoring and enforcement. To counter

this chronic issue, SECP code requires that the position of CEO and Board Chair shouldn't be held by the same person to avoid entrenchment. Further details regarding separation of CEO and Chairperson of the board under SECP code can be found hereunder.

Recommendations of SECP code

SECP code and KSE Listings Rules state explicitly that the positions of the chairman and the CEO should not be held by the same individual. Also, it states that the chairman must be independent, who bears the responsibility for the running of the board, while the CEO is responsible for the day-to-day running of the company's business. This suggests that after the implementation of SECP code it is imperative to investigate this mediated relationship under the dual lens of agency as well as resource dependence roles after the introduction of SECP code. Therefore, our hypotheses would be:

H4(a1): There is a negative relationship between role duality and frequency of board meetings

H4(a2): There is a negative relationship between role duality and board size

H4(b1): The relationship between CEO duality and firm performance (Tobin Q) is mediated by frequency of board meetings (control role) and board size (resource dependence role).

H4(b2): The relationship between CEO duality and firm performance (ROA) is mediated by frequency of board meetings (control role) and board size (resource dependence role).

H4(c): The above relationships are moderated by SECP code such that they are stronger after the implementation of SECP code.

3.5.3 Diligence of Audit Committee, board roles and firm Performance

The empirical literature regarding the association between the presence of board committees and financial performance is still at its nascent stage (Dalton et al., 1998; Laing and Weir, 1999). The little available evidence also largely focuses on developed markets, such as the UK and the US. This makes generalisation difficult. Further, the limited evidence also offers contradictory results. This makes board committee structures a fertile area for further research, especially within a developing country context. It may help shed additional insights on the board committees-performance relationship. The results can also be compared with previous international studies on board committees.

Prior literature suggests that audit committee helps improve the effectiveness and efficiency of corporate boards (Jiraporn et al., 2009). According to resource dependence theory board committees give their expert advice to board and management on crucial business decision (Harrison, 1987). On the other side, their agency counterparts are of the view that audit committees intend to protect shareholder interests by providing objective, independent review of corporate executives and affairs. They are also of the view that a central monitoring function of the board is to ensure that corporate activities are properly audited (Jensen and Meckling, 1976; Fama and Jensen 1983). The principal function of the audit committee, for example, is to meet regularly with the firm's external and internal auditors to review the company's financial statements, audit process and internal accounting controls. These will facilitate timely release of unbiased accounting information to shareholders to reduce agency costs and information asymmetry (Klein, 1998). Audit committees play an important role by advising and monitoring the financial reporting process, internal controls, and the external audit. The audit committees serve as a contact "bridge" between management and the internal and external auditors (Sharma et al., 2009). To maintain integrity of their monitoring function, audit committees are required to perform their obligations diligently by meeting more frequently (Bhasin, 2012). Various researchers have used audit committee meeting frequency as a proxy for diligence (Raghunandan and Rama, 2007; Braswell et al., 2012). The past literature concentrates on the consequences of audit committee meetings and elaborates that higher activity on behalf of audit committee will be helpful in improving the financial quality and reducing the misreporting of figures (DeZoort et al. 2002; Sharma et al., 2009).

Despite their increasing popularity, however, there are still conflicting theoretical propositions about the nexus between board committees and financial performance. One stream of the theoretical literature suggests that the establishment of these committees can impact positively on performance (Sun and Cahan, 2009) because of their small size as compared to boards they are more efficient and can meet more frequently and this provides ample time for meaningful dialogue and in reaching to an agreement quickly (Karamanou and Vafeas, 2005). The board committees are composed in such a way that they help bringing each director's specialist knowledge and expertise to bear on the board decision-making process in line with resource dependence perspective (Harrison, 1987). This also allows the main board to devote attention to specific areas of strategic interests and responsibility. On the contrary, there is a stream of literature that suggests that board

committees and firm performance are negatively related to each other. The first and foremost is the cost consideration, as more and more mechanisms to avoid agency problems are built they drain the resources of the firm in terms of travel expenses and other allied remunerations (Vafeas, 1999). The second issue is that extreme managerial supervision will hamper executive initiative and vision (Goodstein, et al., 1994; Conger et al., 1998; Vafeas, 1999). The third point is that it may replicate corporate board duties and responsibilities and therefore create redundancies. This will have additional costs implications for the firms. Lastly, by creating generalists and specialists among board members, board committees have the potential of generating conflicts in ideas and impairing boardroom cohesion. The above account of literature shows that the relationship between audit committee diligence and firm financial performance is not unequivocal and can't be determined through simple direct relationship (Finkelstein and Mooney, 2003). Rather, it can be contended that the relationship can be determined through board roles mediation (Forbes and Milliken, 1999; Finkelstein and Mooney, 2003). In this study, we focus on the dual board roles of control and resource dependence, which are in line with Hillman and Dalziel (2003). The same has also been put forward by Carpenter and Westphal, (2001); Stile, (2001); Ruigrok, (2006).

As we have discussed in section 3.3.1, the frequency of board meetings serves as proxy for the board monitoring role (Vafeas, 1999) under agency lens and board size serves as a proxy for the board resource dependence role (Dalton et al., 1999) under resource dependence lens. The extant literature highlights the importance of subcommittees on board activity, and includes the number of standing board committees in his model (Vafeas (1999). Al-Najjar (2012) argues that more authority delegation is required in the process of constituting sub committees which will lead to more coordination among the directors and indeed, will create more need for board meetings which may improve the monitoring capability of the board.

In fact, almost every corporate governance code of the modern era has called for the institution of board committees like audit committee (UK Combined Code, 2003, 2006, 2012; SOX, 2002; and SECP code, 2002). They require the presence of an accounting expert on the audit committee because prior research shows accounting experts are associated with fewer financial misreporting (Dechow et al., 1996; Sharma et al., 2009). Raghunandan and Rama (2007) report that presence of an accounting expert on the audit committee causes better performance of the committee because of the expertise used for effective monitoring of financial reporting. There is also another evidence on the same lines that if the members of the audit committee possess more collective financial and legal knowledge and richer

experience of audit committee members they will lend higher support they provide to auditors regarding materiality judgments (DeZoort et al., 2003). According to Linck et al., (2008), legal, financial experts from outside were more likely than the insiders to join the boards after SOX implementation and in this way firms which were not compliant with SOX in the past increased their board size after implementation of the law. Therefore, it can be contended that new worldwide codes have been instrumental in higher frequency of audit committee meetings which will cause an increase in the board size.

In the light of above literature and as mentioned in the start of this section, there has been no prior research to investigate the impact of the audit committee diligence on board roles (agency, resource dependence) which serves as one of the objective of the current study.

Therefore, based upon the preceding discussions, it is expected that audit committee diligence will be contributing towards more holistic view of the boards and will be increasingly cognizant of the value and importance of not only monitoring but also the resource dependence roles of the board by adding more financial experts on the committee through board. This is in contrast to the previous studies where auditors' role was considered and studied only limited to more activity on the board, which leads to monitoring role of the board. Therefore, conceptually, it can be envisaged that more activity in audit committee will be instrumental in strengthening the board roles as a whole.

Recommendations of SECP code

SECP code requires every public company to establish an audit committee which must have at least one meeting in every quarter of the year. They will also be mandated to establish the internal controls of the firm and authorise the half yearly financial statements of the firm. They will also look after the appointments of the external auditors to conduct the annual audit of the firm. Ibrahim (2005) suggests that the proper functioning of audit committees can improve managerial monitoring. Therefore, firms with active audit committees would be better able to institute prudent financial controls and Abbott et al. (2002) find that firms' with financial experts on audit committees are less likely to experience financial reporting restatement or fraud, so, for these firms chances would be lesser to be delisted from the stock exchange. Hence, the following hypothesis can be contended:

H5(a1): There is a positive relationship between audit committee diligence and frequency of board meetings

H5(a2): There is a positive relationship between audit committee diligence and board size

H5(b1): The relationship between audit committee diligence and firm performance (Tobin Q) is mediated by frequency of board meetings (control role) and board size (resource dependence role).

H5(b2): The relationship between audit committee diligence and firm performance (ROA) is mediated by frequency of board meetings (control role) and board size (resource dependence role).

H5(c): The above relationships are moderated by SECP code such that they are stronger after the implementation of SECP code.

3.5.4 Independence of Audit Committee, board roles and firm Performance

The call for audit committee independence is not new. The assumed benefit of improved audit committee independence stems from the belief that independent directors are better monitors of management than are executive directors (DeFond and Francis, 2006). Consistent with this argument, recent studies (Braswell et al., 2012) document the benefits associated with higher levels of audit committee independence. The previous research on audit committee independence has primarily focused on whether committee independence is associated with enhanced effectiveness.

In general, these studies have found that greater the independence of the audit committee the greater will be transparency in the process of financial reporting (Carcello and, 2000, 2003; Klein, 2002; Abbott et al., 2003, 2004; Lee et al., 2004). There is no significant relation found between firms' financial performance and the independence of audit committee as a whole (Klein, 2006). Similarly, another study states that independence of audit committee may be costly and may not serve for the growth of the organization (Klein, 2002). However, there is no unanimous literature that the independence of an audit committee is considered a vital characteristic influencing the organizational performance. The independence of an audit committee can serve as active to control the financial reporting. Therefore, audit committee independence has been found to be significantly related with degrees of reporting quality in prior studies (Baxter and Cotter, 2009). On the other hand, Nimer, et al (2012) reported that there is no significant relationship between audit committees' effectiveness factors and market measure of performance on a sample of 63 listed Jordanian firms.

If the account of literature regarding relationship between characteristics of audit committee like independence and firm performance doesn't provide us with clear link then it can be said that this relationship may be mediated by some board roles (Finkelstein and Mooney, 2003). Following the tradition of Hillman and Dalziel (2003), the study proposes control and resource dependence roles of the board. The study takes Vafeas (1999) who has used frequency of board meetings as the control role of the board and Dalton et al., (1999) who have used board size as the board capital to represent board resource dependence role. The same has been discussed in detail in section 3.4.1 above.

The presence of more independent directors on the board and audit committee facilitates more effective monitoring of financial reporting (Beasley 1996; Dechow et al. 1996; Carcello and Neal 2003) and the external audit (Carcello et al. 2002; Abbott et al. 2003, 2004). Such empirical associations are explained by agency theory, which argues that independent directors provide effective monitoring over management. Therefore, it is likely that an independent audit committee will ensure a sound internal control to strengthen the monitoring role of the board and at the same time the presence of independent members in an audit committee will lead to resource perspective and outside auditors will give more importance to the internally audited statements. This, in turn could mitigate the outsiders' concerns about the internal controls of the organization (Bell et al., 2005; Cohen, 2008). Brick and Chidambaran (2010) are also of the view that independent audit committee structure is associated with an increase in the board monitoring activity measured through frequency of board meetings.

The results suggest that completely independent audit committees are positively associated with audit fees (Abbott et al., 2003), and negatively associated with auditor resignations (Lee et al., 2004), and the occurrence of restatements (Abbott et al., 2004). Therefore, Klein (2002) documents a negative relationship between performance and audit committee independence. Similarly Brick and Chidambaran (2007) are of the view that more emphasis on the independence of the audit committee was the result of implementation of SOX. Following the hypotheses that independent board will cause more activity of the board, Klein (2002) contended that percentage of outside directors on the audit committee will lead to effective monitoring by demanding more activity on the board to discuss the committee proceedings and will ultimately lead to better financial performance. The study by Ashraf and Ghani (2005) examines the sources, evolution, and the progress of accounting practices and disclosures in Pakistan and the factors that affected them. They record that lack of investor

protection mechanisms such as (minority rights protection, insider trading protection), judicial incapacity, and weak enforcement apparatus are more critical factors than are cultural factors in explaining the state of accounting practices in Pakistan. Similarly, it is reckoned that it is the implementation instruments that are supreme in recuperating the quality of accounting in developing countries (Javid and Iqbal, 2010).

Depending upon the arguments forwarded by Vafeas (1999), it can be contended that more independent audit committees will cause higher activity on the board and forwarding the arguments of Conger et al., (1998) about board independence, the same can be suggested for the board subcommittee and following Al-Najjar it can be suggested that if the committee is comprised of more independent members will demand more activity for the board as boards would have to ratify the performance of the committee. The independence of the audit committee will need more frequent board meetings as they need more time to brief the board members (Vafeas, 1999).

Consistent with these findings and above mentioned arguments regarding committee independence, it can also be contended that committees with a higher concentration of independent directors would be more effective to contribute more objectively direct knowledge and expertise towards stronger resource dependent roles of the boards as well.

Prior to SOX, the audit committee's role and its responsibility over the audit and the preparation of the financial statements were implicit. Following the enactment of SOX, the structure of the audit committee has changed and its roles with respect to resources and control have been expanded (Hoitash et al., 2009).

Brodsky et al., (2003) stated that after the implementation of SOX, the role of the audit committee has become very important in appointment, compensation, and retention of outside auditors, therefore, committees are required to be headed by independent non-executive directors having some professional financial backgrounds so in this way, they not only help board improve its monitoring task but also supplement the technical input to improvise the board resource dependence role. They are also of the view that committee independence increased in the post SOX era to comply with the demands of the new law.

Therefore, Cohen et al, (2003); DeZoort et al., (2002); and DeFond and Francis (2005) are of the view that independent audit committees perform better in producing more reliable figures and giving a signal to outside shareholders that organization really takes care of their capital.

After the introduction of SOX, it is mandatory for the organizations to induct more NEDs on the audit committee and to ensure its independence which is causing increased board size gradually eventually. Gordon (2007) suggests that after the implementation of SOX, the role of audit committee has become more significant as it needs to add financial experts on the board who will be heading the audit committee. Therefore, it can be contended that independence of the audit committee will not only contribute to strengthen the monitoring role of the board but also the resource dependence role of the board. We extend previous research by examining the association between audit committee characteristics and firm performance following the mandated changes in its composition and responsibilities. This research is important, as it has implications for policy makers in assessing the impact of audit committee independence after SOX on the firm performance under the dual lens of agency and resource dependence roles.

Recommendations of SECP code

SECP code demands that every public listed company will establish an audit committee, which will consist of at least three members out of which at least two would be independent NEDs. Further, the audit committee members must be financially literate and an independent NED would head the committee who must be other than the chairman of the board. Similarly the listing rules of KSE also need that every listed company on the stock exchange will have an independent audit committee. Further, the audit committee members must be financially literate and should be chaired by a person other than the chairman of the board. This suggests that SECP code and KSE listing rules expect that firms should have independent and effective audit committees with the presence of financial expert in the committee.

Saifullah (2012) reports that Pakistani listed firms with independent audit committees according to SECP requirement are less likely to be suspended from the KSE than those without audit committees. This suggests that the presence of audit committees can improve managerial monitoring as well as better protect shareholder rights. Therefore, it is reasonable to expect that independence of audit committee after the implementation of SECP code will be associated with strong board roles which will help improve the image of the organization in the eyes of external auditors and outside shareholders to enhance firm value. This provides the basic motivation for the study as a whole and makes it a ripe area to be looked in to the context of a developing economy like Pakistan. This study contributes to the literature on the effectiveness of corporate governance mechanisms, especially for both pre and the post-

SECP period. The study also sheds light on the efficacy of SECP requirements on the composition of the audit committee.

It can be interesting to investigate the relationship of independence of audit committee and firm performance mediated by board roles after the introduction of SECP code. Consequently, the respective hypotheses to be tested here can be:

H6 (a1): There is a positive relationship between independence of audit committee and frequency of board meetings

H6 (a2): There is a positive relationship between independence of audit committee and board size

H6 (b1): The relationship between audit committee independence and firm performance (Tobin Q) is mediated by frequency of board meetings (control role) and board size (resource dependence role).

H6 (b2): The relationship between audit committee independence and firm performance (ROA) is mediated by frequency of board meetings (control role) and board size (resource dependence role).

H6(c): The above relationships are moderated by SCEP code such that they are stronger after the implementation of SECP code.

3.6 The Conceptual Model

This chapter started by highlighting the concerns of many researchers that despite over 20 years of extensive research in the field of corporate governance there is much we still do not know about the factors that contribute to board roles and ultimately firm performance. Whilst there have been a few recent studies examining board structure and how they affect the way boards undertake a variety of roles, there have been numerous calls for more research studying board roles. This chapter provides a contribution to this board roles research with the development of a new model from which a variety of hypotheses are developed.

The model in Figure 3.1 introduces board governance concepts derived from agency and resource dependence theories of corporate governance. The model uses three stages of relationship. The first stage is the influence of SECP code on the board structural variables. This has been executed by introducing the interaction term to unmask the differences in the

board structures as a direct consequence of the code. The board structural variables include board independence, board leadership structure, and independence and diligence of audit committee on the board. The board independence is measured by proportion of NEDs on the board, the board leadership structure is measured by presence or absence of CEO/Chair duality on the board, diligence of audit committee by frequency of committee meetings, and independence of audit committee has been gauged through a dummy which assumes value of 1 if an NED is the head of the committee otherwise zero. The second stage of the model is the relationship between the board structural variables and board roles. The board roles include control role and resource dependence role determined through agency and resource dependence lens. The monitoring role has been quantified by the activity of the board precisely the frequency of board meetings and resource dependence role has been appraised through the board size. The third stage of the relationship is between board roles and firm financial performance. The firm performance has been measured on the basis of two different aspects: market based measure and accounting based measure. The market based measure is Tobin Q and accounting based measure is Return on Assets (ROA). Therefore, the model is a response to the call by researchers and scholars of corporate governance and board of directors (Nicholson and Kiel, 2007). The argument here is that boards have alternative approaches to corporate governance. These different approaches can help explain the extent to which boards may vary in the emphasis placed on the different roles they undertake.

The model takes the lead by investigating the impact of corporate governance codes on board structure to strengthen the board roles and then on financial performance of the organization. This model provides a valuable contribution to this research by identifying new insights into board structure, board roles and firm performance relationship in the Pakistani context than hitherto has been considered in the board roles literature. The model adopts the board roles suggested by Hillman and Dalziel, (2003) and similar to empirical studies by Gabrielsson and Winlund, (2000).

The thesis follows the classical input-mediators-output approach taken in conventional research. In this model the output, firm performance is a dependent variable. The inputs are board structure and board roles. The mediating variables are drawn from board role literature keeping in view the requirements of SECP code (such as Guest, 2009; Vafeas, 1999; Zahra and Pearce, 1989; Hillman and Dalziel, 2003).

The following is the conceptual model in Figure 3.1 which follows the approach of recent research on boards by examining the impact of board structure on board roles and firm performance in the backdrop of SECP code in Pakistan. In addition, the model contributes to existing literature in a number of ways. First, the model introduces a new research orientation in board structure and board roles studies using agency and resource dependence theory simultaneously. Second the model encapsulates board structure behaviour in strengthening the board roles for better corporate performance. This is a departure from previous studies which uses input-output model of the research. The model summarizes the hypotheses developed based upon various theoretical foundations. The next chapter will outline the methodology and methods used to test the model and the hypotheses outlined in this chapter.

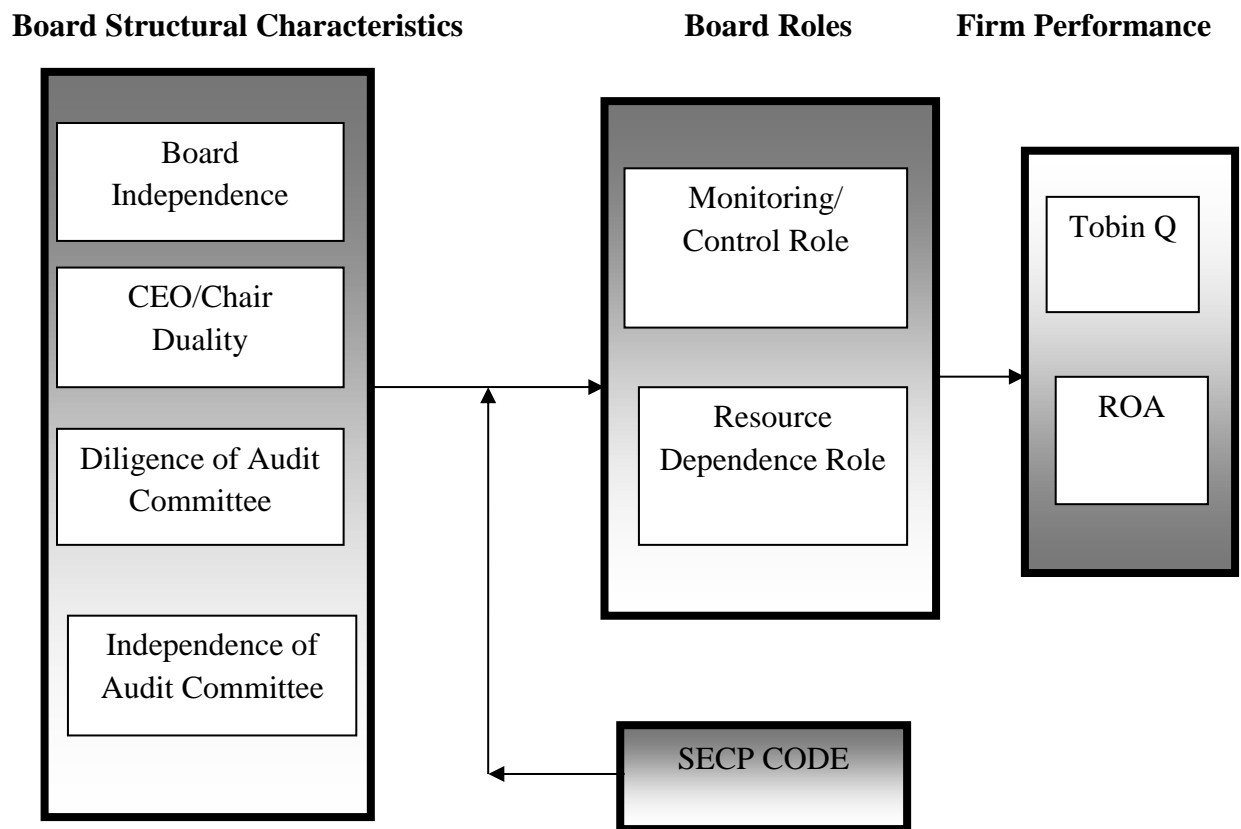


Figure 3.1 Hypothesized Models of Corporate Governance Reforms, Board Structural Characteristics, Board Roles and Firm Performance

Chapter 4

Research Design and Methodology

4.1 Introduction

This chapter addresses the choices of research design and methodology used in this study. This research aims to identify causal relationships between variables; therefore research design and methodology used here are primarily quantitative. Data analysis is conducted using STATA. The very nature of quantitative research needs that the research constructs, model and hypotheses should be based upon strong theoretical and conceptual foundations. To fulfil this need, a wide-ranging literature review has been conducted and is presented in Chapters 2 and 3. This chapter is structured as follows. First, there is a discussion of philosophical underpinnings of the researcher and the research with ontological assumptions and epistemological stance of the study. Second, there is an outline of the selected research method and design for this study. Third, it provides a detailed description about the quantitative approach which is the primary research approach for this study. It also discusses the population, sampling technique, and data collection method. Hussey and Hussey, (1997) elaborated that every scientific work should be replicable and this can be done by providing a clear trail of the research procedure used in the study. At the end, this chapter provides details about the rationale behind the choice of research method used in this study as well as the panel related estimations techniques and explanations.

4.2 Philosophical Underpinnings

The research methodology can be defined as ‘the overall approach to the research process, from the theoretical underpinning to the collection and analysis of the data’ (Collis and Hussey, 2003). The choice of research methodology is driven by a researcher’s philosophical assumptions about ontology and epistemology (Gill and Johnson, 2002) as well as the research question under examination (Collis and Hussey, 2003).

The ontological assumptions are the views or opinions of social scientists about world and human beings regarding various epistemological and methodological positions (Morgan and Smircich, 1980). In the ontological assumptions, the researcher has to answer the questions about the nature of reality (Creswell, 1994). The ontology has been defined as “the ideas about the existence of and relationship between people, society and the world in general” (Eriksson and Kovalainen, 2008). It implies that whether the reality is objective or subjective.

In case of objective reality human beings are considered a product of the external reality and in case of subjective or constructionist reality the human beings are considered to be able to shape the world within their own experience (Morgan and Smircich, 1980).

The objective view says that social reality is independent of social actors and is dependent only on accurate observations and measurements while the subjective view of ontology is that social reality exists as an imagination of human beings and “reality is masked by those human processes which judge and interpret the phenomenon in consciousness prior to a full understanding of the structure of meaning it expresses” (Morgan and Smircich, 1980). Therefore, human beings are capable to shape the world according to their culture, perceptions, and past experiences (Gill and Johnson, 2002). The objectivism causes the epistemological approach of positivism and the subjectivism causes the approach of phenomenological epistemology. However, between the extreme of objectivism and extreme of subjectivism, there are various ontological positions on the continuum (Morgan and Smircich, 1980).

In this thesis, the researcher takes a position which is closer to the objectivism but lying somewhere near the middle of the continuum by accepting the human beings as social actors (Johnson and Onwuegbuzie, 2004). The researcher is of the view that human beings are capable of interpreting and modifying the surroundings to enact the reality (Morgan and Smircich (1980). In this study, the phenomenon investigated is composition of boards, audit committee and their diligence to study the board roles based upon the figures as provided in the annual reports to identify their causal relationship with other social phenomena (Firm Performance). In particular, how the board members perceived and interpreted the SECP code to reshape the boards.

Given the nature of this research and the broad assumptions about how the reality is, it is also important to consider ways of how to study this reality. Epistemology primarily questions the relationship between researcher and researched (Creswell, 1994). Therefore, it can be said that epistemology is related to study and validity of knowledge (Collis and Hussey, 2003). The objective and subjective ontological assumptions pose two epistemological positions: positivism and interpretivism (Collis and Hussey, 2003; Bryman, 2004).

The positivism is concerned with studying the nature of causal relationship amongst elements constituting the model (Morgan and Smircich, 1980). The positivist believe that researchers can only observe the phenomenon and the relationship between various constructs without

interfering in these relationships by maintaining their independent stance (Keat and Urry, 1982).

There are several characteristics of positivism: a) the phenomena and knowledge can only be confirmed by the senses; b) the function of the theory is to produce hypotheses which will be tested to explain the law; c) facts are gathered to reach to the knowledge; d) science must be carried out in value free manner (Bryman, 2004). While phenomenological epistemology deals with the processes through which human beings identify their relationship to their world (Morgan and Smircich, 1980). It also maintains that people and their institutions are fundamentally different from natural sciences. Therefore, human beings try to lessen the detachment between themselves and researched area (Creswell, 1994; Collis and Hussey, 2003).

As the researcher has taken a position in the middle with closer to objectivism in ontological assumptions, therefore, he has also taken a position on the epistemology closer to positivism. The researcher views that knowledge can be gained through social reality without separating the researcher and the area to be researched (Johnson and Onwuegbuzie, 2004). Consequently, researcher has the conviction that it is essential to examine the nature of relationship amongst social phenomena, which is the relationship between different elements of board composition, board roles and firm performance. It is these notions that inform this research design, which is discussed next.

4.3 Research Design

Various authors have defined the research design for example Saunders et al., (2009) is of the view that it is the overall scheme of the study to answer the research question, while, Royer and Zarlowski (2001) has defined the research design as “the framework through which the various components of a research project are brought together: research question, literature review, data, analysis and results.” Kerlinger (1986: 279) has provided a more comprehensive definition:

“Research design is the plan and structure of investigation so conceived as to obtain answers to research questions. The plan is the overall scheme or program of the research. It includes an outline of what the investigator will do from writing hypotheses and their operational implications to the final analysis of data. A structure is the framework, organisation, or configuration of ... the relations among variables of a study. A research design expresses

both the structure of the research problem and the plan of investigation used to obtain empirical evidence on relations of the problem.”

The above definitions make it clear that research design has the pivotal role in the entire research activity. Blumberg et al., (2008) is of the view that it is an outline of the relationship amongst various constructs to be studied. It is also elaborated by Bryman and Bell (2007) that research design is selection of research method, sampling decision, collecting and analysing data, and interpreting the results with time and cost decisions as well. The most common research design in social sciences is non-experimental research design where the researcher doesn't interfere in the natural settings of the organisation (Smith and Dainty, 1991). Traditionally there are two approaches to research methodologies: quantitative and qualitative. The quantitative methodology is closer to positivism objectivism while qualitative methodology is closer to interpretivist or constructivist approach in epistemological stance (Monk and Raphael, 2001).

4.4 Research Design and Methods

The review of literature in the above section advocates that no single or standard method of conducting the research is without its pros and cons. However, the availability of resources and the nature of required information will decide the research design and data collection method (Smith and Dainty, 1991). The study spots itself in the board structural characteristics related literature (Huse, 2005; Van Ees et al., 2009) which is deductive in nature and builds a model to epitomize the causal relationship based on existing theoretical notion (Monk and Raphael, 2001). Pakistan traces its financial and accountancy legacy from Anglo-Saxon background and the financial and auditing and accounting institutions have been fairly developed as a survey of corporate governance conducted in 2007 in Pakistan by IFC shows that high level of compliance is adhered in Pakistan regarding IAS/IFRS. Pakistan lies in the upper middle tier with a score of 70 out of 111 regarding compliance to international accounting practices (Ding et al., 2009). The capital markets have been performing and the banking sector has been vibrant (Khalid and Hanif, 2005), therefore, in this study, the quantitative approach seems the most appropriate to establish the relationship between board structural characteristics, board roles and firm performance following the board research studies for example Gabrielsson and Winlund, (2000); Van den Berghe, (2007) and Minichilli et al., (2009).

The data collection technique used in this study is based upon the analysis of previously collected data in the form of annual reports which comprise of official and certified statistics of public listed companies on the Karachi stock Exchange (KSE) of Pakistan from year 1999 to 2005. In keeping with the nature of this study, the researcher had to depend on the archival data. The time period selected for this study is from the year 1999, with the only reliable document in this time period was the published annual reports of the companies. To ensure the validity and reliability, this study conducted a thorough literature review in all perspectives pertinent to corporate governance, and specifically corporate governance reforms in Pakistan, board structural characteristics and board roles. The following sections will discuss the issues regarding sampling and data collection in this study.

4.5 Sample Selection and Data

This section describes the procedure adopted for sample selection, the kinds of data used, and the sources of the data used in executing this study. In particular, the section is divided into four subsections. Subsection 4.5.1 will describe the procedure for sample selection; subsection 4.5.2 will describe the rationale for selecting the sample, whilst subsection 4.5.3 will present the types and sources of data used in the study.

4.5.1 Sample Selection Criteria

The sample firms used in examining the board structural characteristics, board roles, and financial performance link were drawn from companies listed on the KSE Ltd, Pakistan. As at 31 December 2005, a total of 662 companies were officially listed on KSE. The official list of all the listed firms was obtained directly from the archives of the State Bank of Pakistan Library and KSE. The list was also crosschecked against the list provided on the KSE's official website, which is available at: <http://www.kse.com.pk>, accessed in July 2012.

In the beginning, the financials industry with 164 firms, oil and gas sector 15, and utilities industry with 13 firms, which together accounts for approximately 31% of the entire population were excluded from the sampling frame for three eminent reasons. Firstly, they are heavily regulated, which may influence in a different way on their governance structures and financial performance (Yermack, 1996; Cheng et al., 2008; Guest, 2009). SECP code does not apply to financial firms, such as banks, insurance companies, mutual funds, and modarba companies. These financial sector companies are governed by special statutory legislations by the regulations from the State Bank of Pakistan (SBP). Secondly, financial firms are highly geared and have unique capital structure, which can affect financial

performance differently (Lim et al., 2007). Finally, excluding these financial sector companies and heavily regulated state owned enterprises can help making comparisons with past studies (Bontis et al., 2000; Haniffa and Hudaib, 2006) who have also excluded such firms.

In total, there are seven major industries, including textiles, consumer goods, financials, chemicals, industrials, oil and gas, and utilities. However, the firms were selected from only four major sectors namely, textiles, chemicals, consumer goods, and industrials. Table 4.2 presents a summary of the sample selection procedure. Appendix-A shows the industrial composition of all companies that were listed on the main board of the KSE as at 31 December 2005. Table 4.2 presents the industrial composition of listed firms available to be sampled and final sample of the firms for which full data is available for all the six years. Appendix-B gives the names of all the companies included in the final sample. Together, the four industries account for approximately 69% of the entire KSE population of listed firms.

To qualify for the final sample, a firm has to complete the following two decisive factors: Firstly a company's full six-year annual reports from 1999-2001 and 2003-2005 both periods inclusive must be available because the researcher has built up a special data set for comparison of two time durations of 3 years each to judge the performance of the companies prior and after the implementation of SECP code following the method adopted by Brick and Chidambaran (2010). Our data sample is on both sides of the passage of SECP code, 2002 because 2002 is the year when SECP code was enacted and therefore, was in transitional phase of implementation. Secondly, its corresponding six year stock market and financial accounting related information must also be available for calculating Tobin Q. These criteria were imposed for the following important reasons.

Table 4.2: Sample Characteristics

Type of Business	Number of Companies (Data Available)	Total Sample Size (n = 200)	Total no. of companies listed	% of Total Non-financial Companies listed (n = 464)
Textiles	80	40 %	220	47%
Consumer goods	50	25%	104	22%
Chemicals	36	18%	70	16%
Industrials	34	17%	70	15%

Firstly, the criteria helped in meeting the conditions for a balanced panel data analysis, which is feasible for only those firms having data available for several consecutive years (Cheng et al., 2008; Brick and Chidambaran, 2010). The two time periods provide identical time slots to judge the effect of an externally imposed regulation (Brick and Chidambaran, 2010) such as SECP code. There are several advantages for using panel data in the studies. By combining time series of cross-sectional observations, balanced panel data provides: (i) more degrees of freedom; (ii) reduced collinearity amongst variables; (iii) more margin for cross-sectional and time series variability; (iv) more asymptotic effectiveness; (v) more revealing data; and (vi) account for increased observable and unobservable firm-level heterogeneity in individual-specific variables (Gujarati, 2003). It is also a well-timed appropriate answer to recent calls for the use of panel data in corporate governance studies to address inherent statistical problems, such as endogeneity (Larcker and Rusticus, 2007). A potential drawback of the data collection may be that it might bring survivorship bias into the sample selection process. Nevertheless, and as will be discussed further in the next section, this criteria generated relatively larger sample size in comparison with those of prior Pakistan centric studies to the extent that the generalisability of the research results may not be significantly impaired.

Secondly, it is in line with prior researchers of corporate governance who have used panel data (Yermack, 1996; Gompers et al., 2003; Bhagat and Bolton, 2008; Brick and Chidambaran, 2010). Thirdly, contrary to much of the existing literature that uses only one time window to judge the influence of a law (e.g. SOX), this study takes two time slots of equal time durations with balanced panel data set by collecting data for only those companies for which the data is available for both of the time slots. Fourthly, the first panel of the sample begins from the 1999 financial year and goes till 2001, making three years before the introduction of the SECP code of 2002 and second panel of the sample starts from 2003 and goes till 2005 to make a data set for three years after the introduction of the code. Because 2002 was the year SECP code came into force for all public limited companies listed at KSE to either comply with its provisions or explain that why they were unable to comply. Finally, the sample ends in 2005 and thus enables comparison of two equal time windows, taking the year 2002 as the mid-year and going three years in the past before the implementation of SECP code and three years after the implementation of SECP code.

4.5.2 Rationale for Sample Selection

There are several theoretical, empirical, and practical reasons which motivated our research and sample frame to be based upon public listed companies on KSE in Pakistan. Firstly, the public limited companies are subject to more strict regulations regarding disclosure quality and quantity therefore, it is easier to collect data for the required variables (Beattie et al., 2004; Hassan and Marston, 2008). In Pakistan there are no publicly available records for small firms. Specifically, there is evidence that shows that corporate disclosure is positively correlated with firm size. Lang and Lundholm (1993) are of the view that public firms can meet the expenses needed to disclose information as per the requirement of the law while non-listed companies struggle to afford in comparison with their listed bigger counterparts due to cost implications. Secondly, public firms are usually under more public pressure and stringent institutional scrutiny because of their size and the involvement of public money which compels them to disclose more. Thirdly, public firms are more diverse and complex with respect to the scale of their business operations, segments, markets served and dispersed geographical locations (Marston and Shrikes, 1991), and therefore are bound to disclose more. For example, it can be said that a multinational organization would have to disclose more than a small local non-listed firm.

Fourthly, prior literature advocates that firm size is positively associated with the political costs of strict regulations, nationalisation, taxation, and break-ups (Andreasson, 2009). Therefore only comparatively larger firms can cope with the requirements of these externally imposed regulations as they have more incentives resultantly (Shrikes, 1991). Finally, prior literature suggests that larger firms are prone to greater agency problems and are in higher need to woo new external capital (Core, 2001; Beiner et al., 2006). Therefore, it is clear that public listed firms are required to disclose more in order to diminish the information asymmetric problems of adverse selection and moral hazard.

Fifthly, the final 200 sampled firms, which made a total of 1200 firm-year observations, form a significant percentage of the total possible sample, drawn from the KSE population. It constitutes approximately 43% of the useable final sample of 464 and the total population of KSE listed firms of 662, respectively, which is a sufficiently large sample according to central limit theorem (Anderson et al., 2007). Table 4.2 also shows the industrial composition of the 200 firms for which a full six-year data is available. The textile sector remains the largest with 80 firms out of the total 200 firms, accounting for 40%. By contrast, consumer

goods, chemicals, and industrial manufacturing industries together accounts for 60% of the total 200 sampled firms. This is consistent with the composition of the total population of these industries. Some of the sectors had very small number of firms. For example, 3 pharmaceuticals companies were added into chemicals.

Finally, for practical implications, the sample of 200 was on the higher end because the corporate governance variables had to be manually extracted as no database had these variables, which had been a highly labour-intensive activity (Hussainey et al., 2003; Beattie et al., 2004). Consequently, practical restrictions of time, effort and finance meant that the sample had to be modest as well as significant and reliable enough to make a noteworthy contribution, while simultaneously ensuring that the study can be concluded within the stipulated time-frame of a PhD.

4.5.3 Data Collection Process

The collection of old archival data physically was the most daunting effort in a country with low research culture and no proper arrangements of storage of annual reports. The study needed to extract two types of data in examining the relationship between board structural characteristics, board roles, and firm financial performance in the backdrop of the impact of externally imposed regulations by SECP. The first category comprises of the board structural variables and the second category was financial data. Therefore, all the corporate governance variables were extracted from the annual reports of the sampled companies listed on the Karachi stock exchange (KSE). In Pakistan, the old archival data is not available in digitized form. It was the most difficult task to find the annual reports for the companies listed on KSE in 1999 and going forward till 2005. The annual reports were not available at one location. The biggest collection of annual reports was only available with the library of State Bank of Pakistan (SBP) which is the central bank of the country. The problem further deepened when the reports for the consecutive six years were not available for many companies. As a result, those companies whose annual reports were not available in SBP library were contacted personally.

After all efforts we were able to find the reports for almost 200 companies for consecutive six years. Most of the reports were stored in the godowns which were full of dirt, mud and moisture. Consequently, the researcher had to take out these reports by physically entering into such old and dark rooms with some of them having small insects on them. Every day, when I ended up to find these reports in the store, the people working over there were unable

to recognize me as my clothes and hair were full of dirt and spiders' webs. Eventually, I got these reports photocopied. Now the next big task was to go through these almost 1200 annual reports to extract the required information manually. This took me almost six months to extract and key in the data. A significant strength of this study is the data collected which is now the biggest data repository regarding KSE listed companies. A considerable amount of effort were put down to increase the sample size but the available data volume could not exceed 200 listed companies excluding the financial and those sectors which have presence of State funded enterprises. We have taken only those companies for which data for consecutive six years were available. In the past studies, nobody has taken more than 50 companies to conduct research on corporate governance area in Pakistan (Javid and iqbal, 2008). As we have explained in the earlier paragraph, the criteria was to find the annual reports for consecutive six years as well as the availability of financial data in the DATA STREAM for 6 consecutive years from 1999 to 2005.

Using the above criteria, the data required is obtained for a total of 200 firms (43%) out of the 464 firms constituting the remaining four industries as shown in table 4.2 above. For the remaining 264 of the 464 firms, all six years of financial performance data and/or annual reports could not be found. The sample of 200 firms is still large when compared with previous Pakistan based studies (Javid and Iqbal, 2007; Nishat, 2006; Saifullah, 2012). Javid and Iqbal took a sample of 50 companies for one year data to examine a direct relationship between board structural characteristics and firm performance (2007) while Saifullah (2012) took a sample of 30 listed companies also for one year cross sectional data. As far as our knowledge is concerned, ours is a novel study with panel data in Pakistan with comparison of two time periods.

4.5.4 Data Sources

The researcher has made use of annual reports to manually extract the corporate governance data for several reasons despite the existence of other means by which companies can disclose timely corporate governance information (Hassan and Marston, 2008). Firstly, the Companies Act of 1984 and the KSE Listings Rules instruct the listed firms to issue and publish the data in the annual reports. In the literature, it has been argued that the mandatory nature of audited annual reports makes them a regular and most reliable source of corporate governance information (Lang and Lundholm, 1993; Botosan, 1997). In keeping with the provisions in law, a firm can be sued for providing incorrect information.

Secondly, prior evidence suggests that annual report disclosures of the data are positively associated with the magnitude of disclosure provided through alternative media (Lang and Lundholm, 1993; Botosan, 1997).

Thirdly, the major independent professional corporate governance research and ratings organisations, for example AIMR, CLSA, GMI, and S&P give 40 to 50 % more weight to annual report disclosure as compared to other media or reports for example quarterly or other published information (Botosan and Plumlee, 2002; Hassan and Marston, 2008). Therefore, annual reports are considered as one of the most reliable sources of corporate information.

Fourthly, there is evidence in the literature that the annual reports are the most important and trust worthy corporate reporting document, and every other financial report or document is in one or other way subsidiary or supplementary to them (Botosan, 1997). Fifthly, practically only company annual reports were consistently available in the printed format in Pakistan as there was no trend of keeping digital archives of data before 2009. Finally, using company annual reports is also in line with prior studies in the corporate governance literature, which can make possible the direct comparison with the past results (Yermack, 1996; Cheung et al., 2007).

4.6 Using the Panel Data

Panel data analysis has gradually become a more popular form of longitudinal data analysis amongst the social and behavioural science researchers. A panel is a cross-section or group of entities whose information is periodically collected over a period of time; however, the regression results of a panel data are different from a normal time series or cross-section regression by nature as it accounts for not only the time effect but also the entity effect. Panel data has an inherent advantage over the time series and cross-section studies to control for the heterogeneity as it also controls for individual heterogeneity by suggesting that entities are heterogeneous while time series and cross-section studies don't control for heterogeneity and therefore are prone to the risk of receiving biased results. Panel data provide more information, increased variability, less collinearity among the variables, more degrees of freedom and increased efficiency while time series are beleaguered with multicollinearity. However, the presence of multicollinearity in the data has been checked in the later section 4.6.4. Another very important feature of the Panel data is that they are better able to study the *dynamics of adjustment*. The panel data also overcomes the inherent weakness of Cross-sectional distributions that seem relatively stable but are actually unable to realize and show

the changes over the time span. Panel data are better able to ascertain and gauge even those effects which may not be detectable by simple cross section or time series. The panels allow the researcher to test and examine more comprehensive data models by using the techniques of mediation and moderation (Baltagi, 2001). Panel data are usually gathered on micro units, like firms and many variables can be operationalized more precisely at the micro level, by eliminating their inherent weaknesses (Blundell and Meghir, 1990).

There are some limitations of panel data as well for example data collection and data management is a big issue as there may be non-response errors or the data for the same entity may not be available in the subsequent waves of data collection. Similarly, measurement errors may arise due to memory errors, unclear responses, and misrecording or misreporting of data. The researcher has overcome this problem by using only the balanced panel data from the annual reports in spite of trusting on the memory of respondents and used only certified and officially presented data. The researcher has also chosen the sample for the firms having the data available for all the number of years to be studied in this study. As discussed in the section above, the annual reports data is widely considered the most reliable data source for a public listed firm.

Panel data analysis is a technique of studying a particular subject within multiple positions, at regular time intervals observed over a defined time frame. Within the realm of social sciences, panel analysis has enabled researchers to carry out longitudinal analyses in a vast variety of fields (Yaffee, 2003). This study uses panel data to investigate and examine the relationship of board related data with the performance of firms over time. This study uses panel data for a period of six years from 1999 to 2005. This is the period when SECP code was promulgated which increased the pressure upon the firms for making changes in their board structure. The novelty of this study is to take two panels of equal time duration and compare the results before and after the implementation of SECP code by using a mediation model. Choosing the period from 1999 to 2005 enables us to capture the impact of the SECP code on corporate governance in the Pakistan. However, not all companies complied with the Code immediately (Ibrahim, 2005) after it was introduced. Therefore, to judge the influence, we took a period of three years excluding 2002, as it was the starting year. The Code required the compliance of corporate governance rules immediately for all the firms excluding only financial sector firms and state owned enterprises (SECP code, 2002). The researcher therefore chose the non-financial firms registered on KSE from 1999 to 2005 to analyse the impact of SECP on Pakistani firms.

4.6.1 Fixed Effect versus Random Effect Models: The Hausman Test

Panel data models examine fixed or random effects of entity (individual or subject) or time. The major difference between fixed and random effect models lies in the role of the dummy variables associated with each entity in the panel. If dummies are considered as a part of the intercept – i.e. a different effect for each entity –this is a fixed effect model. In a random effect model, the dummies are subsumed into the error term. A fixed group effect model examines group differences in intercepts, assuming the same slopes and constant variance across entities or subjects. A random effect model, by contrast, estimates variance components for groups (or times) and errors, assuming the same intercept and slopes. The difference among groups (or time periods) lies in their variance of the error term, not in their intercepts. According to Baltagi (2001), there are too many parameters in the fixed effects model and the loss of degrees of freedom can be avoided if the unobservable individual specific effects are assumed to be random.

As a result, the researcher had to select one specific model as presenting all possible models may not be feasible. The Hausman specification test is the classical test to determine whether the data possesses the fixed or random effects. The Hausman specification test compares the fixed versus random effects under the null hypothesis that the entity or individual effects are not correlated with the other regressors present in the model (Hausman 1978). Therefore, the important question is whether there is significant correlation between the unobserved firm-specific random effects and the regressors. If there is no such correlation, then the random effects model may be more robust and parsimonious. If such a correlation exists in the data, the random effects model would be inconsistently estimated and the fixed effects model would be the model of choice (Greene 2003). However, the Hausman test is also not free of limitations. The test needs such estimators which are completely efficient by nature but may not be available in most of the studies because of their nature such as in case of analysing complex survey data. But as the design of this study is such that it is not using any kind of survey, therefore, this limitation can be avoided. Second, the commonly used Hausman test is concerned only to the test of the equality of two estimators. (Baltagi, 2001).

This study found out, after applying Hausman test by using STATA, that null hypothesis on no correlation between firm-specific effects and regressors can't be rejected because the value for $\chi^2 = 4.67$, $\text{Prob} > \chi^2 = 0.8453$ and $\chi^2 = 4.45$, $\text{Prob} > \chi^2 = 0.8148$ for both the models respectively which clearly indicates that $\text{Prob} > \chi^2$ is higher than 5% and is

insignificant for both the models which shows that the assumptions for the fixed effects estimators are not feasible and statistic favours random effect.

Therefore, it is appropriate to use regression using random effects model to test the hypotheses of this study for both of the panels (before and after the implementation of SECP code). Therefore, the regression has been run by using random effects to analyse the moderation effect in the mediation model.

4.6.2 Testing for Serial Correlation in the Data

The classical error term disturbances given by panel data regressions assume that the only correlation over time is due to the presence of the same individual across the panels. This may be a restrictive assumption for economic relationships where an unobserved shock will affect the behavioural relationship for at least the next few time periods (Baltagi, 2001). Consequently, the presence of serial correlation in linear panel-data models biases the standard errors and causes the results to be less reliable. Therefore, researchers need to identify possible serial correlation in the idiosyncratic error term in a panel-data model (Drukker, 2003). Baltagi (2001) extensively discusses testing for serial correlation in the presence of random and fixed effects. Though serial correlation tests apply to macro panels with long time series (over 20-30 years) and it is not a problem in micro panels (with very few years). Although our data is for 2 panels of 3 years' time period each, we have used this test to judge the effect of cross-sectional dependence. Serial correlation causes the standard errors of the coefficients to be smaller than they actually are and report higher R-squared. The null is no serial correlation. Our test results reveal that $F(1, 200) = 0.214$ and $\text{Prob}>F=0.6603$. Therefore, the null can't be rejected and it can be conclude that the data does not have first-order autocorrelation.

4.6.3 Testing for Heteroskedasticity in the Data

The standard error component model in a panel data regression assumes that the regression disturbances are homoskedastic with the same variance across time and entities. This may be a restrictive assumption for panels, where the cross sectional panels may be of varying sizes and may exhibit a different variation. The large panel with longer span of time have more chances to be overwhelmed with heteroskedasticity (Baltagi, 2001). In order to control the effect of heteroskedasticity, the study has used the balanced panels with short span of time. In addition, a test called the modified Wald test for group wise heteroskedasticity was conducted and it revealed that $\text{Chi}^2(200) = 42.77$ and $\text{Prob}>\text{Chi}^2 = 0.000$ there is presence of

heteroskedasticity; therefore, it is needed to run random effects with ‘Robust’ command in STATA to control for heteroskedasticity.

4.6.4 Testing for Multicollinearity in the Data

If the explanatory variables are independent beyond the influence of other explanatory variables, then it will not cause any change in the coefficients of other variables if they are removed or added in the regression equation and they are called *Orthogonal* (Brooks, 2003).

Researchers expect that there will be no relationship between explanatory or independent variables. Practically, however, the relationship between variables is non-zero. Thus, changing variables will lead to a change in the value of the coefficient of the regression equation. However, the smaller degree of association between the variables will not cause much harm to the precision of the values, however, if the correlation between explanatory variables is above the appropriate level, the glitch of correlation between explanatory variables will have a serious effect on the regression equation and the results may be considered as biased and would be plagued by multicollinearity problem (Brooks, 2003).

According to Chatterjee and Price (1991) the value of the variance inflation factor (VIF) is most commonly used and is popularly known as ‘rules-of-thumb’ for evaluating multicollinearity. If the value is larger than 10 then it is the evidence of multicollinearity as well as a mean of the factors considerably larger than one suggests multicollinearity. In our case the mean value of VIF are 2.53, which is less than 10 as well as individually none of the variables had VIF more than 10 and thus suggests absence of multicollinearity in the data.

4.6.5 Testing for Endogeneity in the Data

Most of the estimation techniques used in the early corporate governance literature have been disapproved for assuming that a firm’s governance standards are exogenous factors to firm value and performance (Mehran, 1995; Klein, 1998). However, several authors, such as Hermalin and Weisbach (2003), Denis and Kruse (2000), and Wintoki et al. (2010) argue that firm performance and corporate governance data are prone to the problem of endogeneity as the relationship is simultaneously determined by unobservable firm-specific factors and that governance changes are determined by past, present and/or in future expected characteristics of the firm. Moreover, Wintoki et al. (2010) classifies three potential sources of endogeneity, namely unobserved heterogeneity, simultaneity and dynamic endogeneity. Indeed, there is enough evidence suggests that all three exist in the governance–performance relationships

(Lilling, 2006; Hartzell et al., 2006). Therefore, the results of studies ignoring these estimation issues should be interpreted with great caution.

However, Yermack (1996) and Himmelberg et al. (1999) are of the view that the problem of endogeneity can be overcome through using panel estimation techniques. Such an assumption is plausible within a panel dataset exhibiting a small time series and large cross section, as unobservable firm attributes are improbable to vary significantly over a small period of time. Therefore, this study, as discussed in section 4.5 above is implementing a random effects panel specification in an attempt to overcome estimation issues associated with endogeneity. These estimates are also robust to dynamic endogeneity, firm random effects, endogenous regressors, heteroskedasticity and serial correlation in the management of firm performance.

4.7 Mediation Models for the Panel Data

There could be many reasons for which panel data are to be preferred for the testing of mediation hypotheses in social sciences research but the most important of these reasons relates to the quality of the results from a mediation model using panel data are more reliable than using cross sectional data and in fact this is valid in testing mediation in any field. The application of conventional mediation models to cross section data is plagued by many problems. Three such problems are described by Gollob and Reichardt (1987). First, the causal relationships inferred by the paths in the mediation model take time to unfurl, but, the use of cross-sectional data indicates that the effects are immediate. Obviously such an assumption is challenging on logical basis. Second, it is well known fact that results drawn on a causal model that omits a key predictor can be seriously biased, but a model based on cross sectional data excludes several key variables which were measured at previous times. When the researcher doesn't control for the previous levels of the variables, the paths in the mediation model may be over- or underestimated as compared to their true values. Third, effects unfold over time, and it is not expected that the volume of a causal effect will remain the same for all possible time intervals. The most important drawback of using the mediation model to cross-sectional data assumes that not only the causes are instantaneous, but also the magnitude of the effect is independent of the length of time that intervenes between the measurements of the variables. First Cole and Maxwell (2003) and then Maxwell and Cole (2007) elaborate on the drawbacks of using cross-sectional data to mediation models, showing that severe bias is highly likely in this situation. Another very important advantage of using panel data estimation technique is to avoid dynamic endogeneity (Wintoki et al.,

2010) which is commonly found in governance performance studies. The endogeneity has been discussed in detail in the section 4.6.5. As discussed earlier, our study uses the model to identify the relationship between board structural characteristics, board roles, and firm performance before and after the implementation of SECP code and to analyse the predicted hypotheses developed from existing literature.

Mediation models for panel data have much to offer for improving statistical inference by allowing the examination of inter-firm variation. However, the choice to use panel data adds considerable complexity to the mediation model. A major part of the complexity is inherent in using panel data in the analysis irrespective of fact that which type of model is used. For example, two of the issues are common to any panel data model but the third is specific to panel mediation models. The foremost issue relates to the “theory of change” (Collins, 2006), which describes whether the variables in the model would change or not and if they get changed then in what aspect the change will occur (Ram and Gerstorf, 2009). In our case, the change in the model may be because of implementation of SECP code. The second important factor is the role of time in any model. This applies to choosing the duration of researchers’ interest in the life of the participants; choosing the length of time for which the participants will be followed. In this study, the researcher is using a time span of 6 years divided equally in two panels of data of three years each to catch the effect of change by comparing the pre and post implementation eras (Brick and Chidambaran, 2010). The third issue is related with multiple natures of indirect effects possible when using panel data estimation. Dissimilar to the three-variable mediation models for cross-sectional data where only single indirect effect is examined, mediation models for panel data often provide with multiple and different types of indirect effects.

Therefore, mediational models are concerned with elucidating the mechanism by which an independent variable exerts its impact on a dependent variable through a mediating variable. Four conditions are necessary for the presence of a mediation effect (Baron and Kenny, 1986). First, the independent and dependent variable(s) has to be correlated. Second, the independent and mediator variable(s) must be correlated. Third, the mediator and dependent variable(s) must also be correlated. Fourth, the effect of the independent variables on the dependent variable must change when controlling for the mediating variables. Some of our results provide partial support for the conditions necessary for mediation in both steps of the model.

By looking at table 5.5, it is clear that the moderating impact of SECP variable, which toggles between pre- and post-implementation era of corporate governance reforms, is significant. It suggests that after the implementation of SECP code the effects of board structural characteristics like percentage of non-executive directors on the board and diligence of audit committee are stronger and the effect of combining the role of CEO/Chairperson of the board is weaker. The results also reveal that frequency of board meetings partially mediates the relationship between board structural characteristics of percentage of non-executive directors, role duality as CEO also the Chairman board, diligence and independence of audit committee and Tobin Q as firm financial performance measure. Similarly, looking at table 6.6 it is revealed that SECP code implementation influences positively the board resource provision role (board size) which partially mediates the relationship between percentage of non-executive directors, role duality, and audit committee independence and Tobin Q as firm financial performance. However, the board roles (control and resource provision) don't mediate the same relationship when the firm financial performance is measured in terms of accounting returns as ROA.

To further explore the nature of the mediation, the researcher also used the Sobel test (Preacher and Kelley, 2011; Sobel, 1982). Given that the model used in the study has a two-step mediation process, the researcher ran multiple Sobel tests on the actual mediation effects of all relationships. There is no significant mediating effect if the Sobel test z -value is not significant such as less than 1.96, the mediation relationship is partial if the Sobel test z -value is significant such as more than 1.96 and the full mediation relationship exist if the Sobel test z -value is significant (> 1.96) and the effect ratio is greater than 0.8 (Jose, 2008). The tests support the somewhat partial mediating role for the above-mentioned mediator variables for the post SECP era by using Tobin Q as a measure of firm financial performance as discussed in the above paragraph.

Therefore, as discussed previously in this chapter, to achieve its objectives, this research goes a step ahead to identify the relationship between board structural characteristics, board roles, and firm performance before and after the implementation of SECP code by using a model which employs the moderation and mediation techniques simultaneously by using panels of data from a different perspective than USA and UK.

4.8 Analysing Moderation and Mediation

Moderation takes place when the effect of an independent variable on a dependent variable varies according to the level of a third variable, called a moderator variable, which interacts with the independent variable (Baron and Kenny, 1986; Cohen, 1978; James and Brett, 1984). Moderation is involved in research on individual differences or situational conditions that influence the strength of the relationship between an independent and dependent variable (Edwards and Lambert, 2007; Taylor and Aspinwall, 1996). To grasp the influence of change as a result of implementation of SECP code, this study follows the approach of Brick and Chidambaran (2010), by introducing a dummy variable which has value 0 in the pre-implementation time period and 1 for post implementation time period.

Currently, researchers use various methods to combine moderation and mediation process techniques. In some cases, moderation and mediation are analyzed separately, and results from these analyses are unravelled together to illustrate the combined effects of moderation and mediation. In other cases, the sample is broken up into subgroups that represent different levels of the moderator variable, and then mediation is examined within each subgroup afterwards (Edwards and Lambert, 2007). The last but not the least is the causal steps procedure which is used for assessing whether the mediation is adapted to incorporate moderator variables or not, this actually helps in testing whether a previously significant moderator effect is no longer significant after controlling for a mediator variable (Baron and Kenny, 1986).

These procedures discussed above are for mediated models that exclude moderation (MacKinnon et al., 2002; Shrout and Bolger, 2002; Sobel, 1982) but have not been addressed for the models that combine moderation and mediation and work simultaneously. This study uses model that expresses relationships among variables by using regression equations, and incorporating moderation by supplementing these equations with the moderator variable and its product with the independent variable and the mediator variable (Baron and Kenny, 1986; James and Brett, 1984). The researcher has shown that how these equations can be integrated to represent moderation of the direct, indirect, and total effects of the model (Edward and Lambert, 2007). Therefore, this study goes a step ahead and uses moderation and mediation simultaneously in its framework and uses a model which is novel in its way to use an integrated framework moderated regression analysis; expresses mediation in terms of direct, indirect, and total effects; and shows how paths that constitute these effects vary across levels

of the moderator variable. The effect of SECP code before and after the implementation of the code has been captured by using the moderator dummy to distinguish between the board structural characteristics. The next section elaborates the detailed discussion about using mediation models in the corporate governance research with a special case of panel data.

4.9 Measurements of Variables

In this model the researcher has used the board structural characteristics as proportion of non-executive directors, presence of role duality if CEO is also chairperson board and structure of audit committee by discussing diligence of audit committee and independence of audit committee as provided in SECP code. As discussed in section 3.4 of chapter III, the presence of non-executive directors, which are considered independent, on the board makes the disclosed information reliable for the outside investors and shareholders. Similarly, board leadership structure with respect to the separation of chair of the board from CEO is also very important. Boards are legally bound to be fully informed about critical corporation conditions and financial reporting. Audit committees are required to show due diligence to ensure that the company has an adequate system of internal controls, duly monitors potential problems, and preserves the integrity of financial reports. They are to oversee the financial reporting process and confirm the appointment of the independent auditing firm. Additionally, they are responsible for discharging independent auditors when appropriate. Similarly, the model adopts control and resource dependence roles as mediating variables and dependent variable is financial performance of the firm. All these constructs have been operationalized by the following measures.

4.9.1 The Dependent Variable: Firm Financial Performance

This study uses the financial performance as dependent variable. The study adopts the two distinctive measurements of the financial performance based upon the prior literature such as Gompers et al. (2003), Klapper and Love (2004), Haniffa and Hudaib (2006), and Guest (2009), these two measurements are return on assets (ROA) and Tobin's Q which represent the accounting and market based measures of financial performance, respectively. The decision to use the two different measures of financial performance is motivated by two main reasons. Firstly, prior literature suggests that management or insiders and investors or outsiders value corporate governance differently (Black et al., 2006). This is because, the accounting based measure of performance (ROA) endeavours to encapsulate the wealth effects of corporate governance mechanisms from the perspective of company management

(insiders), while the market based measure (Tobin's Q) epitomizes financial valuation of corporate governance structures by investors (outsiders). Secondly, and as it will be elaborated further below, each measure has its own pros and cons and there is no consensus within the literature on a particular measure as being the '*best*' proxy for financial performance (Haniffa and Hudaib 2006). Therefore, making use of the two measures signifies an attempt to investigate the robustness of the results against both accounting and market based measures of financial performance.

ROA or return on assets is defined in this study as the book value of operating profit at the end of a financial year divided by the book value of total assets at the end of a financial year (Guest, 2009; Beiner et al., 2006). It gauges that how efficiently and effectively a firm manages its operations and uses its assets to generate rents (Ross et al., 1998). On the average, higher ROA suggests effective and efficient use of a firm's assets in maximising the wealth of its shareholders' by management.

However, there is no dearth of studies that has been apprehensive of the use of ROA as measure for accounting return due to various reasons. Firstly, they are if the view that ROA is a historical measure and represents only the past profits, but past profits can be a poor reflection of true future profitability (Ross et al., 2002). A closely related drawback of this measure is that ROA is based on historical cost accounting; it is unable to directly reflect current changes in valuation by the equity markets (Krivogorsky, 2006). Secondly, the ROA is an accounting-based measure of profitability and therefore it ignores risk, but it may not be the case as it is possible that two firms with same level of current profits are exposed to different levels of risks (Ross et al., 2002). Finally, through continuous changes in accounting policies and standards, methods and techniques, ROA is suggested to be vulnerable to all kinds of managerial manipulations like earnings management (Alexander et al., 2007). The ROA is also criticized because it is unable to distinguish between different types of risks involved for different industries and different environments. Nevertheless, the researcher has tried to diminish the potential weaknesses of this measure by controlling for industry type, firm size, and leverage in this study.

Tobin Q being the second measure of financial performance is defined in this study as the market value of equity plus the book value of total assets minus the book value of equity divided by the book value of total assets (Beiner et al., 2006; Brick and Chidambaran, 2010). Tobin Q is the alternative measure of financial performance that is used, as a proxy for the

markets' valuation of the quality of a firm's corporate governance structures. It is normally referred to as the ratio of the market value of the liabilities to the market value of the assets needed to replace these claims (Lewellen and Bradrinath, 1997). In this study, the researcher has used book value of assets as a proxy for current replacement cost of company assets due to data limitations. Usually, the Tobin Q measures the efficacy of a firm to use its assets to generate value for shareholders. Like ROA, a higher value for Tobin Q will suggest greater efficiency of a firm's corporate governance structures, as well as a better perception of a company's financial performance by the market (Haniffa and Hudaib, 2006).

The Tobin Q has been widely used by various researchers as a proxy for financial performance in the corporate governance literature (Yermack, 1996; Gompers et al., 2003; Brick and Chidambaran, 2010). The Tobin Q has enormous appeal for practical relevance in corporate governance (Henry, 2008). However, despite its immense advantage in the empirical literature in corporate governance, it is not free of criticism as well.

The most widely levelled charge against market based measure of performance is because of the magnitude of effort needed to calculate it as it is very cumbersome and tedious to compute as well as need a lot of data from different sources (Chung and Pruitt, 1994). The data needed to calculate it has been discussed in the definition mentioned in the above paragraph. Nevertheless, this ratio has also some drawbacks based upon the data provided however, gradually the accounting standard are getting stringent and the data reporting is getting more and more reliable (Alexander et al., 2007), therefore, Tobin Q is increasingly getting easier to compute in the presence of latest information technology tools as well as getting more reliable in the backdrop of recent changes in the accounting standards. Still another denigration on Tobin Q is that it may not be a true measure of the management quality for a firm's corporate governance as there may be some intangibles as well that might not have been captured in their true letter and spirit because no measure can grasp the quality of accounting (Beattie and Thomson, 2007). Some of the critics of Tobin Q are of the view that it doesn't reflect the accounting or economic essentials of a firm rather it may be motivated by the investors' emotions, overall economic conditions of the country like high inflation, and rumours spread in the market like market bubbles (Henwood, 1997). Therefore, the researcher has used both the accounting and marketing measures for firm performance with an extensive list of control variables to capitalise on the positive aspects of both of these measures to complement each other.

4.9.2 The Control Variables

The use of control or omitted variables is very important in any study because omitting an important variable may bring biased results in relationship of corporate governance and firm performance (Black et al., 2006). Therefore, a number of control variables, including capital expenditure or innovative potential (Capex), Leverage (Leverage), firm size (firm_size), director shareholdings (Dir_holdings), and industry dummies are included in the regression in addition to the main variable of importance in this model. The logic for including these variables as controlling has been discussed individually with every variable. Therefore, the researcher attributes the non-exhaustive list of control or omitted variables because of unavailability of the data with respect to this model (Chenhall and Moers, 2007).

Research and Development Ratio (Capex)

Theoretically, the firms making more investments in the field of innovation and entrepreneurship through enhanced products and services should gain competitive advantage over their competitors (Brown et al., 2009) to generate higher rents and gain premium prices for shares in the market to maximise the wealth of stockholders (Jermias, 2007). However, this investment in innovation is more capital intensive affecting negatively the current financial performance by reducing the residual profits but may have more future profits (Weir et al., 2002). But at the same time, higher investments in the field of innovation and technology requires stringent governance measures as the soft assets like patents are easier to be copied and replicated (Durnev and Kim, 2005). Therefore, the researcher has proxied the research and development ratio by dividing capital expenditure to total sales (Capex) by following the prior literature (Brown et al., 2009).

Leverage (Leverage)

The leverage has a deeper impact on the profitability of the firm and the conventional approach is that higher leveraged firms will be more profitable as Interest payments are tax deductible (Rajan and Zingales, 1995). But at the same time, the firms with higher leverage ratio will be exposed to higher credit and bankruptcy risks (Myers, 1977). This will also reduce the agency conflicts as higher leverage ratios will cause more free cash flows as well as the lenders will be demanding a direct role in the board by increasing the level of monitoring (Agrawal and Knoeber, 1996). The leverage is used as a proxy for the ratio of

total debt to total assets and it is also in line with the previous literature (Klapper and Love, 2004; Bhagat and Bolton, 2008) of corporate governance.

Firm Size (firm_size)

Firm size has widely been used in host of literature in various fields as a proxy for complexity of operations or formalization of rules and regulations because of pressure of external regulators and is found to be positively associated with subject to better and strict regime of corporate governance (Beiner et al., 2006). Therefore, larger firms may afford to disclose more information and enjoy higher market valuations (Botosan, 1997).

On the contrary, Klapper and Love (2004) suggest that larger firms may not be as innovative as smaller firms because small firms tend to have better growth opportunities, and as such they will need higher external financing. Therefore, smaller firms are also subject to stringent control measures for corporate governance for sustainability. The firm size is calculated as a natural log of total assets of a firm to further smoothing of data.

Director share ownership (Dir_Holdings)

It is calculated as ratio of the total number of ordinary shares held by all directors divided to the total number of outstanding ordinary shares in the market. The entrenchment hypothesis proposes that if the directors have higher holdings of shares they will tend to pursue their personal agendas without pursuing the value maximization for the shareholders at large and on the contrary, lower holdings will adjust automatically for alternative measures to align with the market forces (Bontis et al., 2000).

Industry Dummies

The corporate governance practices are different from one organization to other organization keeping in view the ownership levels, business lines, and complexity of operations (Lim et al., 2007). The external environment also affect differently on different industries. The prior literature on corporate governance (Beiner et al., 2006; Black et al., 2006) proposes that industry dummies may be used to control for the industry specific effects like Textile Goods (Textiles), consumer goods (Cons.Goods), chemicals and pharmaceuticals (Chemicals), and industrials and technology (Industrials), are included as controls for these four major industries. To avoid the dummy-variable trap, only three industry dummies are included in estimating any single equation.

4.9.3 The Independent Variables

The independent or explanatory variables in this model consist of various board structural characteristics as a mechanism of corporate governance. It also defines each variable and shows how they were measured. These include: the proportion of non-executive directors (%_NED); role or CEO duality (CEOdual); the diligence of audit committee (ACM), and independence of audit committee (Ind_AC).

These corporate board structure and ownership variables are measured in accordance with prior research. The proportion of non-executive directors (%_NEDs) is discussed in detail in section 3.4.2 is measured as the total number of non-executive directors divided by the total number of directors on the board (Haniffa and Hudaib, 2006). Role or CEO duality (CEOdual) as discussed in detail in section 3.4.2 is a dummy variable that takes the value of “1” if the positions of company chairman and CEO are combined, otherwise “0” (Brick and Chidambaran, 2010; Kiel and Nicholson, 2003). Also discussed in depth in section 3.4.3, the diligence of audit committee (ACM) is measured as the number of total audit committee meetings in held in an accounting year (Vafeas, 1999; Al-Najjar 2012). Similarly, the independence of audit committee (Ind_AC) as discussed in section 3.4.4 is also a binary variable which takes the value of “1” if a company’s audit committee is headed by non-executive director, otherwise zero (Laing and Weir, 1999; Henry, 2008).

4.9.4 Moderating Variable (SECP)

We have used the SECP variable as a moderating variable and it has been discussed in detail in section 4.6 of this chapter. This is a unitary variable which assumes the value “0” for the time period prior to the implementation of SECP code and value “1” after the implementation of SECP code. The pre SECP time period is three years from 1999-2001 and post SECP period is also three years from 2003-2005 whereas our data straddles for the year 2002 assuming it the transitional time period in which the SECP code was promulgated. It interacts with all the structural characteristics variables used in our model and the proportion of non-executive directors (%_NED) becomes (%_NED_SEC) for the post SECP period. The Role or CEO duality (CEOdual) becomes (CEO_Dual_SEC) for the post SECP time period. The diligence of audit committee (ACM) becomes (ACM_SEC) and independence of audit committee becomes (Ind_AC_SEC).

4.9.5 Mediating Variables

There are two mediating variables, board monitoring role and resource dependence role. The board control role is measured as the frequency of board meetings (FOBM) which has been discussed in detail in section 3.4.1 whereas, the board resource dependence role is measured by Board size (board_ size) is measured as the total number of directors serving on a company's board at the end of the financial year which has been discussed in detail in section 3.4.2.

4.10 Summary

This chapter first explored the philosophical foundations of the study and identified the appropriate research design and methodology for this particular research. Due to its quantitative nature, this research is based on existing theories of corporate governance and board roles research. To test research hypotheses, a conceptual model was employed and annual reports were used to collect quantitative data to be subsequently analysed using STATA. The panel data was tested by various statistical techniques to analyse the presence of random or fixed effects. This chapter reported the process of research design, sampling techniques, and data analysis techniques used to examine the panel data. The chapter further went on to discuss the process of examining mediation and moderation techniques used to analyse and operationalise the model.

In summary, various techniques were described in this chapter to analyse the panel data to test for the relationships between the variables as hypothesised in Chapter 3. The next chapter will present the findings of the regression analysis to test these hypotheses.

Chapter 5

Analysis and Results

5.1 Introduction

This chapter discusses the panel data estimation, descriptive statistics, correlations, Hausman test, and regression results with random effects. It presents not only detailed descriptive statistics of the dependent (Financial Performance) and independent (corporate governance) variables but also the results regarding correlations and regression analysis using random effects. The rest of the chapter is organized as follows. Section 5.2 reports detailed descriptive statistics for the dependent and the independent variables. Section 5.3 tests the correlation results and finally section 5.4 describes the regression results on the panel data using random effects.

5.2 Summary Descriptive Statistics

This section provides descriptive statistics relating to the proxies for the dependent (Financial Performance), independent (Board Structural Characteristics), and the control variables.

Table 5.1: Summary Descriptive Statistics

	N	Mean	Stand. Dev	Minimum	Maximum
Tobin Q	1200				
Pre 2002		1.24	1.35	.163	2.96
Post 2002		1.72	1.61	.301	5.52
Overall		1.48	1.09	.163	5.52
Return on Assets (%)	1200				
Pre 2002		6.36	11.22	-16.42	.56
Post 2002		6.68	11.61	-17.42	1.0
Overall		6.52	11.43	-17.42	1.0
Frequency of Board Meetings	1200				
Pre 2002		3.85	2.13	0	15
Post 2002		5.80	3.38	3.0	33
Overall		4.82	2.99	0	33
Non-Executive Directors (%)	1200				
Pre 2002		.34	19.3	0	68.0
Post 2002		.53	22.5	0	80.0
Overall		.44	23.0	0	80.0
CEO-Chairman-Duality	1200				
Pre 2002		.654	.479	0	1
Post 2002		.484	.499	0	1
Overall		.550	.486	0	1
No. of AC Meetings	1200				

Pre 2002		.036	.362	0	05.0
Post 2002		4.77	1.23	0	10.0
Overall		2.40	2.53	0	10.0
Independence of AC	1200				
Pre 2002		.011	.103	0	1
Post 2002		.878	.125	0	1
Overall		.494	.400	0	1
Board Size	1200				
Pre 2002		7.76	1.27	6	14.0
Post 2002		10.22	1.15	6	14.0
Overall		9.00	1.22	6	14.0
Leverage (%)	1200				
Pre 2002		26.96	16.18	-1.70	14.62
Post 2002		22.27	17.01	.01	15.21
Overall		24.61	16.84	-1.70	15.21
Directors' Share (%)	1200				
Pre 2002		24.47	19.83	0	.81
Post 2002		23.84	19.53	0	.61
Overall		24.66	19.81	0	.81
Capital Expenditure (%)	1200				
Pre 2002		4.10	4.18	.24	7.42
Post 2002		4.30	3.90	.37	10.69
Overall		4.20	4.01	.24	10.69
Firm Size	1200				
Pre 2002		13.28	1.08	6.93	15.77
Post 2002		13.54	1.21	6.86	16.10
Overall		13.40	1.160	6.89	16.10

As shown in the Table 5.1, we start with the dependent variables of our research and discuss the marketing and accounting performance of the sampled firms. We have used Tobin Q as firm value. We calculate the firm's Tobin Q as the ratio of the total market value of the firm, defined as the market value of the equity plus the book value of the total debt to the book value of the firm's total assets. We have also included an alternative performance measure as return on assets which is defines as the ratio of earnings before interest, depreciation and amortization to the book value of total assets The results show that Tobin Q and Return on Assets were higher in the post 2002 era as compared to the performance in the pre-2002 era having mean value for Tobin Q as 1.72 in the post SECP Code implementation era and 1.24 in the pre SECP Code implementation era with an average Tobin Q of 1.48 for all these years starting from 1999 to 2005. Similarly for Return on Assets (RoA) is 6.68% in the post 2002 era and 6.36% in the pre-2002 or before the implementation of SECP Code 2002. The

average of Return on Assets is 6.52% for the overall time period from 1999 to 2005 which posts no big difference overall.

The results for frequency of board meetings activity ranges from 0 to 33 with mean of annual number of board meetings is 4.82 for the overall time period from 1999 to 2005. The results also show the increasing trend in board activity after the implementation of SECP Code for corporate governance since 2002. The statistics reveal that the mean of annual number of board meetings after 2002 is 5.80 as compared to 3.85 in the pre-2002 era while the mean for the overall time period has been 4.82. This shows a clear increase in the board activity in the post-SECP implementation era. The average number of board activity is 4.82 for the overall time period from 1999 to 2005 which is also higher than the minimum of 4 recommended by the SECP code.

The percentage of independent directors has the mean as 44.0 % for the overall time period from 1999 to 2005. The results also show that the proportion of independent directors increased to 53% in the post-2002 era from 34.6% in the pre-2002 era, which shows an adequate increase in the independent board members proportion after the implementation of SECP Code of Corporate Governance since 2002 in Pakistan.

The CEO-Duality is a dummy variable which represents the entrenched CEO and is equal to 1 when the CEO is also the chair of the board of the directors. On the average there has been 55.0% of the firms with same person working as CEO as well as chairperson of the board for an overall period from 1999 to 2005. The figures indicate that from the pre-2002 to the post-2002 time periods CEO-Duality went down from 65.4% to 48.4%, following the implementation of SECP Code of Corporate Governance since 2002 in Pakistan. This shows a trend of decreasing trend of entrenchment after the implementation of Corporate Governance laws.

The mean value for the frequency of audit committee meetings or the diligence of audit committee for the overall time period of 1999 to 2005 is 2.40. The value for the pre 2002 period is .036 which shows that there were very few number of meetings before the implementation of SECP Code of Corporate Governance while the frequency increased substantially to 4.77 in the post 2002 era which is also in line with the Corporate Governance guideline of 2002 which say that there should be at least 1.0 meeting of audit committee in every quarter of the year. The situation also gets clear by looking at the number of firms having audit committees before 2002.

The Ind_AC is a dummy variable which is equal to 1 when the audit committee is headed by a non-executive director in an organization. The mean value for the overall time period of 1999 to 2005 for the independence of audit Committee is 49.4%. While looking at the figures in more detail, it is revealed that only 1.1% of the sampled firms had Audit Committees headed by non-executive directors before the implementation of SECP code while there is a contrasting difference by looking into the figures in the post implementation phase of our study from 2003 to 2005. It shows that there have been 87.8% firms having independent Audit Committee as part of their organizational setup after SECP code.

The size of the board of directors indicates the number of directors as board members. The mean value of the size of Board is 9.00 for an overall time period of 1999 to 2005. But looking in to the board size of our sampled firms with respect to the before and after the implementation of SECP code reveals that there is a visible difference of board size in both the time periods. The board size before 2002 has been 7.76 and after 2002 have been 10.22.

R&D or Capital Expenditure ratio is the level of annual capital expenses scaled by total sales of the firm (capex). The mean value for capex ratio is 4.20% for an overall time period ranging from 1999 to 2005. While the mean value for the pre and post 2002 period is 4.10% and 4.30% respectively. The figures tell us that there is no noticeable change in the ratio before and after the implementation of SECP code.

The firm's long term debt divided by total assets has been used as a measure of firms' leverage. In our sampled firms the mean value for the proportion of Leverage is 24.61% for an overall time period ranging from 1999 to 2005. The figures also reveal that there is no substantial difference in the ratio between before and after SECP Corporate Governance Regulations of 2002.

Directors' share shows the percentage of shares held by the directors of the organization and the mean for this is 24.66% for the overall time span of the research ranging from 1999 to 2005. The results also prove that there is no noticeable difference between the pre- and post-2002 eras. The mean value for the Directors' shares for before and after the implementation of corporate governance regulations of 2002 are 24.27% and 23.84% respectively.

Firm size is the log of total assets of the firm. The statistics reveal that average size of the firm is not much different ranging over the period of 6 years from 1999 to 2005. The figures tell us that the mean firm size for an overall time period under the lens of the research is

13.40 which stands at 13.28 and 13.54 respectively for the pre and post 2002 era which marks the implementation of SECP Corporate Governance Regulations.

5.3 Correlation Analysis

Table 5.2 reports the intercorrelations for this study's key variables: Tobin Q; ROA; Frequency of board meetings; Proportion of Non-Executive Directors; Directors' Entrenchment; Frequency of audit committee meetings; Presence of audit committee; Board size; Leverage; Directors' share; capex ratio and Firm Size on the basis of total assets of the firm.

There is a significant positive correlation ($r = .170, p < .01$) between Tobin Q and Return on Assets. As expected, there is also a significant positive correlation ($r = .217, p < .05$) between frequency of board meetings and Tobin Q as well as between frequency of board meetings and return on assets ($r = .138, p < .05$). So, there is a higher magnitude of correlation with Tobin Q. The intercorrelations is also positive ($r = .208, p < .01$) between proportion of non-executive directors and Tobin Q as well as between proportion of non-executive directors and return on assets ($r = .064, p < .05$). However, the relationship is stronger and more significant in case of Tobin Q. The same positive relationship exists between proportion of non-executive directors and frequency of board meetings ($r = .208, p < .01$).

There is a significant negative relationship between dual role of CEO/Chairman Board and Tobin Q ($r = -.222, p < .01$) similarly, the significant negative relationship also exists between dual role of CEO/Chairman Board and return on assets ($r = -.153, p < .01$). The figures ($r = -.121, p < .01$) also shows that there is a significant negative relationship between holding dual role by CEO/Chairman Board and frequency of board meetings.

The correlation is positive and significant between frequency of audit committee meetings and Tobin Q ($r = .218, p < .01$) as well as between frequency of audit committee meetings and return on assets ($r = .110, p < .05$). The figures also show the positive significant association between frequency of audit committee meetings and frequency of board meetings ($r = .323, p < .01$) and between frequency of audit committee meetings and proportion of NEDs on the Board ($r = .374, p < .01$). While looking at the relationship between independence of audit committee and Tobin Q, the figures disclose a positive significant relationship ($r = .138, p < .01$). We also find a significant positive correlation between independence of audit committee and Return on Assets ($r = .104, p < .05$), though the coefficient is weaker than

relationship between presence of audit committee and Tobin Q. The nature of relationship reported between independence of audit committee and frequency of board meetings is also positive and significant ($r = .221, p < .01$). The same degree of positive relationship exists between independence of audit committee in an organization and proportion of non-executive directors ($r = .112, p < .01$). There is also a positive significant relationship between independence of audit committee and number of its meetings ($r = .531, p < .01$).

Now we describe the relationship between size of the board and other important variables. There is a significant positive relationship between Board size and Tobin Q ($r = .186, p < .01$). Similarly, there is a positive significant relationship between Board size and return on assets ($r = .029, p < .01$) and there is a significant relationship between board size and frequency of board meetings ($r = .12, p < .05$) similarly there is a significant relationship between board size and NEDs and diligence and independence of audit committees respectively ($r = .33, p < .05$; $r = .39, p < .05$; and $r = .36, p < .05$). However the relationship between board size and CEO duality is negative ($r = -.082, p < .01$).

In regard to the relationship of leverage, which is elaborated as ratio of debt in the total assets of the firm, with the other variables, we find that there is a positive significant relationship between leverage and Tobin Q ($r = .241, p < .01$) but there is negative significant relationship between leverage and return on assets ($r = -.376, p < .05$). It is also clear from the figures that there is a positive significant relationship between leverage and frequency of board meetings ($r = .026, p < .05$) as well as between leverage and proportion of non-executive board members ($r = .069, p < .05$). The relationship is also significant and positive between leverage and leverage and dual role of CEO/Chairman Board ($r = .206, p < .01$).

There is a negative significant correlation between number of share held by the directors and dependent variables Tobin Q and Return on Assets respectively ($r = -.024, p < .05$ and $r = -.068, p < .05$). There is also a negative significant relationship between number of share held by the directors and frequency of board meetings ($r = -.258, p < .01$) as well as there is negative significant correlation reported by the data between number of share held by the directors and proportion of non-executive directors on the board ($r = -.196, p < .01$). However, there is a positive significant relationship between number of share held by the directors and dual role of CEO/Chairman of the board ($r = .164, p < .01$), but negative significant relationship between number of share held by the directors and frequency of audit committee meetings held in a year ($r = -.253, p < .01$).

The negative significant correlation is reported by the figures between number of share held by the directors and independence of audit committee in an organization, but there is a positive significant intercorrelations existing between number of share held by the directors and leverage. The relationship of capex ratio is insignificant with a majority of the variables used in the study except size of the board of directors, which reveals that there is a negative significant relationship between capex ratio and board size ($r = -.111, p < .01$).

Finally we will examine the inter-correlations of the size of the firm which is depicted as total assets of the firm with other variables of the study. It is found that there is a positive significant relationship between Firm Size and the Tobin Q ($r = .260, p < .01$) as well as between Firm size and return on assets ($r = .204, p < .05$). The relationship of Firm size and frequency of the meetings of board of directors and proportion of non-executive directors in the firm is significant as well meaning that bigger firms may have more independent directors ($r = .126, p < .05$), there is a negative significant relationship between Firm size and dual role of CEO/Chairman of board of directors ($r = -.149, p < .01$). However, a positive significant correlation relationship exists between Firm size and frequency of audit committee meetings ($r = .111, p < .01$) also there is a positive significant inter-correlations between firm size and the independence of audit committee in an organization ($r = .125, p < .01$). The figures also reveal a positive significant relationship between Firm Size and Board Size ($r = .185, p < .01$). A highly positive and significant inter-correlations relationship is found between Firm Size and leverage ($r = .442, p < .01$) depicting that bigger firms are more leveraged as well as between Size of the firm and capex ratio of the firm which is reported as ($r = .094, p < .01$), though there is a negative but insignificant relationship reported between Firm size and number of share held by the directors. The correlation analysis in table 5.2 shows significant correlations and this result may be of concern due to potential multicollinearity between the variables. However, in the regression analysis, VIF statistics are were all below 5, thus suggesting there was no multicollinearity problem (Burns and Burns, 2008).

Table 5.2: Pearson Correlation Matrix of Financial Performance and Corporate Governance Variables

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. Tobin Q	1											
2. ROA	.170**	1										
3. FOBM	.217*	.138*	1									
4. NEDs	.208**	.064*	.208**	1								
5. CEOdual	-.222*	-.153*	-.121**	-.041	1							
6. ACM	.218**	.110*	.323**	.374**	-.037	1						
7. Ind_AC	.138**	.104*	.221**	.112**	-.068	.531**	1					
8. Board Size	.186**	.029*	.12*	.33*	-.082**	.39*	.36*	1				
9. Leverage	.241**	-.376*	.026*	.069*	.206**	.012	-.014	-.034	1			
10. Director-Share	-.024*	-.068*	-.258**	-.196**	.164**	-.253**	-.170**	-.033	.069*	1		
11. Capex Ratio	.016	-.049	.023	.003	-.031	-.006	.003	-.111*	.046	-.012	1	
12. Firm Size	.260*	.204*	.043†	.126*	-.149**	.111**	.125**	.185**	.442**	-.026	.094*	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

† Correlation is significant at the 0.1 level (2-tailed)

5.4 Regression Analysis for Panel Data

The relationship between board structural characteristics, Board roles and firm Performance measures suggested by correlation measures was further investigated through regression analysis by using panel data, and controlling for Leverage, Directors' shares, R&D ratio and the Firm Size. The brief introduction about panel data estimation is given in the next section.

As discussed in detail in section 4.4.4, a panel is a cross-section or group of entities whose information is periodically collected over a given time span but a panel data regression differs from a regular time series or cross-section regression in its nature as it has not only time effect but also the entity effect. The panel data facilitates for better analysis and understanding for variables whose impact change over time but not across entities (i.e. national policies, federal regulations, international agreements, etc.). Panel data analysis endows regression analysis with both a spatial and temporal dimension. The spatial dimension pertains to a set of cross-sectional units of observation. These could be countries, states, counties, firms, commodities, groups of people, or even individuals. The temporal dimension pertains to periodic observations of a set of variables characterizing these cross-sectional units over a particular time span. In balanced panels, there are full observations for each case at every time point, whereas unbalanced panels may contain missing information for some individuals at time points. Our study use balanced panel of listed firms on KSE for a period of 1999-2001 and 2003-2005 to compare their governance, board roles, and firm performance for two balanced panels. Panel data models examine cross sectional (group) and/or time series (time) effects. These effects may be fixed or random. The selection of one specific model is real challenge. Therefore, Hausman test is used to judge these effects as elaborated in the next section.

5.4.1 The Quandary between Fixed and Random Effects: Hausman Test

Panel data models examine fixed or random effects of entity (individual or firms) or time. The core difference between fixed and random effect models lies in the role of the dummy variables that reflect the entity-specific effects. If dummies are considered as a part of the intercept, this is a fixed effect model. In a random effect model, the dummies are subsumed in the error term. The Hausman specification test is the classical test of whether the fixed or random effects model should be used. The research question will be whether there is significant correlation between the unobserved person-specific random effects and the regressors (Green, 2008). If there is no such correlation, then the random effects model may

be more powerful and parsimonious. If there is such a correlation, the random effects model would be inconsistently estimated and the fixed effects model would be the model of choice.

Hausman test is run to decide between fixed or random effects. It compares the coefficients from fixed and random effects models. It assumes that if the null hypothesis that the individual effects are uncorrelated with the other regressors in the model is not rejected, a random effect model is better than its fixed counterpart. The test is done by using STATA. The results are provided in the Tables 5.3 and 5.4 for Tobin Q and ROA respectively.

Table 5.3: Hausman Test Results for Tobin Q

Variables	FE (b)	RE (B)	b-B	S.E.
%_NED	.148	.124	.024	.050
%_NED_SEC	.275	.341	-.066	.151
CEODual	-.151	-.342	.190	.313
CEODual_SEC	-.738	-.748	.010	.033
ACM	-.600	-.688	.087	.112
ACM_SEC	.546	.630	-.084	.110
Ind_AC	1.50	1.74	-.024	.560
Ind_AC_SEC	.884	1.06	-.184	.575

b = consistent under Ho and Ha; B = inconsistent under Ha, efficient under Ho;

Test: Ho: difference in coefficients not systematic

chi2(8) = 4.67 Prob>chi8 = 0.8453

Table 5.4: Hausman Test Results for ROA

Variables	FE (b)	RE (B)	b-B	S.E.
%_NED	.015	.012	.003	.005
%_NED_SEC	.252	.255	.003	.015
CEODual	-.317	-.318	.001	.039
CEODual_SEC	-.078	-.080	.002	.003
ACM	.236	.233	.003	.010
ACM_SEC	.260	.259	.001	.010
Ind_AC	.451	.454	-.004	.054
Ind_AC_SEC	.423	.436	-.012	.055

b = consistent under Ho and Ha; B = inconsistent under Ha, efficient under Ho;

Test: Ho: difference in coefficients not systematic

chi2(8) = 4.45

Prob>chi8 = 0.8148

The Hausman test reveals that the null hypothesis can't be rejected, neither in case of Tobin Q (representing the market based outcome of the financial performance measure) nor in case of ROA (representing the accounting based outcome of the financial performance measure) as null hypothesis is of no difference between the two sets of coefficients and cannot be rejected at the 5% level as per the results shown in the above given table 5.3 and table 5.4. Therefore a random effect model is suggested by the test results. Also, it can be argued that there are no unobserved fixed characteristics that do not vary over time and that, if not accounted for, would lead to correlation between predictors and errors (a major assumption for the unbiasedness of regression estimation).

5.4.2 Testing for Serial Correlation in the Data

According to Baltagi (2001), there is no first order autocorrelation for micro panels; however, the Wooldridge test for autocorrelation was conducted using STATA. This test is used for the data having random effect panel estimation. It was found that there is no first order autocorrelation therefore; the null hypothesis can't be rejected as shown hereunder.

Wooldridge test for auto correlation in the data

H0: No first order correlation

F(1, 200) = 0.214

Prob>F=0.6603

The above results show that Ho holds and we can't reject the null hypothesis and hence it can be inferred that our data is not plagued by serial correlation.

5.5 Random Effects Regression: Board Structural Characteristics, Boards' Monitoring Role and Firm Performance (Tobin Q)

Ordinary Least Square (OLS) with Random Effects by using STATA has been used as the regression tool in this study. The results obtained from regression analysis by testing the relationships between Governance variables, Board Monitoring role and Performance measure are presented in Table 5. In Model M0 in Table 5.5, the controlled variables have been regressed against the performance measure of Tobin Q. The regression relationship has been controlled by Consumer Goods, Chemicals, Industrials, Firm size, Leverage, R&D ratio to Sales and Directors' shareholdings. The figures reveal that there is no significant relationship of these variables with Tobin Q except Chemicals sector which is negatively significant with $\beta = -.397$, $p < .1$ and fit statistics for M0 are $R^2 = .093$, $\chi^2 = 106.89$ (7df, $p <$

.001) when a restricted model is run by regressing only the controls against Tobin Q. This also implies that the model run by only controls does not have significant effect on the model. The overall model explains only 9.3% variance.

In the next step, independent variables have been added to the model with the interaction term SECP in the next model, M1. The SECP coefficient represents the overall difference in company performance between the pre and post 2002 periods. In M1 this effect is .516 and is marginally significant. This means that compared to pre-2002 the post-2002 Tobin's Q is higher for the total sample. The descriptive statistics From Table 5.1 show that Tobin's Q is 1.24 and 1.72 in the pre and post-2002 periods respectively. This higher difference of .48 in the model is explained by the fact that all the other factors included in the model are controlled. The results in M1 show marginally significant positive relationship for proportion of non-executive directors on the board ($\beta = .68, p < .1$) and negative relationship for the dual role of CEO/Chairman of the board respectively ($\beta = -.79, p < .1$) and independence of audit committee ($\beta = 1.34, p < .1$). The fit statistics for M1 are $R^2 = .108, \chi^2 = 126.15$ (12df, $p < .001$), which are relatively higher than M0. As M1 also reveals that results are either insignificant or marginally significant which may mean that pooling together pre-2002 and post-2002 data masks important differences across these time periods. This clearly shows that when interaction terms are not included or when the moderation effect is not accounted for, the coefficients for all the independent variables represent the effects of these variables across the full time range from 1999 to 2005, without separating the pre-2002 and post-2002 periods. Therefore, accounting for moderation effect is important as it teases out the different effects between the pre-2002 and post-2002 periods.

Moderating Effect:

Moderation occurs when the effect of an independent variable on a dependent variable varies according to the level of a third variable, termed a *moderator variable*, which interacts with the independent variable (Baron and Kenny, 1986). Moderation is involved in research on individual differences or situational conditions that influence the strength of the relationship between a predictor and an outcome. In the next model, M2, the moderating effects of SECP on the independent variables have been introduced to judge the effect of moderating variable on the governance variables. The moderator SECP is a binary variable which assumes the value of "0" for the time period before the implementation of Securities and Exchange Commission of Pakistan (SECP) corporate governance code of 2002 and assumes the value

of “1” for the period after the implementation of Securities and Exchange Commission of Pakistan (SECP) corporate governance code of 2002. Its moderation effects are formed by computing its interaction terms (product) with the independent variables of interest, which show their incremental effects after the SECP implementation compared to the period before SECP. The results are then compared to M1 in order to judge the effect of implementation of Securities and Exchange Commission of Pakistan (SECP) corporate governance code of 2002.

The effect of %_NED on performance is not significant in the pre-2002 time period. The coefficient of %_NED_SEC shows the difference between the post-2002 and pre-2002 effects of %_NED on performance. In this case it is .916 and is significant. This means that after 2002 the addition of NEDs has a much higher impact on performance. Looking again at Table 5.1 it shows that there is increase of %_NED from .34 to .53 which increases the Tobin’s Q by roughly $.17 = (0.19 \times .916)$. Thus the actual effect of %_NED on firm performance after 2002 is the sum of the coefficients for %_NED and %_NED_SEC. Precisely saying, pre-2002 effect of %_NED on performance is 0.118 and post-2002 effect of %_NED on performance is 1.034 which dishes out the difference of 0.916 between these two time periods. Therefore, results in M2 reveal that the organizations having higher proportion of non-executive directors on the boards have performed significantly better after the implementation of SECP.

The effect of CEOdual on performance is not significant in the pre-2002 time period. The coefficient of CEOdual_SEC is -1.00 and is significant. This means that after 2002 the dual role of CEO as chairperson board has negative impact on companies’ performance. The descriptive statistics from table 5.1 shows that there is a decrease in CEOdual from .654 to .484 which decreases the performance by $-.017 = (0.17 \times -1.00)$. Thus the actual effect of CEOdual on firm performance for pre-2002 and post-2002 is -0.198 and -1.198 respectively. Therefore, interaction effect of SECP with the dual role of CEO/Chairman of the board is negative and significant ($\beta = -1.00, p < .01$) which implies that firms that continue to employ dual role of CEO/Chairman after the implementation of SECP have significantly lower performance.

Table 5.5: Regression Results by using Random Effects with Monitoring Role of the Board and the Performance Measure as Tobin Q

Variables	Tobin Q with FOBM																		
	M0 Controls		M1 (X→Y) Cont+IV		M2(X,XZ→Y) Cont+IV+Mod		M3 (X→M)		M4 (X,XZ→M)		M5(X,M→Y)		M6(X,XZ,M→Y)		M7 (M→Y)				
	B	S.E.	B	S.E.	B	S.E.	B	S.E.	B	S.E.	B	S.E.	Sobel test	B	S.E.	Sobel test	B	S.E.	
Cons. Goods	.094	(.211)	.129	(.214)	.107	(.213)	.057	(.043)	.048	(.042)	.067	(.208)		Sobel test	.065		(.207)	Sobel test	.084
Chemicals	-.397†	(.240)	-.199	(.246)	-.138	(.246)	.062	(.055)	.05†	(.034)	-.254	(.241)	-.171		(.240)	.397†	(.240)		
Industrials	.188	(.258)	.352	(.260)	.379	(.258)	.030*	(.016)	.030*	(.015)	.313	(.256)	.337		(.255)	.179	(.258)		
Firm Size	.121	(.081)	.193*	(.082)	.218*	(.082)	.008†	(.005)	.006	(.005)	.182	(.082)	.203*		(.081)	.138†	(.081)		
Leverage	-.024	(.441)	.050	(.449)	.054	(.449)	.013*	(.005)	.010*	(.005)	.067	(.449)	.063		(.444)	-.075	(.445)		
Capex	.267	(.519)	.168	(.515)	.283	(.513)	.039	(.031)	.043	(.030)	.212	(.510)	.284		(.508)	.266	(.519)		
Dir_ Holdings	-.648	(.414)	.598	(.505)	.956†	(.516)	-.060*	(.030)	-.016	(.030)	.534	(.505)	.939†		(.512)	-.228	(.472)		
SECP			.516†	(.263)	.547*	(.293)	.12***	(.029)	.19***	(.038)	.665	(.507)	.506*		(.243)				
%_ NED			.68†	(.403)	.118	(.469)	.248*	(.124)	.17†	(.096)	.146	(.511)	0.94		.130	(.511)	1.33		
%_ NED_SEC					.916*	(.492)			.28***	(.038)					.197*	(.097)	1.96*		
CEOdual			-.79†	(.472)	-.198	(.234)	-.267*	(.123)	-.170†	(.094)	-.256	(.168)	-1.04	-.140	(.226)	-1.28			
CEOdual_SEC					-1.00**	(.329)			-.261*	(.129)				-.219*	(.202)	-1.70†			
ACM			.852	(.488)	.57	(.366)	.118	(.120)	.175	(.366)	.212†	(.147)	0.59	.116	(.121)	0.71			
ACM_SEC					.926*	(.355)			.737*	(.352)				.248**	(.121)	1.65†			
Ind_ AC			1.34†	(.836)	0.98	(0.69)	.114	(.234)	0.44	(.310)	.521	(.354)	0.98	.341	(.243)	1.38			
Ind_ AC_SEC					1.56 *	(0.74)			0.68*	(.286)				.390*	(.188)	1.97*			
FOB M											.646	(.526)		1.043*	(.513)		.047*	(.024)	
R ²	.093		.108		.121		.306		.348		.112		.128		.101				
χ ²	106.89 (7 df, p<.001)		126.15 (12 df, p<.001)		144.19 (16 df, p<.001)		334.83 (12 df, p<.001)		358.43 (16 df, p<.001)		135.83 (13 df, p<.001)		143.83 (17 df, p<.001)		117.05 (8 df, p<.001)				

N=200, Control Variables: Consumer Goods, chemicals, Industrials, Firm Size, Leverage, Capex, Directors' Ownership with textiles taken as base variable.

Independent Variables (IV): %age of Non-Executive Directors, Dual Leadership, Audit Committee Meetings, Independence of Audit Committee

Dependent Variable (DV): Tobin Q;

Mediating Variable (MV): Frequency of Board Meetings;

Moderating Variable: SECP;

†p<.1, *p<.05, **p<.01, ***p<.001

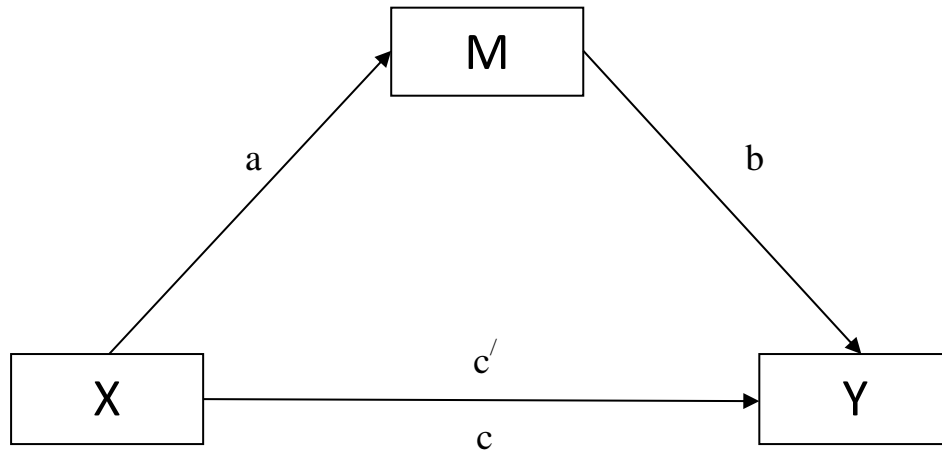
The effect of ACM on performance is not significant in the pre-2002 time period but the coefficient of ACM_SEC is .926 and is significant. This means that after 2002 the increase in diligence of ACM has a much higher impact on performance. Looking again at Table 5.1 it shows that there is increase of ACM from .036 to 4.7 which increases the Tobin's Q by roughly $3.98 = (4.3 \times .926)$. Thus the actual effect of ACM on firm performance for pre- and post-2002 time periods is .57 and 1.49 respectively. Therefore, the interaction effect of SECP with the diligence of audit committee is positively and significant ($\beta = .926, p < .05$) which indicates that the effect of the number of audit committee meetings on, the financial performance of the firm becomes much stronger after the implementation of the SECP. The effect of Ind_AC on performance is significant irrespective of the time periods, however, it gets stronger after 2002. This means that after 2002 the increase in independence of audit committee has a much higher impact on performance. Looking again at Table 5.1 it shows that there is increase of Ind_AC from .011 to .494 which increases the Tobin's Q by roughly $0.753 = (0.483 \times 1.56)$ after 2002 and $0.13 = (.011 \times 1.34)$ for the overall time period. Thus the actual effect of Ind_AC on firm performance for pre- and post-2002 time periods is .98 and 2.54 respectively. Therefore, the interaction effect of SECP with the diligence of audit committee is positively and significant ($\beta = 1.56, p < .05$) which indicates that the effect of the independence of audit committee meetings on, the financial performance of the firm becomes much stronger after the implementation of the SECP. Overall, these results are in line with our hypotheses H3c, H4c, H5c, H6a1, H6c which state that after the implementation of SECP Code, the governance indicators become significant. The overall model M2 has value of $R^2 = .121$ which shows that it accounts for 12.1% of variance in the model ($\chi^2 = 144.19$ (16df, $p < .001$)), slightly higher than the variance explained by M1.

Mediation Analysis: Governance Indicators, Boards' Monitoring Role and Tobin Q as Firm Performance

The mediation hypotheses predicted that board roles mediate the relationship between Governance indicators and firm performance. Ordinary least square with random effects method for regression was used to predict the mediating role of board roles. The models M3 to M7 in table 5.5 provide the results obtained from regression analysis of Governance indicators, Boards' Monitoring role and firm financial performance. The three steps method recommended by Baron and Kenny (1986) was adapted to assess the mediating role of board roles. Baron and Kenny (1986) suggested three steps for assessing mediation among independent, mediating, and outcome variables. In order to support mediation of variable(s),

the following three conditions of mediation presented in figure 6.1 are essential to be met in regression analysis.

Figure 5.1 Mediation Process



Equation 1: $Y = b_{02} + b_{X2}X + e_{Y2}$. (Performance = Constant + coefficients of Governance Indicators+ error term)

Equation 2: $M = a_{03} + ax3X + em_3$ (Board Role = Constant + coefficients of Governance Indicators + error term)

Equation 3: $Y = b_{04} + b_{X4}X + b_{m4}M + e_{Y4}$ (Performance = Constant + coefficients of Governance Indicators + coefficient of Board Role + error term)

The results obtained from the regression analysis of mediation process for the relationship between Governance Indicators; board roles; and firm financial performance measures using Tobin Q and Return on Assets as presented in Table 5.5. The results are based when the mediation is tested separately, typically with the causal steps procedure (Baron and Kenny, 1986), in which the relationships among X , Y , and the mediator variable M are analysed as follows: (a) Y is regressed on X , (b) M is regressed on X , and (c) Y is regressed on both X and M . In order to ascertain mediation the essential conditions to be met according to Baron and Kenny, (1986) are: (a) X should relate to Y in Equation 1, such that b_{X2} is significant; (b) X should relate to M in the Equation 2, such that a_{X3} is significant; (c) M should relate to Y in Equation 3, such that b_{M4} is significant; and (d) the relationship between X and Y in Equation 3 (i.e., b_{X4}) should be non-significant or significantly smaller than the relationship between X and Y in Equation 1 (i.e., b_{X2}). Assuming the first three conditions are satisfied, complete mediation is inferred if b_{X4} is not significant, whereas partial mediation is concluded if b_{X4} remains significant but is significantly smaller than b_{X2} (Edwards and Lambert, 2007).

To assess the effect of independent variables on mediating variable as the first condition of mediation, Tobin Q as performance measure was regressed on governance indicators. The first regression model provides the results of relationship between governance indicators with moderating effects and Tobin Q (columns M1 and M2). The results provided by M1 and M2 as discussed on the previous page provides sufficient evidence for the first condition of mediation recommended by Baron and Kenny (1986).

In M3 and M4, the second condition of mediation is assessed by regressing board monitoring role (Frequency of board meetings) on governance indicators. More specifically, in M3 the board monitoring role (Frequency of board meetings) is regressed on governance indicators without accounting for the moderation effect of the implementation of SECP Corporate Governance code of 2002. The results show that the moderating variable SECP is significant and positive ($\beta = .12, p < .001$). The value for the proportion of non-executive directors is also positive and significant ($\beta = .248, p < .05$) showing that more presence of NEDs on the board increases the board meeting frequency causing improved monitoring role of the board. The variable dual role of CEO/Chairman of the board is negative and significant ($\beta = -.267, p < .05$) which shows that as the dual role increases the frequency of board meetings decreases. The coefficients for frequency and independence of audit committee are not significant which shows that inclusive of both the periods, the results are masked and it is needed to be worked out separately for the two time periods by using the interaction term. The value of fit statistics is $R^2 = .306$ and $\chi^2 = 334.83$ (12df, $p < .001$) for this model which elaborates that almost 30% of the variance in the model is accounted for these variables.

The model M4 explains the board monitoring role (Frequency of board meetings) is regressed on governance indicators and their interaction with the introduction of the SECP code. The figures reveal that the effect of the moderating variable SECP is larger as compared to the previous era before the implementation of the SECP code ($\beta = .19, p < .001$). The effect of %_NED on board meeting frequency is marginally significant in the pre-2002 time period but the coefficient of %_NED_SEC is .28 and is highly significant. This means that after 2002 the increase in non-executive board members has a much higher impact on board meeting frequency. Looking again at Table 5.1 it shows that there is increase of %_NED from .34 to .53 which increases the frequency of board meetings by roughly $.054 = (.19 \times .28)$. Thus the actual effect of %_NED on board meeting frequency for pre- and post-2002 time periods is .17 and .45 respectively. Its interaction effect with the proportion of non-executive directors on the board positive and significant ($\beta = .28, p < .001$), suggesting a stronger effect on the

frequency of board meetings after the implementation of SECP Corporate governance code of 2002. Similarly, the effect of CEOdual on board meeting frequency is negative marginally significant in the pre-2002 time period but gets highly significant and negative after 2002. The coefficient of CEOdual_SEC is -.261 and is significant. This means that the dual role of CEO as chairperson board has negative impact on board meeting frequency. The descriptive statistics from table 5.1 shows that there is a decrease in CEOdual from .654 to .484 which increases the board meeting frequency by $0.044 = (-0.17 \times -.261)$. Thus the actual effect of CEOdual on board meeting frequency for pre-2002 and post-2002 is -0.170 and -.261 respectively depicting that the interaction effect with the role of CEO/Chairman of the board is negative and significant ($\beta = -.261, p < .01$). It is also found that the effect of ACM board meeting frequency is not significant in the pre-2002 time period but the coefficient of ACM_SEC is .737 and is significant. This means that after 2002 the increase in diligence of ACM has a much higher impact on board meetings activity. By looking at Table 5.1 it shows that there is increase of ACM from .036 to 4.7 which increases the frequency of board meetings by roughly $3.16 = (4.3 \times .248)$. Thus the actual effect of ACM on frequency of board meetings for pre- and post-2002 time periods is .175 and .912 respectively showing that the interaction effect of SECP with the diligence of audit committee is positive and significant ($\beta = .737, p < .01$) while the relationship of Ind_AC with board meeting frequency remains significant irrespective of the time periods, however, when the data is unmasked on the basis of time periods, this relationship gets stronger ($\beta = 0.68, p < .01$). These results clearly favour the hypotheses H3a1, H4a1, H5a1, and H6a1 that governance variables get positive and significant after the implementation of SECP Code of 2002. These results of M3 and M4 provide support that the second condition of mediation is also confirmed. The value of fit statistics is $R^2 = .348$ and $\chi^2 = 358.43$ (16df, $p < .001$) for this model which elaborates that almost 36% of the variance in the model is accounted for these variables. The value of R^2 is higher in case of M4 as compared to M3 which is also in line with our hypotheses that governance indicators are improved after the implementation of SECP Governance code of 2002.

To test for the final condition of mediation both governance indicators and board monitoring role were added in the models M5 and M6. More specifically, in M5 the Tobin Q is regressed on board monitoring role (Frequency of board meetings) and governance indicators without accounting for the moderation effect of the implementation of the SECP Corporate Governance code of 2002. The results show that the most of the variables are insignificant

except for the diligence of audit committee which is marginally significant and positive ($\beta = .212, p < .1$). The value of fit statistics is $R^2 = .112$ and $\chi^2 = 135.83$ (13df, $p < .001$) for this model which elaborates that almost 11% of the variance in the model is accounted for these variables. The value of frequency of board meetings which is a mediating variable is insignificant which violates the third and necessary condition for mediation. Thus mediation is not explained by the frequency of board meetings without accounting for the moderating effect of the implementation of SECP corporate governance code of 2002.

The model M6 explains the Tobin Q which is regressed on board monitoring role (Frequency of board meetings) and governance indicators, while including the moderating effect of the implementation of SECP Corporate Governance code of 2002. The figures reveal that the moderating variable SECP is significant after the implementation of the governance code of 2002 ($\beta = .506, p < .05$), same is the case for the non-executive directors on the board where the effect of %_NED on performance is not significant in the pre-2002 time period. The coefficient of %_NED_SEC, which shows the difference between the post-2002 and pre-2002 effects of %_NED on performance is .197 and is significant. This means that after 2002 the addition of NEDs has a higher impact on performance while controlling for board meeting frequency, a mediating variable. Looking again at Table 5.1 it shows that there is increase of %_NED from .34 to .53 which increases the Tobin's Q by roughly $.02 = (0.19 \times .197)$. Thus the actual effect of %_NED on firm performance after 2002 is the sum of the coefficients for %_NED and %_NED_SEC. Precisely saying, pre-2002 effect of %_NED on performance is 0.130 and post-2002 effect of %_NED on performance is .327 which dishes out the difference of 0.197 between these two time periods. The impact of dual role of CEO/Chairman of the board is further negative for this era ($\beta = -.219, p < .01$). The effect of CEOdual on performance is negative and significant in the pre-2002 time period which further gets weaker after 2002. The coefficient of CEOdual_SEC is -.219 and is significant. This means that after 2002 the dual role of CEO as chairperson board has negative impact on companies' performance while controlling for board meeting frequency. The descriptive statistics from table 5.1 shows that there is a decrease in CEOdual from .654 to .484 which decreases the performance by $-0.03 = (0.17 \times -.219)$. Thus the actual effect of CEOdual on firm performance for pre-2002 and post-2002 is -0.170 and -.219 respectively.

However, the diligence of audit committee is positive and significant for this era ($\beta = .248, p < .05$). This means that after 2002 the increase in diligence of ACM has a higher impact on performance. Looking again at Table 5.1 it shows that there is increase of ACM from .036 to

4.7 which increases the Tobin's Q by roughly $1.06 = (4.3 \times .248)$. Thus the actual effect of ACM on firm performance for pre- and post-2002 time periods is .116 and .364 respectively. The effect of Ind_AC on Tobin Q after controlling for board meeting frequency is stronger after SECP code ($\beta = .390, p < .01$) which makes the effect on performance as $0.33 = .867 \times .390$. These results partially favour the hypotheses H3b1, H4b1, H5b1, H6b1 that governance variables get positive and significant after the implementation of SECP Code of 2002. The value for the frequency of board meetings which is a mediating variable is significant and positive ($\beta = 1.043, p < .05$). These results of M6 provide support that board monitoring role (frequency of board meetings) partially mediates the relationship between governance indicators of proportion of non-executive board members, dual role of CEO/Chairman board of directors, diligence of audit committee and Tobin Q as firm performance measure.

Sobel Test:

The test was first proposed by Sobel in 1982 to formally test the condition of mediation, used. This test is the most commonly used additional tool to ascertain the mediation magnitude. The mechanism to judge the effect Independent Variable exerts an indirect effect on the Dependent Variable through the Mediating Variable is actually known through the Sobel Test. Therefore, complementing the casual step approach of Baron and Kenny (1986), a Sobel test was conducted in accordance with De Jong and Elfring (2010). Results of the Sobel test also revealed that the proportion of non-executive directors ($z = 1.96, p < .05$), dual role of CEO/Chairman board of directors ($z = -1.70, p < .1$), diligence of audit committee ($z = 1.65, p < .1$), and independence of audit committee ($z = 1.97, p < .05$) as governance indicators and Tobin Q as firm financial performance measure are mediated by the board monitoring role (frequency of board meetings) as the interaction term is induced in the system. The value of the fit statistics is $R^2 = .128$ and $\chi^2 = 143.83$ (17df, $p < .001$) for this model which elaborates that almost 13% of the variance in the model is accounted for these variables. The value of Sobel test is insignificant but positive for M5 which may be explained that role gets their strength after the restructuring of boards as per SECP code. The value of R^2 is higher in case of M6 as compared to M5 which is also in line with our H3c, H4c, H5c, H6c, H6b1 are partially supported while H6a1 and H1a hypotheses are supported that governance indicators are improved after the implementation of SECP Governance code of 2002. The value of board role is also positive and significant when regressed against Tobin Q ($\beta = .047, p < .05$). This shows that Tobin Q increases with increase in board activity in its monitoring role which is also in line with our hypotheses with value of fit statistics is $R^2 = .101$ and $\chi^2 = 117.05$

(8df, $p < .001$) for this model which elaborates that almost 10% of the variance in the model is accounted for the variables of this model. The same technique for moderation and mediation has been used in discussing other results.

5.6 Regression Results: Governance Indicators, Boards' Resource Provision Role and Tobin Q as Firm Performance

The results obtained from regression analysis by testing the relationships between Governance variables, Board Resource Provision role and Performance measure of are presented in Table 5.6. In the Model M0 in the table 5.6, the controlled variables have been regressed against the performance measure of Tobin Q. The regression relationship has been controlled by Consumer Goods, Chemicals, Industrials, Firm size, Leverage, RD ratio to Sales and Directors' shareholdings. This is a restricted model by using only control variables as predictors and the results reveal that there is no significant association found in this model with value of fit statistics are $R^2 = .093$ and $\chi^2 = 106.89$ (7df, $p < .001$) for this model which elaborates that only almost 9% of the variance in the model is accounted for.

In the next step, independent variables have been added to the model with the interaction term SECP in the model, M1. As mentioned in the last section, the SECP coefficient represents the overall difference in company performance between the pre and post 2002 periods. In M1 this effect is .516 and is marginally significant. This means that compared to pre-2002 the post-2002 Tobin's Q is higher for the total sample. The descriptive statistics From Table 5.1 show that Tobin's Q is 1.24 and 1.72 in the pre and post-2002 periods respectively. This higher difference of .48 in the model is explained by the fact that all the other factors included in the model are controlled. The results in M1 show marginally significant positive relationship for proportion of non-executive directors on the board ($\beta = .68$, $p < .1$) and marginally significant negative relationship for the dual role of CEO/Chairman of the board respectively ($\beta = -.79$, $p < .1$). The independence of audit committee shows somewhat significant and positive relationship ($\beta = 1.34$, $p < .1$). The fit statistics for M1 are $R^2 = .108$, $\chi^2 = 126.15$ (12df, $p < .001$), which are relatively higher than M0. As M1 also reveals that results are either insignificant or marginally significant which may mean that pooling together pre-2002 and post-2002 data disguises important differences across these time periods. This clearly shows that when interaction terms are not included or when the moderation effect is not accounted for, the coefficients for all the independent variables represent the effects of these variables across the full time range from 1999 to 2005, without

separating the pre-2002 and post-2002 periods. Therefore, accounting for moderation effect is important as it teases out the different effects between the pre-2002 and post-2002 periods.

Moderating Effect:

In the next model, M2, the moderating effects of SECP on the independent variables have been introduced to judge the effect of moderating variable on the governance variables. The results are then compared to M1 in order to judge the effect of implementation of SECP code. The effect of %_NED on performance is positive but not significant in the pre-2002 time period. The coefficient of %_NED_SEC shows the difference between the post-2002 and pre-2002 effects of %_NED on performance. In this case it is .916 and is significant. This means that after 2002 the addition of NEDs has a much higher impact on performance. Looking again at Table 5.1 it shows that there is increase of %_NED from .34 to .53 which increases the Tobin's Q by roughly $.17 = (0.19 \times .916)$. Thus the actual effect of %_NED on firm performance after 2002 is the sum of the coefficients for %_NED and %_NED_SEC. Precisely saying, pre-2002 effect of %_NED on performance is 0.118 and post-2002 effect of %_NED on performance is 1.034 which dishes out the difference of 0.916 between these two time periods. Therefore, results in M2 reveal that the organizations having higher proportion of non-executive directors on the boards have performed significantly better after the implementation of SECP.

The effect of CEOdual on performance is not significant but still negative in the pre-2002 time period. The coefficient of CEOdual_SEC is -1.00 and is significant. This means that after 2002 the dual role of CEO as chairperson board has negative impact on companies' performance. The descriptive statistics from table 5.1 shows that there is a decrease in CEOdual from .654 to .484 which decreases the performance by $-.017 = (0.17 \times -1.00)$. Thus the actual effect of CEOdual on firm performance for pre-2002 and post-2002 is -0.198 and -1.198 respectively. Therefore, interaction effect of SECP with the dual role of CEO/Chairman of the board is negative and significant ($\beta = -1.00, p < .01$) which implies that firms that continue to employ dual role of CEO/Chairman after the implementation of SECP have significantly lower performance.

The effect of ACM on performance is not significant in the pre-2002 time period but the coefficient of ACM_SEC is .926 and is significant. This means that after 2002 the increase in diligence of ACM has a much higher impact on performance. Looking again at Table 5.1 it shows that there is increase of ACM from .036 to 4.7 which increases the Tobin's Q by

roughly $3.98 = (4.3 \times .926)$. Thus the actual effect of ACM on firm performance for pre- and post-2002 time periods is .57 and 1.49 respectively. Therefore, the interaction effect of SECP with the diligence of audit committee is positively and significant ($\beta = .926, p < .05$) which indicates that the effect of the number of audit committee meetings on, the financial performance of the firm becomes much stronger after the implementation of the SECP.

The effect of Ind_AC on performance is not only significant in the pre-2002 time period but also significant in the post 2002 data. The beta value for Ind_AC is 1.34 with $p < .1$ which shows that the value is somewhat significant. However, the coefficient of Ind_AC_SEC increases in magnitude and is more significant. This means that after 2002 the increase in independence of audit committee has a much higher impact on performance. Looking again at Table 5.1 it shows that there is increase of Ind_AC from .011 to .878 which increases the Tobin's Q by roughly $1.32 = (0.867 \times 1.56)$. Thus the actual effect of Ind_AC on firm performance for pre- and post-2002 time periods is 1.41 and 2.94 respectively. Therefore, the interaction effect of SECP with the diligence of audit committee is positively and significant ($\beta = 1.56, p < .05$) which indicates that the effect of the independence of audit committee meetings on, the financial performance of the firm becomes much stronger after the implementation of the SECP.

Overall, these results are in line with our hypotheses H3c, H4c, H5c, H6c which denote that after the implementation of SECP Code, the governance indicators become significant. The overall model M2 has value of $R^2 = .121$ which shows that it accounts for 12.1% of variance in the model ($\chi^2 = 144.19$ (16df, $p < .001$)), slightly higher than the variance explained by M1, on the other side the value for the fit statistics of M0 are $R^2 = .108$ and $\chi^2 = 126.15$ (12df, $p < .001$) for this model which elaborates that almost 11% of the variance in the model is accounted for these variables.

Mediating effect:

In M3 and M4 of table 5.6, the second condition of mediation is assessed by regressing board resource dependence role (Board Size) on governance indicators. More specifically, in M3 the board resource provision role (Board Size) is regressed on governance indicators without accounting for the moderation effect of the implementation of SECP Corporate Governance code of 2002. The results show that the moderating variable SECP is somewhat significant and positive ($\beta = .368, p < .1$). The presence of non-executive directors is not found significant in this relationship. However, the variable dual role of CEO/Chairman of the board is

negative and significant ($\beta = -.226, p < .05$) which shows that as the dual role increases the frequency of board meetings decreases. The study finds that the effect of ACM on board size is not significant. However, the relationship between Ind_AC and board size is found somewhat significant ($\beta = 1.24, p < .1$) even without accounting for the interaction effect and it strengthens in magnitude and gets more significant by introducing the interaction effect in the model. By looking at Table 5.1 it shows that there is increase of ACM from .011 to .878 which increases the board size by roughly $1.32 = (.867 \times 1.53)$. Thus the actual effect of Ind_AC on board size for pre- and post-2002 time periods is 1.41 and 2.94 respectively showing that the interaction effect of SECP with the independence of audit committee is positive and significant ($\beta = 1.532, p < .01$). These results clearly favour the hypotheses H3a1, H4a1, H6a1 that governance variables get positive and significant after the implementation of SECP Code. These results of M3 and M4 provide support that the second condition of mediation is also confirmed. The value of R^2 is higher in case of M4 as compared to M3 which is also in line with our hypotheses that governance indicators are improved after the implementation of SECP code. The value of fit statistics are $R^2 = .126$ and $\chi^2 = 72.64$ (12df, $p < .001$) for this model which elaborates that almost 13% of the variance in the model is accounted for these variables.

The model M4 explains the board resource dependence role (Board Size) is regressed on governance indicators and their interaction with the introduction of the SECP Corporate Governance code of 2002. The figures reveal that the effect of the moderating variable SECP is larger as compared to the previous era before the implementation of the governance code of 2002 ($\beta = .404, p < .1$). The effect of %_NED on board meeting frequency is insignificant in the pre-2002 time period but the coefficient of %_NED_SEC is .809 and is highly significant. This means that after 2002 the increase in non-executive board members has a much higher impact on board size (Board Resource Dependence Role). Looking at Table 5.1 it shows that there is increase of %_NED from .34 to .53 which increases the board size by roughly $.16 = (.19 \times .809)$. Thus the actual effect of %_NED on board size for pre- and post-2002 time periods is .261 and 1.069 respectively. Its interaction effect with the proportion of non-executive directors on the board positive and significant ($\beta = .809, p < .01$), suggesting a stronger effect on the board size after the implementation of SECP Corporate governance code of 2002. Similarly, the effect of CEOdual on board size is negative and insignificant in the pre-2002 time period but gets highly significant and negative after 2002. The coefficient of CEOdual_SEC is -0.328 at $p < .001$. This means that the dual role of CEO as chairperson

board has negative impact on board size. The descriptive statistics from table 5.1 shows that there is a decrease in CEOdual from .654 to .484 which increases the board size by $0.205 = (-0.17 \times -.328)$.

This shows that as the dual role decreases the board size improves. Thus duality tends to have smaller boards. It is also found that diligence of audit committee is insignificant for this era. The independence of audit committee with board size has positive and significant relationship for an overall time period from 1999-2005. But the relationship gets stronger as the interaction effect is introduced in the model as the total effect is 1.552 as compared to unaccounted effect of 0.867. These results clearly favour the hypotheses H2a, H3a2, H4a2, H6a2 that governance variables get stronger after the implementation of SECP Code. These results of M3 and M4 provide support that the second condition of mediation is also confirmed. The value of fit statistics are $R^2 = .141$ and $\chi^2 = 103.79$ (16df, $p < .001$) for this model which elaborates that almost 14% of the variance in the model is accounted for these variables. The value of R^2 is higher in case of M4 as compared to M3 which is also in line with our hypotheses that governance indicators are improved after the implementation of SECP Governance code of 2002.

To test for the final condition of mediation both governance indicators and board resource provision role were added in the models M5 and M6. More specifically in M5 the Tobin Q is regressed on board resource provision role (board size) and governance indicators before the implementation of SECP Corporate Governance code of 2002. The results show that the proportion of non-executive directors and independence of audit committee are somewhat significant and positive ($\beta = .183$, $p < .1$) and ($\beta = .42$, $p < .1$) respectively as well as the value of mediating variable board size is also positive and significant ($\beta = .16$, $p < .01$).

There is partial mediation existing by board size for the proportion of non-executive directors and independence of audit committee even without accounting for the mediation effect of the implementation of SECP code of 2002. This implies that board size has been mediating the relationship between proportion of non-executive directors and Tobin Q which shows that if the proportions of NEDs have been higher, the larger will be board size or improved board resource dependence role eventually leading towards better performance (Tobin Q) as well as the independence of audit committee will also lead to same results for the board size. The value for the Sobel test ($z = 1.59$, $p < .1$) and ($z = 1.52$, $p < .1$) respectively for proportion of NEDs and independence of audit committee also support this result for mediation. The value

of fit statistics is $R^2 = .119$ and $\chi^2 = 127.64$ (13df, $p < .001$) for this model which elaborates that almost 12% of the variance in the model is accounted for these variables. This also supports the hypotheses H3b1, H6b1, H3c and H6c.

The model M6 explains that the Tobin Q is regressed on board resource provision role (board size) and governance indicators for the era after the implementation of SECP Corporate Governance code of 2002. The figures reveal that the moderating variable SECP is significant after the implementation of the governance code of 2002 ($\beta = .470$, $p < .05$), same is the case for the non-executive directors on the board where the effect of %_NED on performance is not significant in the pre-2002 time period. The coefficient of %_NED_SEC, which shows the difference between the post-2002 and pre-2002 effects of %_NED on performance is .792 and is significant. This means that after 2002 the addition of NEDs has a higher impact on performance while controlling for board size, a mediating variable.

Looking back at Table 5.1 it shows that there is increase of %_NED from .34 to .53 which increases the Tobin's Q by roughly $0.15 = (0.19 \times .792)$. Thus the actual effect of %_NED on firm performance after 2002 is the sum of the coefficients for %_NED and %_NED_SEC. Precisely saying, pre-2002 effect of %_NED on performance is 0.029 and post-2002 effect of %_NED on performance is .827 which dishes out the difference of .792 between these two time periods. While, the impact of dual role of CEO/Chairman of the board is insignificant for the pre-2002 era while it gets further negative for post-2002 era ($\beta = -.313$, $p < .01$). This means that after 2002 the dual role of CEO as chairperson board has negative impact on companies' performance while controlling for board size. The descriptive statistics from table 5.1 shows that there is a decrease in CEOdual from .654 to .484 which decreases the performance by $-0.05 = (0.17 \times -.313)$. Thus the actual effect of CEOdual on firm performance for pre-2002 and post-2002 is -0.179 and -0.492 respectively.

Table 5.6: Regression Results with Random Effects with Resource Dependence Role of the Board and the Performance Measure as Tobin Q

Variables	Tobin Q with Board Size																		
	M0 Controls		M1 (X→Y) Cont+IV		M2(X,XZ→Y) Cont+IV+Mod		M3(X→M)		M4 (X,XZ→M)		M5(X,M→Y)		M6(X,XZ,M→Y)		M7 (M→Y)				
	B	S.E.	B	S.E.	B	S.E.	B	S.E.	B	S.E.	B	S.E.	Sobel Test	B	S.E.	Sobel Test	B	S.E.	
Cons. Goods	.094	(.211)	.129	(.214)	.107	(.213)	.315	(.290)	.382	(.220)	.105	(.209)		Sobel Test	.099		(.221)	Sobel Test	.182
Chemicals	-.397†	(.240)	-.199	(.246)	-.138	(.246)	.174	(.204)	.249*	(.284)	-.191	(.240)	-.111		(.234)	-.345	(.240)		
Industrials	.188	(.258)	.352	(.260)	.379	(.258)	.381	(.211)	.460*	(.220)	.469†	(.259)	.300		(.258)	.348	(.261)		
Firm Size	.121	(.081)	.193*	(.082)	.218*	(.082)	.242†	(.135)	.321*	(.145)	.158*	(.082)	.191*		(.078)	.176*	(.082)		
Leverage	-.024	(.441)	.050	(.449)	.054	(.449)	.212*	(.111)	.34*	(.136)	.29**	(.084)	.32**		(.092)	.37***	(.094)		
Capex	.267	(.519)	.168	(.515)	.283	(.513)	-.314	(.242)	-.613*	(.220)	.075	(.511)	.137		(.507)	.108	(.519)		
Dir_ Holdings	-.648	(.414)	.598	(.505)	.956†	(.516)	-.001	(.217)	.150	(.222)	.534	(.499)	.875†		(.449)	-.690†	(.412)		
SECP			.516†	(.263)	.547*	(.293)	.368†	(.214)	.404†	(.234)	.410	(.265)	.470†		(.251)				
%_ NED			.683†	(.403)	.118	(.464)	.204	(.171)	.261	(.242)	.183†	(.122)	1.59†		.029	(.536)	1.04		
%_ NED_SEC					.916*	(.492)			.809**	(.277)			.792*		(.401)	2.34*			
CEOdual			-.79†	(.472)	-.198	(.234)	-.226*	(.115)	-.224	(.160)	-.194	(.169)	-1.75†	-.179	(.226)	-0.86			
CEOdual_SEC					-.100**	(.329)			-.328***	(.098)			-.313**	(.120)	-2.54*				
ACM			.852	(.488)	.570	(.366)	.228	(.140)	.267	(.153)	.11	(.157)	1.24	.178	(.272)	1.11			
ACM_SEC					.926*	(.355)			.271	(.155)			.286	(.245)	1.21				
Ind_ AC			1.34†	(.836)	0.98	(0.69)	1.24†	(.710)	.976	(.752)	.42†	(.255)	1.52†	1.415*	(0.73)	2.23*			
Ind_ AC_SEC					1.56*	(0.74)			1.552*	(.758)			1.532*	(0.74)	2.72*				
Board Size											.16**	(.052)		.27***	(.069)		.238**	(.080)	
R ²	.093		.108		.121		.126		.141		.119			.124			.097		
χ ²	106.89 (7 df, p<.001)		126.15 (12 df, p<.001)		144.19 (16 df, p<.001)		72.64 (12 df, p<.001)		103.79 (16 df, p<.001)		127.64 (13 df, p<.001)			142.64 (17 df, p<.001)			109.64 (9 df, p<.001)		

N=200, Control Variables: Consumer Goods, chemicals, Industrials, Firm Size, Leverage, Capex, Directors' Ownership with textiles taken as base variable.

Independent Variables (IV): %age of Non Executive Directors, Dual Leadership, Audit Committee Meetings, Independence of Audit Committee

Dependent Variables (DV): Tobin Q;

Mediating Variable (MV): Board Size;

Moderating Variable: SECP;

†p<.1, *p<.05, **p<.01, ***p<.001

However, the diligence of audit committee has no significant relationship when controlling for board size but independence of audit committee is positive and significant ($\beta = 1.415$, $p < .05$) and ($\beta = 1.532$, $p < .05$) for both the eras respectively which gives the effect when we look back at the descriptive from table 5.1 as $1.22 = 0.867 \times 1.415$ and 2.54 respectively which posts a stronger increase in strength. These results partially favour the hypotheses H3b1, H4b1, H6b1, H6b1 that governance variables get positive and significant after the implementation of SECP Code of 2002. The value for the board size which is a mediating variable is highly significant and positive ($\beta = .27$, $p < .001$). These results of M6 provide support that board resource dependence role (Board Size) partially mediates the relationship between governance indicators of proportion of non-executive board members, dual role of CEO/Chairman board of directors, diligence of audit committee and Tobin Q as firm performance measure.

Sobel Test:

To further test the condition of mediation, additional tool of Sobel test was used. Results of the Sobel test also revealed that the proportion of non-executive directors ($z = 2.34$, $p < .05$), dual role of CEO/Chairman board of directors ($z = -2.54.70$, $p < .05$), independence of audit committee ($z = 2.72$, $p < .05$) and Tobin Q as firm financial performance measure are mediated by the board resource provision role (board size) after the implementation of SECP Corporate Governance Code of 2002. The value of fit statistics is $R^2 = .124$ and $\chi^2 = 142.64$ (17df, $p < .001$) for this model which elaborates that almost 18% of the variance in the model is accounted for these variables. The value of R^2 is higher in case of M6 as compared to M5 which is also in line with our hypotheses H2a, H3c, H4c, and H5c, H6c that governance indicators are improved after the implementation of SECP Governance code of 2002. The value of board role is also positive and significant when regressed against Tobin Q ($\beta = .238$, $p < .01$). This shows that Tobin Q increases with increase in board size in its resource provision role and the value fit statistics is $R^2 = .097$ and $\chi^2 = 109.64$ (8df, $p < .001$) for this model which elaborates that almost 10% of the variance in the model is accounted for the variables of this model.

5.7 Regression Results: Governance Indicators, Boards' Monitoring Role and Return on Assets as Firm Performance

The results obtained from regression analysis by testing the relationships between Governance variables, Board monitoring role and performance measure of return on assets (ROA) are presented in Table 5.7. In the Model M0 in the Table 5.7, the controlled variables have been regressed against the performance measure of ROA. The regression relationship has been controlled by Consumer Goods, Chemicals, Industrials, Firm size, Leverage, RandD ratio to Sales and Directors' shareholdings. This is a restricted model by using only control variables as predictors and the results reveal that there is no significant association found in this model with value of fit statistics is $R^2 = .185$ and $\chi^2 = 115.11$ (7df, $p < .001$) for this model which elaborates that only almost 18% of the variance in the model is accounted for.

In the next step, independent variables have been added to the model with the interaction term SECP in the model, M1. The SECP coefficient is insignificant here with other variables like proportion of non-executive directors, audit committee diligence and independence however, the results reveal that there is a negative and significant relationship between dual role of CEO/Chairman board of directors and ROA ($\beta = -.088$, $p < .01$) represents the overall value for company performance for both the periods. In M1 this effect is $-.088$ and is significant. This means that compared to pre-2002 the post-2002 ROA is higher for the total sample. The descriptive statistics From Table 5.1 show that ROA is 6.36 and 6.68 in the pre and post-2002 periods respectively which shows no substantial change. The results in M1 show negative and significant relationship for the dual role of CEO/Chairman of the board respectively ($\beta = -.088$, $p < .1$). This implies that it is needed to distil the data on the basis of time periods by using the interaction term with the governance indicators to get insight about the exact relationship. As well as M1 also reveals that results are either insignificant or marginally significant which may mean that pooling together pre-2002 and post-2002 data masks important differences across these time periods. This clearly shows that when interaction terms are not included or when the moderation effect is not accounted for, the coefficients for all the independent variables represent the effects of these variables across the full time range from 1999 to 2005, without separating the pre-2002 and post-2002 periods. Therefore, accounting for moderation effect is important as it teases out the different effects between the pre-2002 and post-2002 periods.

Moderating effect:

In the model M2 in table 5.7, the moderated independent variables have also been added to judge the effect of implementation of SECP code as well as to judge the first condition of mediation. The results of M2 reveal that proportion of non-executive directors on the board is somewhat significant ($\beta = .209$, $p < .1$). The effect of %_NED on performance is not significant in the pre-2002 time period. The coefficient of %_NED_SEC shows the difference between the post-2002 and pre-2002 effects of %_NED on performance is .209 and is marginally significant. This means that after 2002 the addition of NEDs has a slightly more impact on performance. Looking back at Table 5.1 it shows that there is increase of %_NED from .34 to .44 which increases the Tobin's Q by roughly $.02 = (0.10 \times .209)$. Thus the actual effect of %_NED on firm performance (ROA) after 2002 is the sum of the coefficients for %_NED and %_NED_SEC. Precisely saying, pre-2002 effect of %_NED on performance is 0.153 and post-2002 effect of %_NED on performance is .362 which dishes out the difference of 0.209 between these two time periods. Therefore, results in M2 reveal that the organizations having higher proportion of non-executive directors on the boards have performed significantly better after the implementation of SECP.

The effect of CEOdual on performance is negative and significant in the pre-2002 time period as well as for the time period post-2002. The coefficient of CEOdual_SEC is further weaker in the post-2002 is -.185. This means that after 2002 the dual role of CEO as chairperson board has more negative impact on companies' performance. The descriptive statistics from table 5.1 shows that there is a decrease in CEOdual from .654 to .484 which decreases the performance by $.03 = (-0.17 \times -.185)$. Thus the actual effect of CEOdual on firm performance for pre-2002 and post-2002 is -0.118 and -.303 respectively. Therefore, interaction effect of SECP with the dual role of CEO/Chairman of the board is negative and significant which implies that firms that continue to employ dual role of CEO/Chairman after the implementation of SECP have significantly lower firm performance (ROA).

The effect of ACM on performance is not significant in the pre-2002 time period but the coefficient of ACM_SEC is .26 and is significant. This means that after 2002 the increase in diligence of ACM has a much higher impact on performance (ROA). Looking back at Table 5.1 it shows that there is increase of ACM from .036 to 4.7 which increases the Tobin's Q by roughly $1.118 = (4.3 \times .26)$. Thus the actual effect of ACM on firm performance for pre- and post-2002 time periods is .112 and .37 respectively. Therefore, the interaction effect of SECP

with the diligence of audit committee is positively and significant ($\beta = .26, p < .01$) which indicates that the effect of the number of audit committee meetings on, the financial performance (ROA) of the firm becomes much stronger after the implementation of the SECP. The interaction effect of SECP with the independence of the audit committee is not significant, suggesting no change in the effect of the independent of the audit committee after the implementation of the SECP. Overall, these results are in line with our hypotheses H3a2, H4a2, H5a2. This also confirms the first condition of mediation. The value of fit statistics is $R^2 = .217$ and $\chi^2 = 119.69$ (12df, $p < .001$) for this model which elaborates that almost 12% of the variance in the model is accounted for these variables.

Mediating Effect:

In M3 and M4 of table 7, the second condition of mediation is assessed by regressing the mediating variable which is board monitoring role (frequency of board meetings) on governance indicators. More specifically, in M3 the board monitoring role (Frequency of board meetings) is regressed on governance indicators without accounting for the moderation effect of the implementation of SECP Corporate Governance code of 2002. The results show that the moderating variable SECP is highly significant and positive ($\beta = .12, p < .001$). The value for the proportion of non-executive directors is also positive and significant ($\beta = .248, p < .05$) showing that more presence of NEDs on the board increases the board meeting frequency causing improved monitoring role of the board. The variable dual role of CEO/Chairman of the board is negative and significant ($\beta = -.267, p < .05$) which shows that as the dual role increases the frequency of board meetings decreases. The coefficients for ACM and Ind_AC are not significant which shows that inclusive of both the periods, the results may be masked therefore it is needed to be worked out separately for the two time periods by using the interaction term. The value of fit statistics is $R^2 = .306$ and $\chi^2 = 334.83$ (12df, $p < .001$) for this model which elaborates that almost 30% of the variance in the model is accounted for these variables.

The model M4 explains the board monitoring role (Frequency of board meetings) is regressed on governance indicators and their interaction with the introduction of the SECP Corporate Governance code of 2002. The figures reveal that the effect of the moderating variable SECP is larger as compared to the previous era before the implementation of the governance code of 2002 ($\beta = .19, p < .001$). The effect of %_NED on board meeting frequency is marginally significant in the pre-2002 time period and the coefficient of %_NED_SEC is .28 and is

highly significant for the post-2002 period. This means that after 2002 the increase in non-executive board members has a much higher impact on board meeting frequency. Looking again at Table 5.1 it shows that there is increase of %_NED from .34 to .44 which increases the Tobin's Q by roughly $.028 = (.10 \times .28)$. Thus the actual effect of %_NED on board meeting frequency for pre- and post-2002 time periods is .17 and .45 respectively. Its interaction effect with the proportion of non-executive directors on the board positive and significant ($\beta = .28, p < .001$), suggesting a stronger effect on the frequency of board meetings after the implementation of SECP Corporate governance code of 2002. Similarly, the effect of CEOdual on board meeting frequency is negative and just marginally significant in the pre-2002 time period but gets highly significant and negative after 2002. The coefficient of CEOdual_SEC is $-.261$ and is significant. This means that the dual role of CEO as chairperson board has negative impact on board meeting frequency. The descriptive statistics from table 5.1 shows that there is a decrease in CEOdual from .654 to .484 which decreases the performance by $-0.044 = (0.17 \times -.261)$. Thus the actual effect of CEOdual on board meeting frequency for pre-2002 and post-2002 is -0.170 and $-.43$ respectively depicting that the interaction effect with the role of CEO/Chairman of the board is negative and significant ($\beta = -.43, p < .01$).

It is also found that the effect of ACM board meeting frequency is not significant in the pre-2002 time period but the coefficient of ACM_SEC is $.737$ and is significant. This means that after 2002 the increase in diligence of ACM has a much higher impact on frequency of board meetings. By looking at Table 5.1 it shows that there is increase of ACM from .036 to 4.7 which increases the Tobin's Q by roughly $3.1 = (4.3 \times .737)$. Thus the actual effect of ACM on frequency of board meetings for pre- and post-2002 time periods is $.175$ and $.912$ respectively showing that the interaction effect of SECP with the diligence of audit committee is positive and significant ($\beta = .737, p < .01$) while the relationship of Ind_AC with board meeting frequency remains insignificant for the pre 2002 time period but gets significant after the interaction effect ($\beta = .68, p < .05$) and therefore its effect can be quantified as 0.59 and 1.11 for the pre and post SECP code periods.

These results clearly favour the hypotheses H3a1, H4a1, H5a1 that governance variables get positive and significant after the implementation of SECP Code of 2002. These results of M3 and M4 provide support that the second condition of mediation is also confirmed. The value of fit statistics is $R^2 = .348$ and $\chi^2 = 358.43$ (16df, $p < .001$) for this model which elaborates that almost 36% of the variance in the model is accounted for these variables. The value of R^2

is higher in case of M4 as compared to M3 which is also in line with our hypotheses that governance indicators are improved after the implementation of SECP code.

To test for the final condition of mediation both governance indicators and board monitoring role were added in the models M5 and M6. More specifically in M5 the Tobin Q is regressed on board monitoring role (frequency of board meetings) and governance indicators before the implementation of SECP Corporate Governance code of 2002. The results show that the most of the variables are insignificant except dual role of CEO/chairman of the board which is somewhat slightly negative and significant ($\beta = -.085, p < .1$), the value of fit statistics is $R^2 = .218$ and $\chi^2 = 126.17$ (13df, $p < .001$) for this model which elaborates that almost 21% of the variance in the model is accounted for these variables and the value of mediating variable is insignificant which violates the condition of mediation. Thus no mediation is found in case of M5.

The model M6 explains the ROA is regressed on board monitoring role (frequency of board meetings) and governance indicators after the implementation of SECP Corporate Governance code of 2002. The figures reveal that the moderating variable SECP is marginally significant after the implementation of the governance code of 2002 ($\beta = .113, p < .1$). The impact of dual role of CEO/Chairman of the board is further negative and significant. The effect of CEOdual on performance is negative and significant in the pre-2002 time period ($\beta = -.110, p < .05$) which further gets weaker after 2002 ($\beta = -.165, p < .01$). This means that after 2002 the dual role of CEO as chairperson board has negative impact on companies' performance (ROA) while controlling for board meeting frequency. The descriptive statistics from table 5.1 shows that there is a decrease in CEOdual from .654 to .484 which decreases the performance by $-0.02 = (0.17 \times -.165)$. Thus the actual effect of CEOdual on firm performance for pre-2002 and post-2002 is -0.110 and $-.275$ respectively.

However, the diligence of audit committee is positive and significant for both periods. The effect of ACM is marginally significant in pre-2002 time period ($\beta = .116, p < .1$) while the effect of ACM on performance post-2002 time period (ACM_SEC) is .139 and is significant. This means that after 2002 the increase in diligence of ACM has a higher impact on performance. Looking again at Table 5.1 it shows that there is increase of ACM from .036 to 4.7 which increases the Tobin's Q by roughly $.71 = (4.3 \times .165)$.

Table 5.7: Regression Results with Random Effects with Monitoring Role of the Board and the Performance Measure as ROA

Variables	Return on Assets (ROA) with FOBM																		
	M0 Controls		M1 (X→Y) Cont+IV		M2(X,XZ→Y) Cont+IV+Mod		M3(X→M)		M4 (X,XZ→M)		M5(X,M→Y)		M6(X,XZ,M→Y)		M7 (M→Y)				
	B	S.E.	B	S.E.	B	S.E.	B	S.E.	B	S.E.	B	S.E.	Sobel Test	B	S.E.	Sobel Test	B	S.E.	
Cons. Goods	.061	.042	.061	(.042)	.063	(.041)	.057	(.043)	.048	(.042)	.064	(.043)		Sobel Test	.061		(.043)	Sobel Test	.062
Chemicals	-.081†	(.048)	.069	(.049)	-.034	(.048)	.062	(.055)	.05†	(.034)	-.066	(.056)	-.036		(.049)	-.080†	(.049)		
Industrials	-.025	(.051)	-.023	(.052)	-.032	(.051)	.030*	(.016)	.030*	(.015)	-.018	(.052)	-.022		(.052)	-.022	(.052)		
Firm Size	-1.03	(.425)	-.019	(.430)	-.056	(.432)	.008†	(.005)	.006	(.005)	-.064	(.435)	-.094		(.437)	-.125	(.43)		
Leverage	-.024	(.441)	.067	(.444)	.073	(.444)	.013*	(.005)	.010*	(.005)	.052	(.449)	.050		(.449)	-.075	(.445)		
Capex	.012	(.103)	.021	(.103)	.043	(.102)	.039	(.031)	.043	(.030)	.018	(.104)	.043		(.102)	.009	(.104)		
Dir_ Holdings	-.060	(.082)	-.064	(.101)	-.039	(.102)	-.060*	(.030)	-.016	(.030)	-.059	(.102)	-.038		(.103)	-.074	(.086)		
SECP			.013	(.100)	.019	(.131)	.12***	(.029)	.19***	(.038)	.086	(.102)	.113†		(.062)				
%_ NED			.065	(.080)	.153	(.118)	.248*	(.124)	.17†	(.096)	.062	(.081)	0.72		.160	(.116)	0.028		
%_ NED_SEC					.209†	(.136)			.28***	(.038)					.221	(.162)	0.029		
CEOdual			-.088**	(.034)	-.118**	(.045)	-.267*	(.123)	-.170†	(.094)	-.085*	(.035)	-0.77	-.110*	(.047)	-0.028			
CEOdual_SEC					-.185**	(.064)			-.261*	(.129)				-.165**	(.055)	-0.027			
ACM			.009	(.010)	.112	(.080)	.118	(.120)	.175	(.366)	.012	(.010)	0.75	.116†	(.071)	0.028			
ACM_SEC					.26**	(.092)			.737*	(.352)				.139*	(.072)	0.029			
Ind_ AC			.028	(.047)	.140	(.346)	.114	(.234)	0.44	(.310)	.026	(.048)	0.73	.129	(.348)	0.025			
Ind_ AC_SEC					.43	(.349)			0.68*	(.286)				.168	(.351)	0.027			
FOBM											.085	(.103)		.003	(.105)		.064	(.090)	
R ²	.185		.217		.295		.306		.348		.218			.248			.186		
χ ²	115.11 (7 df, p<.001)		119.69 (12 df, p<.001)		129.16 (16 df, p<.001)		334.83 (12 df, p<.001)		358.43 (16 df, p<.001)		126.17 (13 df, p<.001)			135.27 (17 df, p<.001)			117.58 (8 df, p<.001)		

N=200, Control Variables: Consumer Goods, chemicals, Industrials, Firm Size, Leverage, Capex, Directors' Ownership with textiles taken as base variable.

Independent Variables (IV): %age of Non-Executive Directors, Dual Leadership, Audit Committee Meetings, Independence of Audit Committee

Dependent Variables (DV): Tobin Q;

Mediating Variable (MV): Board Size;

Moderating Variable: SECP;

†p<.1, *p<.05, **p<.01, ***p<.001

Thus the actual effect of ACM on firm performance for pre- and post-2002 time periods is .116 and .255 respectively. However, the value for the frequency of board meetings which is a mediating variable is insignificant here which shows that there is no mediation in M6 as the third condition of mediation is grossly violated.

Sobel Test:

The results are not different when the mediation is checked through Sobel test and figures are insignificant. The value of fit statistics is $R^2 = .248$ and $\chi^2 = 135.27$ (17df, $p < .001$) for this model which elaborates that almost 25% of the variance in the model is accounted for these variables. The value of board resource dependence role is insignificant when regressed against ROA, which is a violation of the necessary condition for mediation by using Sobel Test.

5.8 Regression Results: Governance Indicators, Boards' Resource Provision Role and ROA as Firm Performance

The results obtained from regression analysis by testing the relationships between Governance variables, Board Resource Provision role and Performance measure of are presented in Table 5.8. In the Model M0 in Table 5.8, the controlled variables have been regressed against the performance measure of ROA. The regression relationship has been controlled by Consumer Goods, Chemicals, Industrials, Firm size, Leverage, R&D ratio to Sales and Directors' shareholdings. This is a restricted model by using only control variables as predictors and the results reveal that there is no significant association found in this model with value of fit statistics is $R^2 = .185$ and $\chi^2 = 115.11$ (7df, $p < .001$) for this model which elaborates that only almost 18% of the variance in the model is accounted for.

In the next step, independent variables have been added to the model with the interaction term SECP in the model, M1. The SECP coefficient is insignificant here with other variables like proportion of non-executive directors, audit committee diligence and independence however, the results reveal that there is a negative and significant relationship between dual role of CEO/Chairman board of directors and ROA ($\beta = -.088$, $p < .01$) represents the overall value for company performance for both the periods. In M1 this effect is $-.088$ and is significant and the behaviour has been explained in depth in section 5.7.

Moderating Effect:

In the model M2 in table 5.7, the moderated independent variables have also been added to judge the effect of implementation of SECP corporate governance code of 2002 as well as to judge the first condition of mediation. The results of M2 reveal that proportion of non-executive directors on the board is marginally significant ($\beta = .209$, $p < .1$). The effect of %_NED on performance is not significant in the pre-2002 time period. The coefficient of %_NED_SEC shows the difference between the post-2002 and pre-2002 effects of %_NED on performance is .209 and is marginally significant. This means that after 2002 the addition of NEDs has a slightly more impact on performance. Looking back at Table 5.1 it shows that there is increase of %_NED from .34 to .53 which increases the Tobin's Q by roughly $.04 = (0.19 \times .209)$. Thus the actual effect of %_NED on firm performance (ROA) after 2002 is the sum of the coefficients for %_NED and %_NED_SEC. Precisely saying, pre-2002 effect of %_NED on performance is 0.153 and post-2002 effect of %_NED on performance is .362 which dishes out the difference of 0.209 between these two time periods. Therefore, results in M2 reveal that the organizations having higher proportion of non-executive directors on the boards have performed significantly better after the implementation of SECP.

The effect of CEOdual on performance is negative and significant in the pre-2002 time period as well as for the time period post-2002. The coefficient of CEOdual_SEC is further weaker in the post-2002 is -.185. This means that after 2002 the dual role of CEO as chairperson board has more negative impact on companies' performance. The descriptive statistics from table 5.1 shows that there is a decrease in CEOdual from .654 to .484 which decreases the performance by $-.03 = (0.17 \times -.185)$. Thus the actual effect of CEOdual on firm performance for pre-2002 and post-2002 is -0.118 and -.303 respectively. Therefore, interaction effect of SECP with the dual role of CEO/Chairman of the board is negative and significant which implies that firms that continue to employ dual role of CEO/Chairman after the implementation of SECP have significantly lower performance (ROA).

The effect of ACM on performance is not significant in the pre-2002 time period but the coefficient of ACM_SEC is .26 and is significant. This means that after 2002 the increase in diligence of ACM has a much higher impact on performance (ROA). Looking back at Table 5.1 it shows that there is increase of ACM from .036 to 4.7 which increases the Tobin's Q by roughly $1.118 = (4.3 \times .26)$. Thus the actual effect of ACM on firm performance for pre- and post-2002 time periods is .112 and .37 respectively. Therefore, the interaction effect of SECP

with the diligence of audit committee is positively and significant ($\beta = .26, p < .01$) which indicates that the effect of the number of audit committee meetings on, the financial performance (ROA) of the firm becomes much stronger after the implementation of the SECP. The interaction effect of SECP with the independence of the audit committee is not significant, suggesting no change in the effect of the independent of the audit committee after the implementation of the SECP. Overall, these results are in line with our hypotheses H1b, H2b, H3a2 and which state that after the implementation of SECP Code, the governance indicators become significant. This also confirms the first condition of mediation. The value of fit statistics is for M2 is $R^2 = .295$ and $\chi^2 = 129.16$ (16df, $p < .001$) for this model which elaborates that almost 13% of the variance in the model is accounted for by this model.

Mediation effect:

In M3 and M4 of table 5.8, the second condition of mediation is assessed by regressing the mediating variable which is board resource dependence role (Board Size) on governance indicators. More specifically, in M3 the board resource dependence role (Board Size) is regressed on governance indicators without accounting for the moderation effect of the implementation of SECP code. The results show that the moderating variable SECP is marginally significant and positive ($\beta = .368, p < .1$). The value for the proportion of non-executive directors is insignificant. The variable dual role of CEO/Chairman of the board is negative and significant ($\beta = -.226, p < .05$) which shows that as the dual role increases the board size decreases. The coefficients for ACM and Ind_AC are not significant which shows that inclusive of both the periods, the results are masked and it is needed to be worked out separately for the two time periods by using the interaction term. The value of fit statistics is $R^2 = .126$ and $\chi^2 = 72.64$ (12df, $p < .001$) for this model which elaborates that almost 12% of the variance in the model is accounted for these variables.

The model M4 explains the board resource dependence role (Board size) is regressed on governance indicators and their interaction with the introduction of the SECP Corporate Governance code of 2002. The figures reveal that the effect of the moderating variable SECP has the same significance level but slightly larger in magnitude as compared to the previous era before the implementation of the SECP code ($\beta = .404, p < .1$). The effect of %_NED on board size is insignificant in the pre-2002 time period but highly significant for the post-2002 period ($\beta = .809, p < .001$). This means that after 2002 the increase in non-executive board members has a much higher impact on board size. Looking again at Table 5.1 it shows that

there is increase of %_NED from .34 to .53 which increases the Tobin's Q by roughly .15 = (.19 X .809). Thus the actual effect of %_NED on board size for pre- and post-2002 time periods is .261 and 1.07 respectively. Its interaction effect with the proportion of non-executive directors on the board positive and significant ($\beta = .809, p < .001$), suggesting a stronger effect on the board size after the implementation of SECP Corporate governance code of 2002. Similarly, the effect of CEOdual on board size is insignificant in the pre-2002 time period but gets highly significant and negative after 2002 ($\beta = -.328, p < .001$). This means that the dual role of CEO as chairperson board has negative impact on board size and CEOs with dual roles have tendency to deal with smaller boards, which may be only consisting of close members of the family or cronies. The descriptive statistics from table 5.1 shows that there is a decrease in CEOdual from .654 to .484 which decreases the board size by $-0.055 = (0.17 \times -.328)$. Thus the actual effect of CEOdual on board size for pre-2002 and post-2002 is -0.124 and $-.452$ respectively. This shows that as the dual role decreases the resource provision role of the board improves. However, ACM is found insignificant but the independence of audit committee Ind_AC is slightly significant and positive with board size for an overall time periods from 1999-2005.

These results clearly favour the hypotheses H3a2, H4a2, H6a2. These results of M3 and M4 provide support that the second condition of mediation is also confirmed. The value of fit statistics for M4 is $R^2 = .141$ and $\chi^2 = 103.79$ (16df, $p < .001$) for this model which elaborates that almost 14% of the variance in the model is accounted for these variables. The value of R^2 is higher in case of M4 as compared to M3 which is also in line with our hypotheses that governance indicators are improved after the implementation of SECP code.

To test for the final condition of mediation both governance indicators and board monitoring role were added in the models M5 and M6. More specifically in M5 the ROA is regressed on board resource dependence role (Board Size) and governance indicators without accounting for the interaction effect of SECP Corporate Governance code of 2002. The results show that the most of the variables are insignificant except dual role of CEO/chairman of the board which is negative and somewhat significant ($\beta = -.087, p < .1$), the value of fit statistics is $R^2 = .221$ and $\chi^2 = 121.69$ (13df, $p < .001$) for this model which elaborates that almost 22% of the variance in the model is accounted for these variables and the value of mediating variable is insignificant which violates the condition of mediation. The model M6 explains that ROA is regressed on board resource provision role (board size) and governance indicators by using

the interaction effect for the parsimonious results regarding for the implementation of SECP Corporate Governance code of 2002.

The figures reveal that the moderating variable SECP is marginally significant after the implementation of the SECP code ($\beta = .225$, $p < .1$), and the role of CEO/Chairman of the board which is negative and significant for this era ($\beta = -.119$, $p < .01$) which is somewhat negative and significant. It is needed to quantify next the value of interaction effect as a result of mediation and moderation.

However, the role duality by CEO became negative and significant for the interaction effect which depicts that for those organizations having role duality had comparatively weaker performance ($\beta = -.119$, $p < .05$). Looking again at Table 5.1 it shows that there is decrease of CEOs having dual roles in the organizations after 2002 which was .654 and .550 respectively. Because of that the ROA decreases roughly by $-.011 = (.10 \times -.119)$. Thus the actual effect of CEO duality on firm performance (ROA) for pre- and post-2002 time periods is $-.059$ and $-.169$ respectively. The value for the board size which is a mediating variable is insignificant. These results of M6 overall doesn't provide support for mediation and violate the conditions of mediation.

Sobel Test:

Results of the Sobel test also revealed that there is no mediation found as all the results are insignificant by using ROA as performance measure. The value of fit statistics is $R^2 = .245$ and $\chi^2 = 134.16$ (17df, $p < .001$).

Table 5.8: Regression Results with Random Effects with Resource Dependence Role of the Board and the Performance Measure as ROA

Variables	Return on Assets (ROA) with Board Size																			
	M0 Controls		M1 (X→Y) Cont+IV		M2(X,XZ→Y) Cont+IV+Mod		M3(X→M)		M4 (X,XZ→M)		M5(X,M→Y)		M6(X,XZ,M→Y)		M7 (M→Y)					
	B	S.E.	B	S.E.	B	S.E.	B	S.E.	B	S.E.	B	S.E.	Sobel Test	B	S.E.	Sobel Test	B	S.E.		
Cons. Goods	.061	.042	.061	(.042)	.063	(.041)	.315	(.290)	.382	(.220)	.054†	(.033)			.074†		(.042)		.071†	(.042)
Chemicals	-.081†	(.048)	.069	(.049)	-.034	(.048)	.174	(.204)	.249*	(.284)	-.059	(.044)			.027		(.048)		.074	(.048)
Industrials	-.025	(.051)	-.023	(.052)	-.032	(.051)	.381	(.211)	.460*	(.220)	.006	(.052)			-.004		(.052)		-.006	(.052)
Firm Size	-1.03	(.425)	-.019	(.430)	-.056	(.432)	.242†	(.135)	.321*	(.145)	.014	(.057)			.017		(.049)		.016	(.061)
Leverage	-.024	(.441)	.067	(.444)	.073	(.444)	.212*	(.111)	.34*	(.136)	.057	(.087)			.055		(.094)		.032	(.087)
Capex	.012	(.103)	.021	(.103)	.043	(.102)	-.314	(.242)	-.613*	(.220)	.001	(.103)			.025		(.102)		.007	(.103)
Dir_ Holdings	-.060	(.082)	-.064	(.101)	-.039	(.102)	-.001	(.217)	.150	(.222)	-.059	(.101)			.033		(.103)		.065	(.082)
SECP			.013	(.100)	.019	(.131)	.368†	(.214)	.404†	(.234)	.134	(.108)			.225†		(.116)			
%_ NED			.065	(.080)	.153	(.118)	.204	(.171)	.261	(.242)	.057	(.079)		1.21	.264		(.218)	0.96		
%_ NED_SEC					.209†	(.136)			.809***	(.277)				.342	(.239)	1.21				
CEOdual			-.088**	(.034)	-.118**	(.045)	-.226*	(.115)	-.124	(.140)	-.087†	(.054)	-1.40	-.059	(.066)	-0.81				
CEOdual_SEC					-.185**	(.064)			-.328***	(.098)				-.119*	(.086)	-1.16				
ACM			.009	(.010)	.112	(.080)	.228	(.140)	.271	(.153)	.008	(.010)	1.17	.082	(.171)	1.39				
ACM_SEC					.26**	(.092)			.287	(.155)				.143	(.173)	1.41				
Ind_ AC			.028	(.047)	.140	(.346)	1.24†	(.171)	.976	(.752)	.014	(.048)	1.15	.176	(.346)	1.10				
Ind_ AC_SEC					.43	(.349)			1.552*	(.758)				.291	(.349)	0.68				
Board Size											.027	(.044)		.034	(.056)		.029*	(.015)		
R ²	.185		.217		.295		.126		.141		.221			.245			.198			
χ ²	115.11 (7 df, p<.001)		119.69 (12 df, p<.001)		129.16 (16 df, p<.001)		72.64 (12 df, p<.001)		103.79 (16 df, p<.001)		121.69 (13 df, p<.001)			134.16 (17 df, p<.001)			117.22 (8 df, p<.001)			

N=200, Control Variables: Consumer Goods, chemicals, Industrials, Firm Size, Leverage, Capex, Directors' Ownership with textiles taken as base variable.

Independent Variables (IV): %age of Non-Executive Directors, Dual Leadership, Audit Committee Meetings, Independence of Audit Committee

Dependent Variable (DV): Tobin Q;

Mediating Variable (MV): Frequency of Board Meetings;

Moderating Variable: SECP;

†p<.1, *p<.05, **p<.01, ***p<.001

Table 5.9: Summary of Findings from Hypotheses Testing

Hypotheses	Predictors	Result
H1 (a)	Frequency of board meetings is positively associated with Tobin Q	Supported
H1 (b)	Frequency of board meetings is positively associated with ROA	Not supported
H2 (a)	Board size is positively associated with Tobin Q	Support
H2 (b)	Board size is positively associated with ROA	Support
H3 (a1)	Proportion of NEDs is positively associated with frequency of board meetings	Support
H3 (a2)	Proportion of NEDs is positively associated with board size	Support
H3 (b1)	The relationship between proportion of NEDs and Tobin Q is mediated by frequency of board meetings and board size	Partially Supported
H3 (b2)	The relationship between proportion of NEDs and ROA is mediated by board control role and resource dependence role	Not supported
H3 (c)	Proportion of NEDs, board roles and firm performance stronger after SECP	Partially Supported
H4 (a1)	Role duality is negatively associated with frequency of board meetings	Supported
H4 (a2)	There is a negative relationship between Role duality and board size	Supported
H4 (b1)	The relationship between role duality and Tobin Q is mediated by board control role and resource dependence role	Supported
H4 (b2)	The relationship between role duality and ROA is mediated by board control role and resource dependence role	Not Supported
H4 (c)	The relationship is moderated by SCEP code such that it is weaker after the implementation of SECP code	Partially Supported
H5 (a1)	There is a positive relationship between audit committee diligence and board control role	Supported
H5 (a2)	There is a positive relationship between audit committee diligence and board resources role	Not supported
H5 (b1)	The relationship between audit committee diligence and Tobin Q is mediated by control role and resource dependence role	Partially supported
H5 (b2)	The relationship between audit committee diligence and ROA is mediated by control role and resource dependence role	Not Supported
H5 (c)	The relationship is moderated by SCEP code such that it is stronger after the implementation of SECP code.	Partially Supported
H6 (a1)	There is a positive relationship between Independence of Audit Committee and Boards' Monitoring Role	supported
H6 (a2)	There is a positive relationship between independence of audit committee and board size	Supported

H6 (b1)	The relationship between audit committee independence and Tobin Q is mediated by control role and resources role	Partially supported
H6 (b2)	The relationship between audit committee independence and ROA is mediated by control role and resources role	Not supported
H6 (c)	The relationship is moderated by SECP code such that it is stronger after the implementation of SECP code	Partially supported

5.9 Summary

This chapter presents the analytical assessment of the relationship between board structural characteristics after the implementation of SECP Code in Pakistan, board roles and performance measures of the organizations. A variety of methods was used to analyse data obtained from a large sample of the registered organizations at Karachi Stock Exchange from 1999 to 2005. Hausman test was used to judge the random or fixed effects in the panel data and the results supported Random effect ordinary least square regression method for analysis.

The findings of the research show that proportion of non-executive directors, separation of CEO/Chair of the board, diligence of the audit committee, and independence of audit committee were significantly related with Tobin Q after the implementation of SECP Code,; mediated by the monitoring role of the board. Similarly, it also showed that proportion of non-executive directors, separation of CEO/Chair of the board, and independence of audit committee were also significantly related with Tobin Q after the implementation of SECP Code, 2002; mediated by the resource provision role of the board. The findings are also in line with number of studies (Hillman and Dalziel, 2003; Brick and Chidambaran, 2010; Chhaochharia and Grinstein, 2007; and Farquhar 2012). Although resource provision role was relatively stronger in the post SECP time period but it could only mediate between proportion of non-executive directors, separation of CEO/Chair of the board, independence of audit committee and Tobin Q.

Overall the study set out to test 24 hypotheses varied by the board structural characteristics after the implementation of SECP Code, 2002, Board monitoring (frequency of board meetings) and resource provision (board size) roles and financial performance measured by market based measures (Tobin Q) and accounting based measures (ROA).The study outlines more support for the marketing measure of financial performance (Tobin Q) as compared to the accounting measure of the financial performance (ROA). This is also in line with previous studies (Shabbir and Padget, 2005; Guest, 2009). For instance, Bontis et al., (2000)

and Ho and Williams (2003) also report an insignificant relationship between the value added by a firm's intellectual capital and ROA. The board structural indicators, except the diligence of audit committee, also exhibit relationship with Tobin Q mediated by board resource provision role, and the hypotheses regarding the mediating roles of board namely control role and board resource role are either fully or partially supported in most of the cases. However, the results show no mediation by board monitoring role of the relationship between corporate governance indicators and ROA. Consequently it can be said that results overall show support for the notion that the introduction of the SECP corporate governance code created conditions in which change in board structures caused strengthened board roles and enhanced firm performance with respect to the market based measure (Tobin Q) which might have been the good signal for the progress of the stock market as well. The next chapter will provide a discussion relating these findings to existing knowledge of board structure, board roles, and firm performance outcomes.

Chapter 6

Discussion

6.1 Introduction

This study examines whether the changes in board structure after the corporate governance reforms have been helpful in strengthening the board roles to achieve the better corporate financial performance. Building on existing literature and multiple theoretical lenses, a model has been examined that relates the board structural characteristics (Proportion of non-executive directors, CEO/Chairperson Duality, Diligence of Audit Committee, and independence of Audit Committee) before and after the implementation of SECP code to firm performance (Tobin Q and Return on Assets) through two mediating variables reflecting board monitoring role (Board meeting frequency) and board resource dependence role (board size). The study provided evidence that changed board structure after the implementation of SECP code had been instrumental in creating an environment to strengthening the roles of the boards by increased board activity and board resources to enhance firm value. The model was tested through a unique data set of 200 non-financial sector companies registered on Karachi Stock Exchange (KSE) in Pakistan from 1999 to 2005 by comparing the results of two time periods. The period of 1999-2001 is the time period before the implementation of SECP code and 2003-2005 is the time period after the implementation of SECP code.

Pakistan sought to adopt more stringent corporate governance mechanisms by adopting the Securities and Exchange Commission of Pakistan (SECP) Code, acknowledging that corporate governance is vital for its corporate sector. This has paid off in a way for the country that despite the dismal law and order situation in the country the stock market performance was declared second best in the south Asian region. This is the first major study outside UK and USA to fill the knowledge gap in the literature by proposing that board roles are important intervening variables in the relationship between board structural characteristics and firm financial performance. The findings accordingly have important implications for policy makers and managers, as well as contribute valuable comparisons and contrasts to the empirical findings and theoretical viewpoints to be found in the existing research literature.

The purpose of this study was to examine whether there was any change in the corporate board structural characteristics after the implementation of SECP code and how this restructuring of corporate boards eventually might influence board roles and firm financial performance. This was done by comparing the pre-implementation time period in the

Pakistani business environment. The SECP code addresses the legal requirement of board structure and provides an impetus to board actions and responsibilities (Rais and Saeed, 2005). There are clear and significant civil penalties associated with boards that fail to comply (Ibrahim, 2005) which is in line with the studies conducted about the influence of Sarbanes-Oxley (SOX) environment on the board composition practices and their impact on corporate financial performance (Van Ness et al., 2010). In other words, although the relationship between board structural characteristics and firm financial performance has been studied at length in the past, the implementation of SECP code may have motivated a new set of behaviours by corporate boards and thus has introduced a new context for this relationship. Our study is different from others in not only in timing but also in scope. The study finds its motivation from the recent calls arguing that it is needed to study the board roles under multiple theoretic regimes instead of looking through agency lens (Hillman and Dalziel, 2003; Roberts et al., 2005). Therefore, this study has discussed both the control/monitoring as well as resource dependent roles of the board and found that board roles were greater predictors of the relationship of board structural characteristics and firm performance after the implementation of SECP code. Despite of extensive literature on direct relationship of corporate governance and firm performance there appeared to be little research on the mediational dimension of board roles on this relationship.

Depending upon the nature of data set used in the study, therefore, the near proxies were used to measure the board roles as data was for a particular time period in the past from 1999 to 2005 to give a fair assessment of the model for before and after SECP code implementation time periods. As indicated in the literature, the proposition is that the frequency of board meetings measures the intensity of a board's roles, and the quality or effectiveness of its monitoring (Vafeas, 1999; Conger et al., 1998). Thus, following Vafeas (1999) says that higher frequency of board meetings will produce a higher quality of board monitoring, and, if higher board activity facilitates better board monitoring, outside directors are expected to demand more board meetings to augment their monitoring capability. Similarly, Lehn et al., (2004) and Guest (2008) resolve that board composition changed by adding more lawyers and financial experts and fewer executives after the implementation of SOX. DE Villiers et al., (2011) are of the view that size of the board and background of the members are vital for the provision of advice, counsel, management, and policy oversight and monitoring. They are of the view that the firms which previously were not compliant to SOX increased their board sizes because they added more outside directors than the insiders removed from the board.

Moreover, larger boards augment the base of expertise and knowledge to seek adept business advice, which increases managerial capability for informed and better business decisions (Yawson, 2006). Therefore, in the light of this literature, frequencies of board monitoring and board size were used to measure the monitoring and resource dependence roles of the board respectively.

Consequently the stated aim of this thesis is to examine "The impact of mediation of board roles between board structural characteristics and firm financial performance before and after the implementation of SECP code under multi-theoretic lens". The corporate financial performance has been investigated not only with respect to market related measure (Tobin Q) but also with respect to accounting based measure (ROA). Relying on a single measure to investigate performance increases the potential for discovery oversight. The study using board roles as a mediation tool to judge the relationship between board composition and corporate financial performance is not only a less trodden area but also offers interesting insights.

The study has strived to develop a theoretical model of the relationship between board structure and firm performance mediated by board roles, subsequently the model has been tested in Pakistani context on the firms listed at Karachi stock exchange (KSE) from 1999 to 2005. The sample consisted of all the firms excluding finance banking sector, state owned enterprises and the utility companies. The reason for excluding these firms was that financial sector and state owned enterprises (SOE) were not under the purview of the SECP. Same is the case for utility companies which are partially owned and managed by the state. All the rest of the companies were taken whose data was available for all the 6 years. Consequently, this study offers initial and new empirical insights, for example; firstly, the study shows that board roles are greater predictors of the relationship of board structural characteristics and firm performance. Secondly, by examining board roles under multiple theoretical mechanisms and board structural characteristics under SECP code this study is different as compared to previous research. Thirdly, this study finds that board primarily undertake two distinct roles, monitoring and resource dependence. This will also give all subsequent authors a platform on which to build their research and businessmen a better understanding of these relationships, so that pre-emptive actions can be taken to prevent corporate governance scandals in future.

6.2 Theoretical Contributions of Study

There are four key theoretical contributions to theory arising from this study. First, it shows that board structure and board role relationship is stronger than board structure and firm performance linkage after the implementation of SECP code. Secondly, board roles better predict firm performance with respect to market measures as compared to accounting measures of firm performance after the implementation of SECP code.

Thirdly, by probing several board structural characteristics and multiple board roles (Monitoring role and resource dependence role) simultaneously, this study provides a more inclusive and wide-ranging treatment of board research. Fourthly, the board structural variables more strongly relate with the monitoring role of the board and market measure of firm value. These findings have implications for board practice, board theory, and board policy makers.

Parting its ways from conventional input-output mechanism based studies and finding its motivation more from indirectly measuring the board structural characteristics and firm performance relationship through board roles mediation, this study shows that board structural characteristics are better predictors of board monitoring activity (FOBM) and board resource dependence (Board size) roles as compared to firm performance. These findings support the other more recent studies on boards of directors.

For example the study particularly proves that in the post SECP era the representation of NEDs increased on the board which shows that post 2002 boards are relatively more independent and larger. This also shows that increase in board size is not by adding more insiders, therefore, the boards' pool changed altogether as a result of these reforms which is specifically in line with authors such as Brick and Chidambaran, (2010) and (Linck et al., 2009). This may be beneficial in Pakistani corporate governance scenario where traditionally the founding family influence looms over the organizations, the board independence is the factor that may be able to break this nexus for effective monitoring and helping the minority shareholders for better returns on investments and avoiding conflict between principals.

Similarly, when the study shows that relationship of board structural characteristics and board roles have stronger and significant relationship with Tobin Q as compared to ROA, it can be discerned that compliance couldn't bring the broad based changes in the organizational structure to improve the firm profitability as a result of governance reforms however, the

compliance with SECP code reporting generated positive signals for the external investors to woo them for more investments in the code compliant companies and eventually showing more activity in the stock market. This also shows that actual decision making on the board didn't bring any structural changes to usher more profitability for the firm rather a tick box approach was followed. However, this positive signalling is in line with institutional theory, which elaborates that compliance shown as a result of pressure from external regulators doesn't usually comply with true letter and spirit and therefore, doesn't translate in improvement of organizational effectiveness (DiMaggio and Powell, 1983).

The study can't show the relevant backgrounds and expertise of the newly added NEDs after 2002 because of the choice of the fixed proxies which don't capture the process changes on the board, however, it can be contended that to fulfil the requirements of the SECP code, the newly added NEDs will be eminent managers and finance experts as prescribed by the SECP code. The study also proves that increase in proportion of NEDs caused increase in board activity and size of the board which represent board monitoring and resource dependence roles respectively. Therefore, it can be contended that NEDs not only perform the monitoring role but also they bring the significant resource to the firm. This also proves that increased proportion of NEDs after SECP code has more stronger relationship with board activity and board size which is according to the past studies (such as Markarian and Parbonetti, 2007; Boone et al., 2007; Coles et al., 2008). Although this study can't prove about the quality of decisions made by the boards after addition of more NEDs because of the non-availability of data and choice of proxies, however, it can be argued that independent directors prove better monitors and improve the quality of input needed for decision making, also indicated by the past literature (e.g. Huse, 2005; Shen, 2005; Machold et al., 2011). It can also be inferred here that major emphasis of these reforms, by adding more NEDs, is directed towards increasing the capability or skill level of the board and not the improvement in transparency (Roberts et al., 2005) without instituting the independent nomination committee on the board in Pakistan. Therefore, the study affirms the application of multi-theoretic lens and the outcomes are plausible that presence of (Independent) NEDs not only act as better monitors but also bring in valuable resources to the firm (Hillman and Dalziel, 2003; Van Ees et al., 2008; McNulty et al., 2013).

Similarly the results of the study shed light on the board leadership structure and reveal that after the SECP code the trend is more towards the separation of these roles. This has caused opening in the traditional dual leadership structure and separated the board leadership and

firm leadership roles. This is also in agreement with Noguera (2011) who recorded that after the implementation of SOX a majority of the board were not led by their CEOs. The independence of the boards caused more board activity after SECP code and board meeting frequency increased which caused the improvement in board monitoring capability. This contention is also in line with the results by Brick and Chidambaran, (2010) and Vafeas (1999) who elaborate that due to the prevalence of CEO, there will be lesser open discussions in the meetings and hence dual role will be affecting negatively to the board activity which in turn may hinder the monitoring role of the board under the agency lens. Simultaneously, the study shows that separation of leadership roles has also caused the increase in board size in the same time period. This is most relevant to Hermalin and Weisbach, (1998, 2003) and Jensen (1993) that role duality will give unnecessary power to CEO which will undermine the internal controls and may hamper board roles. Past literature (e.g. Linck et al., 2005, 2008; Guest, 2008) suggest that excessively powerful CEOs will exert their influence on the boards and will try to fill the board with their cronies who can be easily managed. Therefore, the study reports that separation of roles is positively associated with the increase in size of the boards in post SECP era which may be contended for the improved resource availability to the firm. This is also in congruent with the results presented by Chen and Al-Najjar (2012) who document that board size increased after separation of board roles in the aftermath of governance reforms in China.

The audit committees were either non-existent or dormant before the SECP code. However, study shows that diligence of audit committee increased as a direct consequence of enforcement of SECP code in Pakistan. The activity increased in the functioning of audit committee because audit committees have been considered as the most important mechanism of internal control after the world wide governance reforms (Goh, 2009; Krishnan, 2005). The results of the research further show that an increase in audit committee diligence is causing positive effect on the board activities which is congruent with the deliberations of Blue Ribbon Committee (1999) that the positive relationship between board and audit committee working is the symbol of a functional board overall and vice versa. The diligence of audit committee will make a board more active and the board will have to generate more activity in order to be at par with the working of audit committee and this in turn will enhance the monitoring capability of the board. This argument is in agreement with Raghunadan and Rama (2007); Sharma (2009); and Al-Najjar (2011) who report a positive relationship between audit committee diligence and board activities for the large size firms. However, the

study doesn't report any relationship between diligence of audit committee and board size which may be contended that asymmetries exist in the relationship between CEO and formation of audit committees and the role of CEO is very dominant, therefore, some of the firms may have the committees comprising of majority of NEDs, as per the requirements of SECP code, who may not be independent enough to strengthen the internal controls. The study further reveals that independence of audit committee increased in the era of SECP code after 2002. The requirement of the code was that audit committees be headed by independent NEDs. These results are in line with the findings of Hoitash and Hoitash (2009) who reported in their study of US firms that in the post SOX regime the composition of audit committee changed to comply with the requirements of SOX. Similarly, in Pakistan the audit committees have been mandated for the appointment of external auditors and devise the sound internal control mechanisms. Therefore, the audit committee independence has implications for the quality of the audit and the independence of the audit policy of the firm. The study further reports that independence in the formation of audit committee caused an increase in the board meeting activities as well. The activity of the board increased with the independence of the audit committee; hence, it can be argued that presence of NEDs in the audit committee helped strengthening the monitoring role of the board. The results are also in agreement with the prior literature (such as Goh, 2009; Krishnan, 2005; Zhang et al., 2007; Doyle et al., 2007) who have shown that adding more independent directors and widening the scope of audit committees in the post SOX era caused a significant increase in the board activity levels. Therefore, it can be contended that independence of audit committees will enhance the monitoring capability of the board and strengthen the internal control systems overall. The study also reported that the independence of audit committee and board size is related and the relationship is significant and positive irrespective of the time periods. However, composition of audit committees changed after the enforcement of SECP code and they were reconstituted to comply the requirements by adding majority of NEDs and headed by preferably an NED. This is in line with the prior studies (e.g. Klein, 2002; Ashbaugh-Skaife et al., 2008; Braswell et al., 2012) who claim that prior to the SOX the internal controls were not considered the major responsibility of the audit committees and therefore audit committees were having little say in designing and evaluating the company internal controls. Therefore, it can be argued that if the boards will be dominant with the internal directors there will be little availability of NEDs to form the audit committee as well as the presence of independent NEDs on the audit committee will prove as a resource to the board and will be able to advise on the quality of internal control mechanism of the firm. The

support of board structural characteristics to the dual role of the board is plausible explanation that changed board structure is instrumental in strengthening the board roles under the agency theory as well as resource dependence theory.

6.3 The relationship between Independent directors and firm performance mediated by board Roles

The Figures 6.1A depicts the relationship without accounting for the interaction effect of moderating variable. The direct relationship between %_NEDs and Tobin Q is positive and slightly significant ($\beta = .68$, $p < .1$) but the value gets insignificant when controlled for monitoring role, however the value is significant but weaker in magnitude when controlling for resource dependence role ($\beta = .183$, $p < .1$) but the first condition of mediation is not fulfilled as the relationship between %_NEDs and board size is not significant as reported by the data In the next step the relationship is explored using ROA as a performance indicator for the firm.

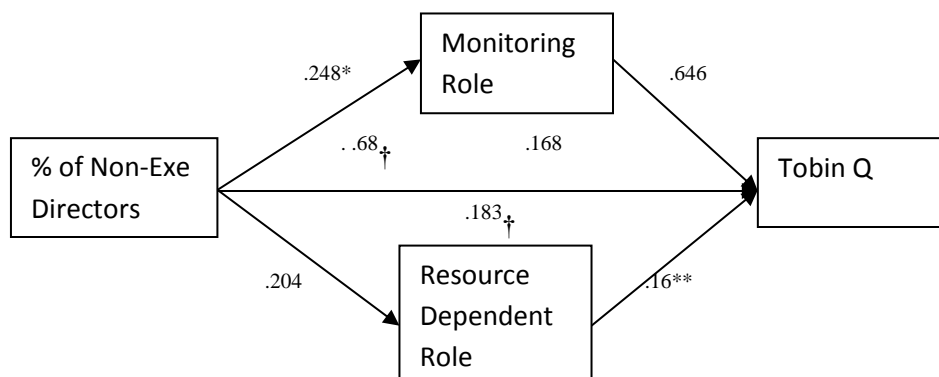


Figure 6.1A Unaccounted Moderation Model of the mediated relationship between independent directors and firm performance (Tobin Q)

Figures 6.1B depicts the relationship without accounting for the interaction effect of moderating variable by using ROA as performance variable. The figure 6.1B doesn't report any significant relationship either directly or indirectly except the relationship between %_NEDs and monitoring role of the board but all the other needed relationships are insignificant therefore, there is no mediated or direct relationship existing. Therefore, these

relationships are not significant and it requires that the relationship should be further explored by using the time interaction effect to judge more closely the impact of SECP after 2002.

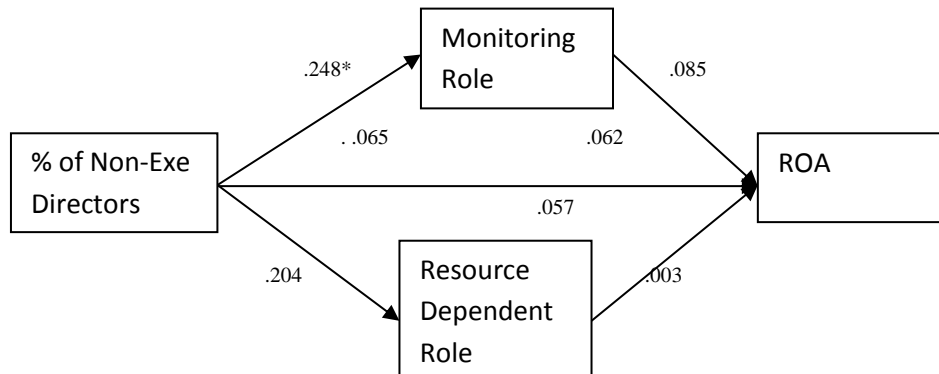
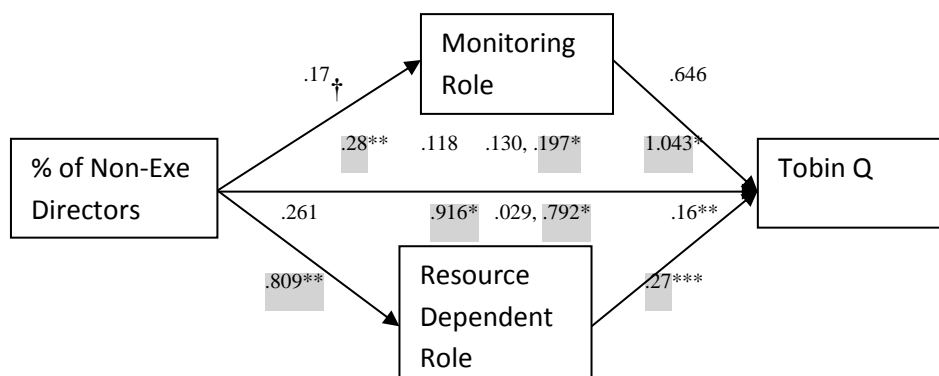


Figure.6.1B Unaccounted Moderation Model of the mediated relationship between independent directors and firm performance (ROA)

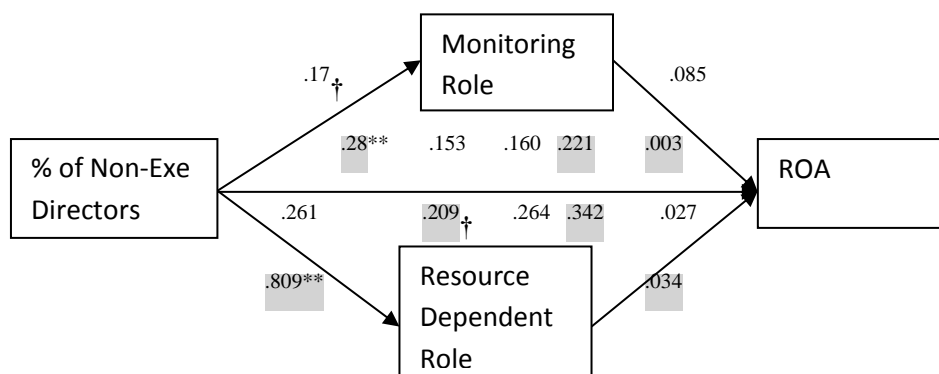
But in figure 6.1C shows the moderation effect using interaction term of SECP, both the monitoring role and the resource dependence roles mediate the relationship between independent directors on the board and firm performance (Tobin Q) when the interaction effect is included to focus on the behaviour of the board after the enforcement of SECP code.



Pre-SECP Values Post-SECP Values

Figure 6.1C Moderated Model of the mediated relationship between independent directors and firm performance (Tobin Q)

The value of beta is .197 and $p < .05$ when the control role is included in the model and .792 and $p < .05$ which are lower as compared to the direct relationship when the resource dependence role is included in the model. The relationship between %_NEDs and board meeting frequency and board roles are also positive and significant as ($\beta = .28, p < .01$) and ($\beta = .809, p < .01$) respectively. Therefore, it can be said that the relationship is mediated through board monitoring and resource dependence roles after SECP code. The figures fulfil the criteria of mediation a set by Baron and Kenny (1986). However, the same relationships are insignificant for the time period prior to 2002. These findings partially get their support from results of some prior studies regarding the activity and the efforts made by the board (e.g. Zona and Zattoni, 2007).



Pre-SECP Values Post-SECP Values

Figure 6.1D Moderated Model of the Mediated Relationship between NEDs and firm performance (ROA)

However, figure 6.1D shows that there is a positive and significant relationship between proportion of non-executive directors and board meetings frequency regardless of the time period but the relationship between %_NEDs and board size is significant after enforcement of SECP code. However, %_NEDs has stronger relationship with board roles after the implementation of SECP code in 2002 but the relationship between independent directors and ROA is not mediated by board roles as both roles have insignificant relationships between board roles and firm performance. It also offers empirical support to previous evidence, which suggests that insiders (managers – ROA) and outsiders (shareholders – Tobin Q) value

corporate governance differently (Black et al., 2006; Haniffa and Hudaib, 2006), because ROA is unable to reflect current changes in market valuation. By contrast, as a market measure, the Q-ratio reflects expected future developments that may be masked by current fluctuations in business conditions. The findings also provide a useful perspective on managerial value perception. It shows that for the company managers ROA is more important as it provides them the space for future investment as well as the profitability of the organization contributes to the overall wealth effects for the top management, on the other hand, for the investors out in the market, increase in market value of the company stocks is more valuable through which they get the financial gains and therefore, Tobin Q epitomizes financial valuation of corporate governance structures by investors (outsiders).

The results reveal that the relationship in terms of magnitude is enhanced for resource dependence role after the code is induced as compared to monitoring role and non-executive relationship. Bathala and Rao (1995) and Klein (2003) have tried to measure these relations by using either of these board roles but this study provides deeper insights using the dual role of the boards. This study thus advances research on boards through the provision of evidence that board roles are mediators of the board structure-firm performance relationship. This is an important theory development and its importance will continue to be shown in considering the relationship between other board structural measures and firm performance in the rest of the sections.

These results are in line with the stream of the literature dealing with impact of board functions on firm performance (Van Ees et al., 2009; Vanderwaerde et al., 2011). These findings are supportive of agency theoretic recommendations for boards that boards' effectiveness will be enhanced by more outside directors.

Although in Pakistan where traditionally it is considered that shareholding pattern is closed within the founding family, however, our results show in Table 5.1 that after the implementation of SECP code, there is considerable change in the composition of the board of directors and audit committees. The board and committees have been more populated with NEDs as compared to executive directors after the implementation of SECP code. It can be inferred that compliance with SECP code will help bring effective monitoring to ensure that rights of minority shareholders are not compromised. Therefore, under the directions of SECP, this act of separation of board chair and CEO has been complemented by the non-executive directors to usher the increased board activity. The results reveal that relationship

between the proportion of non-executive directors on the board and the frequency of board meetings increases after the implementation of the code. The role of non-executive directors has been documented in the literature as having an important impact on monitoring role of the board (Cotter, 1997; Boone et al., 2007; Guest, 2008). The monitoring role of the board can be shown by the increased activity of the board in the shape of increase in the frequency of board meetings (Vafeas, 1999; Adams, 2009). The results show a positive relationship between proportion of non-executive directors and the frequency of board meetings, which is in line with the study by Al-Najjar (2012). The obvious reason is that independent directors will demand more board meetings, as they will need more time in briefing the board members (Brick and Chidambaran, 2007). The study reveals that the relationship gets stronger and significant after the implementation of the code. The code demands that non-executive independent directors should be managerial/financial experts or retired executives (SECP, 2002) which will result in the increased board meeting frequency for improved monitoring capacity of the board. Linck et al., (2010) are of the view that post-SOX scenario has changed the board composition and board roles which has resulted into the improved monitoring capability of the board. These new legislations have exerted more pressure to strengthen the role of the directors (Buccino and Shannon, 2003). Hence, we see that board workload increase as we see more board meeting frequency and boards have much more pressure to work for more time to resolve the board monitoring issues after the implementation of SCEP code. Therefore, increased board activity will be able to attain economies in agency costs.

The results further reveal that proportion of outside directors on the board increases after the implementation of SECP code and firms add more outside directors than the insiders are removed to comply. This will increase not only the expertise and knowledge of the board members but also the size of the board. Firms may not remove as many inside directors as they hire the outside independent directors (Linck et al., 2008). Markarian and Parbonetti (2007) elaborate that independent directors not only provide the monitoring task but also prove to be a valuable resource for the firm. The board's resource providing role is to provide the CEO with advice and access to information and resources, and is more efficiently performed by outside NEDs who can provide important connection and expertise (Fama and Jensen, 1983). Therefore, the results are in line with Lehn et al. (2003) which state that larger board and proportion of outsiders can provide greater information and tend to be more independent in their opinions.

The size of the board may have positive relationship with the passing of the regulations (Chen and al-Najjar, 2012). Similarly, monitoring is more efficient with a larger board and proportion of outside directors because of greater shared information (Guest, 2008). Therefore the results are in line with an influential stream of the literature for example Linck et al., (2008); Guest et al., (2008); Al-Najjar (2012); Dalton et al., (1999) regarding resource provision role and board independence as well. It is also contended here that independent boards composed after the implementation of SECP code not only strengthen the monitoring but also the resource provision role of the boards. The results also show that the mediating effect of board roles has strengthened between the board independence and firm financial performance after the implementation of the code. The results show that relationship is significant only when performance is measured by Tobin Q. The reason may be that it was perceived by the outside shareholders that the organization has got non-executive directors on its board. In terms of ROA, no significant relationship is found, nevertheless, positive coefficients elaborate that the relationship is positive if not significant. The reason for this might be that increased board monitoring role activity increased after the implementation of the code which increased the firm value but could not improve its objective of making relatively permanent structural changes in the corporate governance practices.

Another interpretation could be that main contribution of the increased board monitoring activity was in helping to identify more investment opportunities as opposed to operating performance and because of the media focus and regulatory pressure the firms moved quickly to increase the number of boards members and board meetings to signal that they had complied with the provisions of SECP code. It seems that they merely adopted the tick box approach to give a positive signal to outside shareholders and did not comply with the code in spirit.

6.4 The relationship between CEO/Chair Duality and firm performance mediated by board Roles

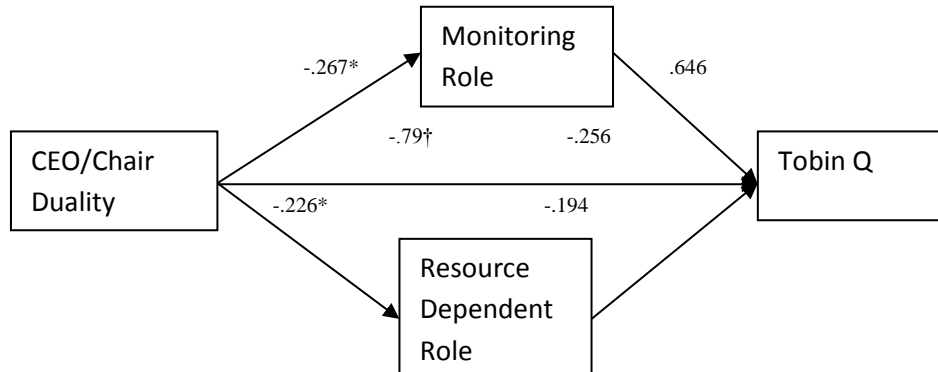


Figure. 6.2A Unaccounted for Moderation Model of the mediated relationship between CEO/Chair Duality and firm performance (Tobin Q)

Figure 6.2A depicts the relationship without accounting for the interaction effect of moderating variable. The relationship between CEO duality and board meeting frequency is negative and significant meaning that firms with separate CEO and chairperson of the board demand more meetings of the board in particular time period, similarly, firms with duality will be tending to have smaller boards. Although the relationship between dual role of CEO and firm performance (Tobin Q) has lower beta value of $-.256$ when control role is included in the model and $-.194$ with $p < .1$ but the first condition of mediation is not fulfilled in case of monitoring role, therefore, it is required to study the relationship further on filtering the data by time periods. However, in case of resource dependence role, the relationship is mediated and it shows that organizations having separate CEO and Board Chair have larger boards depicting improved resource dependence role as well as enhanced firm performance which supports the hypothesis H4b1. In the next section, the relationship is discussed by separating the data on the basis of time periods by using the interaction term of SECP.

However, by looking at Figure 6.2B the relationship between CEO/Chairperson duality with firm performance (ROA) without accounting for the interaction effect of moderating variable. The coefficient of board meeting frequency and board size gets insignificant when included in the model. Therefore, it is clear that condition of mediation is not fulfilled as board roles have insignificant relationship with ROA. In the next section, however, the relationship is

discussed by separating the data on the basis of time periods by using the interaction term of SECP.

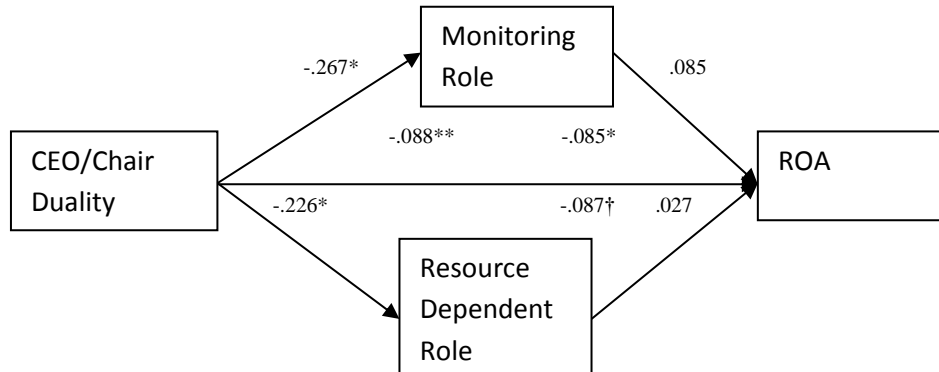
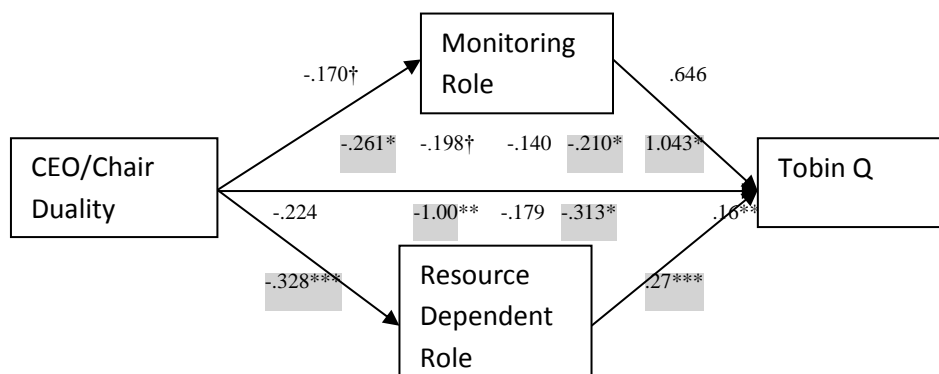


Figure. 6.2B Unaccounted for Moderation Model of the mediated relationship between CEO/Chair Duality and firm performance (ROA)

Figure 6.2C shows that both the monitoring role and the resource dependence roles partially mediate the relationship between separation of CEO/chairman duality role and firm performance (Tobin Q). The value of beta is $-.21$ and $-.313$ which the board meeting frequency and board size are included in the model respectively, which shows that dual role of CEO and Board Chair are negative to the board roles and cause hampering in the performance.

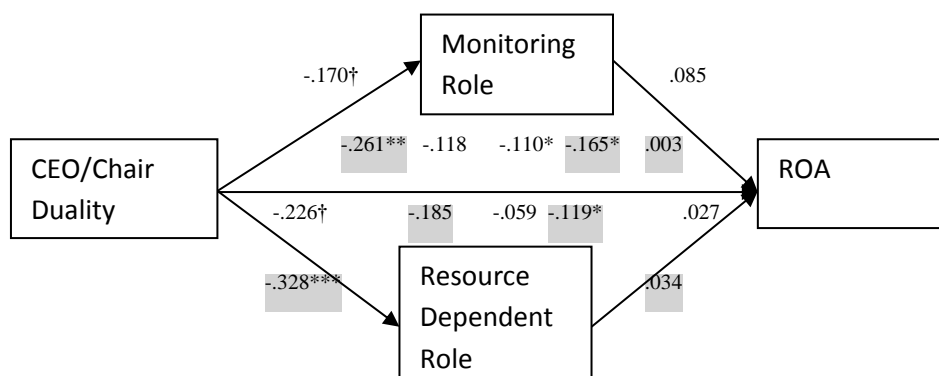


Pre-SECP Values **Post-SECP Values**

Figure. 6.2C Moderated Model of the Mediated relationship between CEO/Chair Duality and firm performance (Tobin Q)

Although for the figures in pre 2002 time period, the mediation is confirmed but the post 2002 results after the enforcement of SECP code report that the board roles partially mediate the relationship. This is in line with the Baron and Kenny (1986) requirement for partial mediation. This also shows the negative relationship between CEO duality and firm valuation means that market perceives CEO duality as a bad practice. This is because it tends to give too much power to one person who can choose to engage in opportunistic activities through entrenchment.

However, figure 6.2D below here shows that relationship of CEO/chairman duality role with board roles after the implementation of SECP code is negative and significant with having coefficients of ($\beta = -.261, p < .01$ and $\beta = -.328, p < .001$) with board meeting frequency and board size respectively. However, the relationship between CEO duality and ROA doesn't show any significance which violates the necessary condition for mediated relationship. Nevertheless, the negative relationships of CEO duality with board roles shows that after SECP code, the boards of those organizations who had separate persons as CEO and board chairperson performed better with respect to board monitoring capability as well as providing better resources to the organization. But the relationship doesn't provide sufficient evidence for the mediation by using ROA as performance measure.



Pre-SECP Values **Post-SECP Values**

Figure 6.2D Model of the mediated relationship between CEO/Chair Duality and firm performance (ROA)

According to our results in Table 5.1, there is an improved activity on the board as the companies start adopting independent chair for their boards as per the requirement of the

code. This shows that separation of roles of CEO and chairperson of the board is beneficial for the shareholders of the organization. We see that the relationship between CEO role separation and board monitoring is strengthened after the code implementation. This is also in line with the agency perspective (Jensen and Meckling, 1976) which postulates that the top management activities should not dominate the board of directors' decisions. In the Pakistani environment, where the trend has been that the CEO also has been the chairperson of the board, most board decisions have been made behind the closed doors and the board meetings had been either infrequent or just informal in nature. The results show that companies have shown compliance to SECP code and fewer CEOs are chairpersons of the boards. This has led to increased board monitoring activity as board meeting frequency has increased.

Therefore, it can be inferred from the study that the separation of the leadership structure of the board needed more board meetings as board needed more input from the CEO which could have been different if the same person is CEO as well as board chairperson. However, after the code implementation, the increased activity of the board meetings indicate that the CEO spends more time in meetings which could be argued as more interaction with the board members which may result in better decision making. This clearly shows that separation of the board leadership role in the post-code era ushered more activism on behalf of the shareholders as a result of more board meetings. Brickley et al. (1997) also found a statistical relationship between CEO/Chair board separation and frequency of board meetings and Vafeas (1999) also holds this proposition. This is also in line with the theoretical argument developed by Hermalin and Weisbach (1998) and used in many studies later on (Boone et al., 2007).

The relationship between CEO/Chairperson separation and board size after the implementation of the code was found positive. This shows that if power is concentrated in a single person who acts both as the CEO and chairman of the board, the supervisory role of the board will weaken, leading to insider control of the board activities and discouraging hiring independent non-executive directors from outside and potentially reducing the board independence. This is also in line with Boone et al., (2007); Linck et al., (2007), and Guest (2008) who are of the view that more powerful CEOs use their influence to bargain for a smaller board with fewer outsiders. In the Pakistani context, this is important change as the shareholder pattern has been traditionally closed one. The companies suffering from weaker corporate governance usually suffer from insiders' control (Cha, 2001). This also proves that CEO with dual powers of the board chairperson will be more likely to promote his/her

associate executives to the board, leading as a result to a smaller and less independent board. Consequently, there will be lesser outside professionals on the board which will reduce the resource dependence role of the board. Therefore, it can be said that the code causes separation of the roles of CEO and chairperson of the board which leads to strengthened resource provision role of the board. The results also show that in Pakistani corporate governance environment this separation gives more control to outside shareholders of the organization.

It is clear that the code requirement of the separation of CEO/Chairperson of the role has strengthened not only the monitoring but also the resource providing role of the board. We have also found that strengthened board roles as a result of role separation has given good signals to the outside potential investors which has brought more trading in the stock exchange (KSE, 2007).

6.5 The relationship between Audit Committee Diligence and firm performance mediated by board Roles

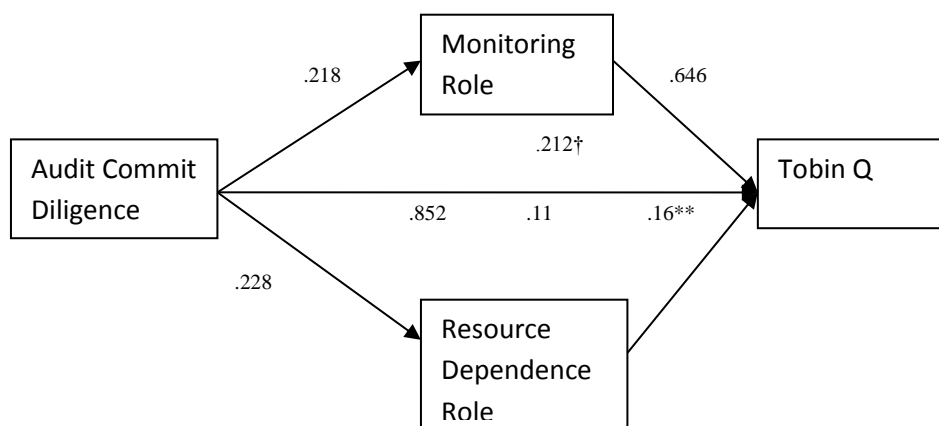


Figure 6.3A Unaccounted Model of the mediated relationship between Audit committee diligence and firm performance (Tobin Q)

The results in Figure 6.3A show that audit committee diligence and firm performance (Tobin Q) for the overall time period without accounting for the interaction effect are not mediated by the board roles. Despite of the fact that ACM has a beta of .212, $p < .1$, with Tobin Q after including board monitoring frequency in the model but other conditions of mediation are not

fulfilled. However, the coefficient remains insignificant in case of resource dependence role of the board except the relationship between board size and firm performance (Tobin Q).

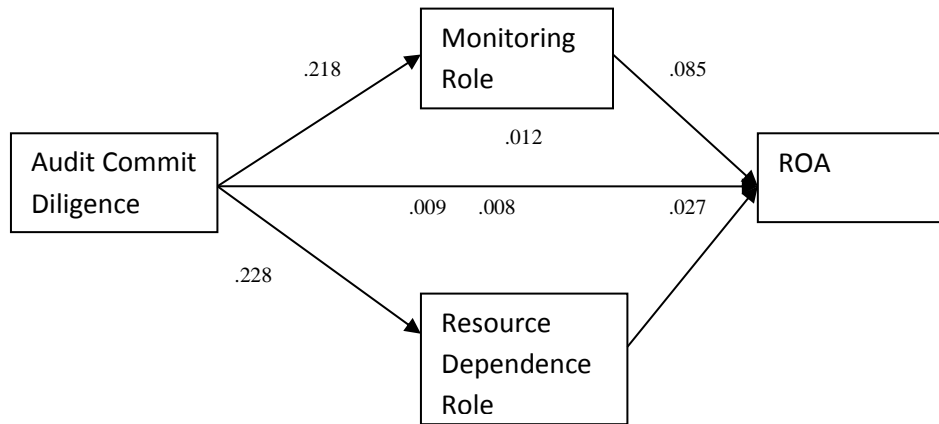
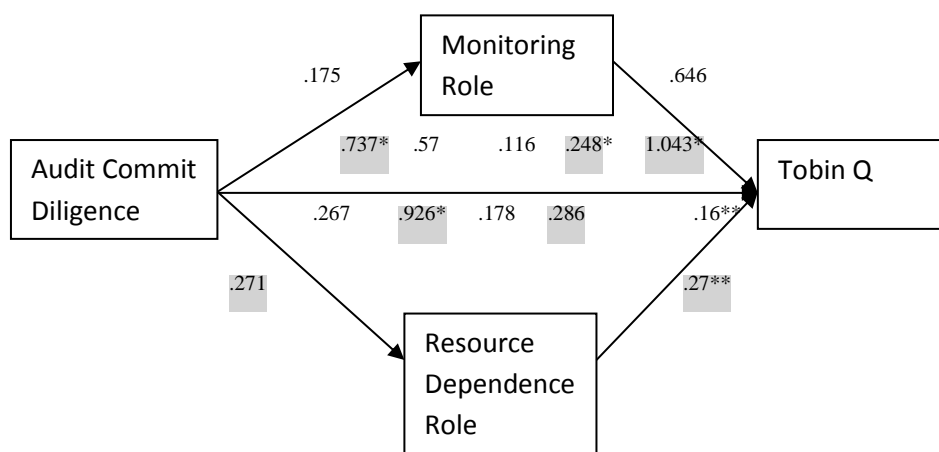


Figure 6.3B Unaccounted Model of the mediated relationship between Audit committee diligence and firm performance (ROA)

Similarly, the results in case of relationship with firm performance (ROA) also don't report any mediation of board roles or significant relationship between diligence of audit committee and ROA as depicted in Figure 6.3B.

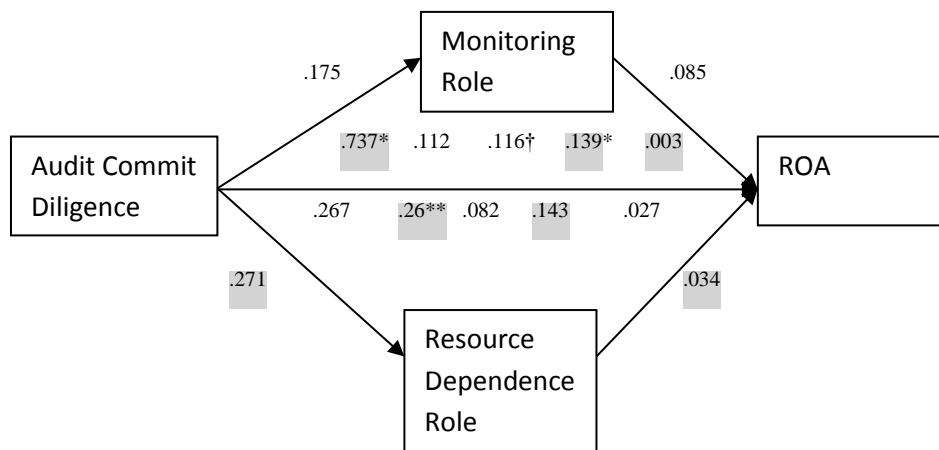


Pre-SECP Values **Post-SECP Values**

Figure 6.3C Moderated Model of the mediated relationship between Audit committee diligence and firm performance (Tobin Q)

Therefore, the results suggest that there is a need to look into this relationship by bifurcating the data on the basis of implementation of SECP code in 2002 by using the interaction effect in the next section as shown in Figure 6.3C.

Now by looking on the Figure 6.3C, the data suggests that board meeting frequency (monitoring role of the board) partially mediates the relationship between audit committee diligence and firm performance as measured by Tobin Q. The values of beta for ACM are .116 and .364 for pre and post 2002 respectively which are less than .175 and .737 respectively to fulfil the necessary condition for mediation when monitoring role is included in the model. However, the condition is validated only for the time period after 2002 for the monitoring role only as there is no significant relationship found for the data before 2002. As well as there is no significant statistics are found in case of resource dependence role (Board Size). The relationship between audit committee diligence and firm performance is stronger when monitoring role is included in the model and it fulfils the criterion set by Baron and Kenny (1986) for mediation. This can be argued that the more activity on the audit committees, the more coordination is needed among the directors and indeed needs more board meetings. However, the model does not find any significant relationship between audit committee diligence and resource dependence role of the board. Next the same relationship is explored with firm performance (ROA).



Pre-SECP Values Post-SECP Values

Figure 6.3D Moderated Model of the mediated relationship between Audit committee diligence and firm performance (ROA)

Now by looking at Figure 6.3D which elaborates the relationship of audit committee diligence and ROA, except the relationship between audit committee diligence and ROA is significant after 2002 which was positive for pre 2002 era but not significant doesn't spell out any mediation of board roles in this relationship. However, the audit committee diligence doesn't show any relationship with board size, therefore, the relationship doesn't fulfil the necessary conditions of mediation.

As for the code, every organization will have one audit committee primarily headed by non-executive directors and financial experts from outside. The audit committee's principal function is to meet regularly with the company's external auditors and oversee the investment and financial matters of the company. It is found that after the implementation of the code there has been more activity for audit committees which have been mandated to meet at least once in every quarter. The results show that as the activity or diligence of the audit committee increases the board activity increases. This can be contended that presence of audit committee is a result of more delegation. Therefore, from our results it is plausible to discern that with more delegation there is higher need for coordination amongst the directors, which necessitates more frequent board meetings. This also means that higher activity on audit committee will be helping release of unbiased accounting information and will require the board to meet more frequently to match with the performance of audit committee as board need to ratify all the proceedings of the audit committee as per the requirement of SECP code. Therefore, our evidence is consistent with the argument provided by institutional theory that using external regulatory pressure in audit committee creation is of little importance in achieving the real objectives of the internal organizational restructuring for effective growth. Therefore, regulatory pressure has only played a limited role in monitoring activities and did not become that effective to provide the advice and resources to the boards. It can be further inferred from the results that the diligence of the audit committee has a positive relationship with board monitoring role measured as board meeting frequency. This indicates that presence of internal control mechanism like audit committee signals better monitoring and generates more demand for board meetings. These results are also consistent with the results of Vafeas (1999); Sharma (2009); and Brick and Chidambaran (2007, 2010). This also means that firms are in equilibrium internally and the structural changes come internally driven not externally driven by regulations.

The results from the figure 6.3D could not find any relationship between diligence of audit committee and board size directly as well as there is no significant statistics are reported in

case of ROA when regressed over audit committee diligence. Although the board size has increased after the code implementation as a result of inclusion of the outside directors, this increase can't be attributed solely with the audit committee diligence. In the next section, the independence of audit committee is discussed to further judge the quality of auditing.

6.6 The relationship between Audit Committee Independence and firm performance mediated by board roles

The results show that the audit committee independence and firm performance (Tobin Q) is partially mediated by the board size (Resource dependence role proxy) for both the time periods but frequency of board meetings (monitoring role proxy) doesn't mediate the audit committee independence and firm performance (Tobin Q) relationship for the time period without accounting for the interaction effect. Nevertheless, there is no significant relationship or mediation found with respect to firm performance of ROA. These results are discussed in the next paragraphs one by one.

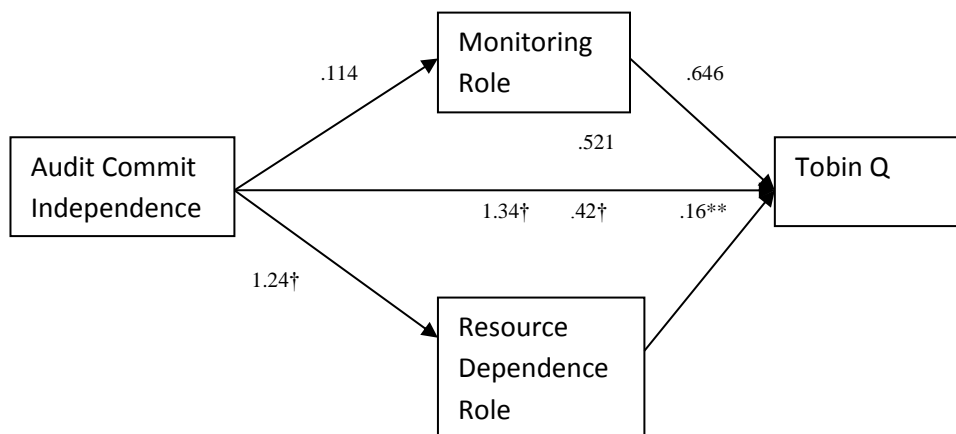


Figure 6.4A Unaccounted Model of the relationship between Audit committee Independence and firm performance (Tobin Q)

While looking on the results as shown in the Figure 6.4 A for the unaccounted period without using the interaction effect, the magnitude of relationship is positive and significant between independence of audit committee and Tobin Q, however, the coefficients get lower and significant when resource dependence role is included in the model which is in line with the assumptions of Baron and Kenny (1986) for the partial mediation. Simultaneously, the relationship between independence of audit committee and monitoring role of the board is not reportedly significant for the period for which interaction term is not accounted for. This can

be attributed that a higher activity as discussed in the previous section causes the higher monitoring activity on the board and by mere adding more NEDs may not be enough to cause more activity on the board.

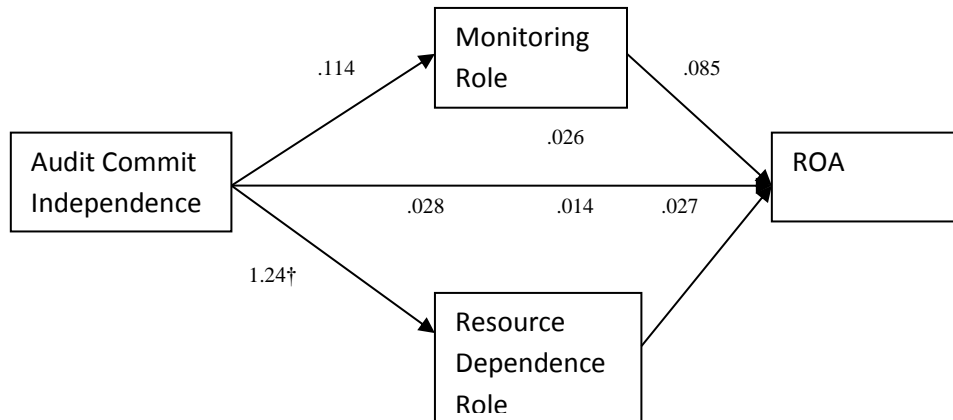
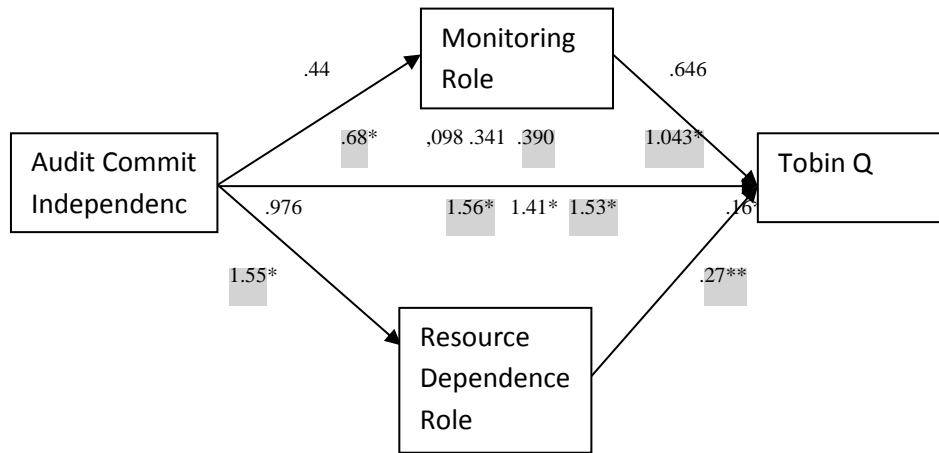


Figure 6.4B Unaccounted Model of the mediated relationship between Audit committee Independence and firm performance (ROA)

Similarly, the results in case of relationship with firm performance (ROA) don't report any mediation of board roles or significant relationship between activity on audit committee and ROA as shown in figure 6.4 B. Although the relationship between independence of audit committee and board resource dependence (board size) role is significant and positive but the relationship doesn't hold for the rest of the conditions of mediation as postulated by Baron and Kenny (1986). Therefore, there is a need to look into this relationship by splitting the data on the basis of implementation of SECP code by using the interaction effect in the next section.

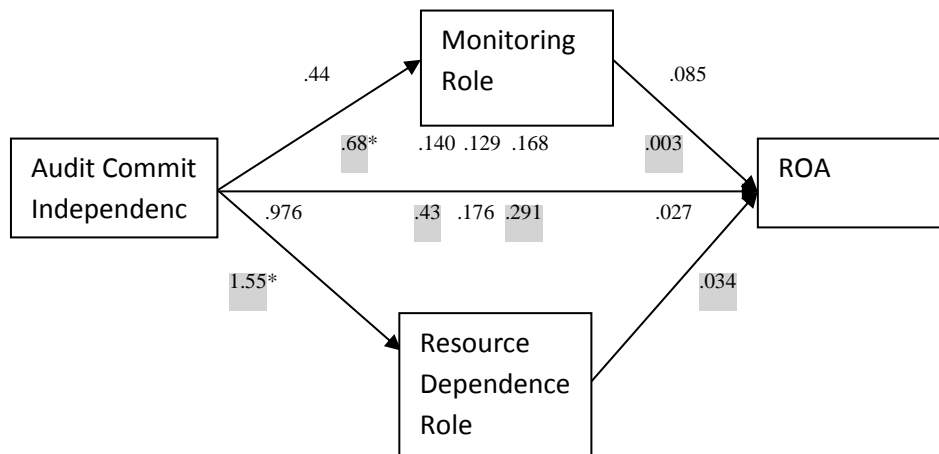
Figure 6.4 C shows that monitoring role of the board partially mediates the relationship between audit committee independence and firm performance as measured by Tobin Q. The value of the coefficient for independence of audit committee is .341 and .390, $p < .01$ which is less than .44 and .680, $p < .01$ when control role is included in the model and value for beta is 1.415, $p < .05$ and 1.532, $p < .05$ when board size is included in the model. Therefore, it can be said that it fulfils the criterion set by Baron and Kenny (1986) for mediation for both board roles. This finding offers empirical support to the results of previous studies that report statistically significant and positive association between board committees and the Tobin Q (Vefas, 1999; Karamanous and Vefas, 2005; Goh, 2009, Braswell et al., 2012). The finding is also consistent with the results of Mangena and Chamisa (2008) who report that the

presence of an audit committee significantly reduces the possibility of a firm being suspended from listing on a stock exchange in a South Africa based study.



Pre-SECP Values Post-SECP Values

Figure. 6.4C Model of the mediated relationship between Audit committee independence and firm performance (Tobin Q)



Pre-SECP Values Post-SECP Values

Figure 6.4D Model of the mediated relationship between Audit committee independence and firm performance (ROA)

In the Figure 6.4D the relationship is depicted between independence of audit committee and ROA. The first leg of relationship is significant with board meeting frequency and board size after SECP code enforcement but the relationship is insignificant as it moves forward to judge the relationship by including the board roles in the relationship. Therefore, the figures don't provide support to the hypothesized relationship in this case.

The code requires that the audit committee will be comprised of at least three board members with majority of NEDs and will be headed by an independent non-executive director which is the extension of the same logic that boards should also be independent by having non-executive directors on the board. The codes also require that appointment of external auditors will be the responsibility of the audit committee. The study also proves empirically that there is a positive relationship between independence of audit committee and monitoring role of the board proxied by the frequency of the board meetings. It can lead to monitoring effectiveness of the board to make better informed decisions.

It can be said that the independence of the audit committee not only is necessary for the monitoring role of the board as it has positive relationship with frequency of board meetings but but also for the resource dependence role of the board as the relationship with board size is significant and positive in both the time periods. Klein (2002) is of the view that addition of more independent directors on the audit committee would also lead to adding more resources to the board which in turn will be helpful in better decision making. Similarly, Braswell et al., (2012) are also of the view that after the implementation of SOX the audit committees' have been reformed by adding financial experts and audit related professionals to better understand the requirements of internal controls. However, the study couldn't find any significant relationship with respect to accounting measure of financial performance (ROA). In addition, in the context of Pakistan, we can say that the boards are still in the process of evolving to their newly assumed roles in an environment in which the boards has been dominated by the insiders traditionally. The code also helped improvement in development of a professional board members training and skills for better governance through incorporation of a body called Pakistan Institute of Corporate Governance (PICG, 2005).

6.7 Monitoring role of the board and corporate financial performance

As expected, after the implementation of SCEP code, the strengthened monitoring role of the board is positively related with the market based measure of corporate financial performance

which is in line with the agency stream of governance literature (Brick and Chidambaran, 2010). Prior to SOX, the securities laws did not directly address board composition and structure which caused boards to be lethargic and on the back seat but after the implementation of the SOX the boards were motivated enough to take the active roles which resulted in improved firm value (Linck et al, 2008; Ntim and Osei, 2011). The volume of the shares traded in the stock market increased after the implementation of the code (Javid and Iqbal, 2007). We attribute it to the increased board monitoring activity as a direct result of the implementation of the code. We find that Tobin Q increases as the board monitoring increases after the code implementation, therefore we contend that level of investment opportunities increases as the board's monitoring and advising activity increases. The positive relationship between board monitoring and Tobin Q indicates that firm performance increases with the level of board activity. These results are consistent with the notion that increased pressure from shareholders activists and regulators shift the bargaining power from management to shareholders, enhancing shareholder power as a result of the implementation of the code. Raheja (2005) is of the view that as the benefits increases, the boards will get bigger with outside directors and monitoring function will increase.

Unlike Tobin Q, which increases as the board monitoring role is strengthened after the implementation of the code; we find no relationship between board monitoring role and ROA. This supports the notion that board monitoring role is more beneficial for the investors to identify the investment opportunities rather than improving current performance. Similarly there is no support found between board size and ROA. This means that board size as a proxy to the board resource provision role does not have specific impact on the current profitability of the firm with respect to return on assets. This further strengthens the notion that board resource provision role and monitoring role is perceived positively by the outside investors and they invested more in the firms who reported compliance to SECP code as compared to their counterparts. It can be inferred that the companies deemed it the much easier thing to report the board changes as per code instructions instead of making some deep rooted changes in the financial structure of the firms. This is also in line with the popular stream of the literature which shows a mixed relationship between board size and ROA (Van Ness, 2010). Our findings indicate that the compliance to the code does not elaborate any relationship between board roles and firm performance with respect to the accounting measure (ROA). It can be inferred that in the short term time period the boards may not have been able to develop some long time strategy for the firm and they are still limited to the

compliance to the code to remain on the stock exchange and to avoid any punitive action from the Securities and Exchange Commission (SECP). The boards might not have adopted these mechanisms with true letter and spirit as boards traditionally have been comprised of closed members of the founding families of the organizations and apparently they just adopted the tick box approach. But the code has been able to create some waves of change in the corporate governance mechanisms and it has gained some confidence in the stock markets of Pakistan (ROSC, 2005).

6.8 Resource Provision Role of the board and corporate financial performance

We found that board size (board size taken as resource dependence proxy) has interesting outcomes with firm performance. The positive relationship between board size and market based performance measure is also supported by the past literature evidence (such as Henry, 2008; Beiner et al., 2006). In contrast to US and UK, the stock market values the ability of smaller corporate boards to effectively monitor and advise managers higher than the potential greater access to resources that is usually associated with larger boards. Within the Pakistani context, the positive association between board size and the Tobin Q seems to indicate that greater access to a firm's external environment, which may facilitate securing critical resources to enhance the resource dependence role of the board that is often associated with larger boards, is rather highly valued by the stock market.

There is no relationship between board size and ROA for which the reason may be that as with increase on board size the new members presumably having some financial or legal backgrounds were too cautious to engage in some entrepreneurial activity, which results in loss of opportunities for revenue growth. Our result shows that heterogeneity of director expertise increases revenue growth. This findings show that diverse ideas generated from diverse perspectives can help firms to identify new opportunities in firm growth. Board size also influenced performance in interesting ways. As board size increases, financial leverage as measured by the debt-to-asset ratio decreases. The literature suggests that larger boards may hamper consensus building (Forbes and Milliken, 1999), thus debt-funded projects may be a victim of board indecisiveness.

The findings of the study also give support to Daily et al., (1999). They have argued that despite several decades of research designed to link the board composition and firm performance the relationship has been mixed and inconsistent. However, the positive board size and the Tobin Q relationship lends empirical support to a number of studies outside the

UK and US (Beiner et al., 2006; Henry, 2008) which supports its impact in the context of corporate governance reforms in Pakistan. This is also in line with Wan and Ong (2005) who contended that board composition and firm performance may not have universal relationship as there are too many intervening roles and functions to expect a strong direct association. With regard to individual board characteristics, the stronger relationship is found between board structure and monitoring role of the board as compared to their relationship with resource provision role of the board which may be attributed due to the imperfect proxy for the resource dependence role because of country/context and unique data set differences. In case of performance indicators the relationship is found with Tobin Q but not with ROA which shows that corporate governance reforms are able to attract more investors and instilled more confidence of shareholders but the real changes in financial performance may be needing more longer tenure for board members to realize the effect of these reforms.

Theoretically, this indicates that the market perceives larger size of the boards (board size taken as resource dependence proxy) as more effective. This is because larger boards provide with better networking with the outside world through the board members personal connections for securing of critical resources, such as more sales orders, cheaper finance, and raw materials etc. (Pearce and Zahra, 1992; Goodstein et al., 1994).

6.9 The Overall Findings of the Study

This study advances knowledge about the factors that influence firm performance and the influences on the control role and resource dependence role of the board of directors in Pakistan. Apart from the studies by (Hillman and Dalziel, 2003; Wan and Ong, 2006; Van Ees et al., 2008), there is no other empirical study in my knowledge focussing on board structural characteristics and firm performance mediated by board roles in Pakistan using quantitative data. The results discussed previously in this section show that board structure and roles are more important in explaining firm performance. These findings are similar to a number of non-Pakistani studies (e.g. Van den Heuvel et al., 2006; Wan and Ong, 2005). These structural characteristics are those derived from agency theory and resource dependency theory and given more importance in SECP code. Specifically, agency theorists advocate boards should have a majority of NEDs, and a separate CEO and Chairperson of the board to perform effectively the monitoring function (Fama, 1980; Fama and Jensen, 1983; Jensen and Meckling, 1976). The importance of board structure is also recognised in resource dependency theory. The resource dependence theorists advocate that the primary role of the

board is a resource provider linking the organisation with its external environment (Hillman and Dalziel, 2003). The resource dependence role demands from them that board members should bring legitimacy to the firm by providing the strategic resources to the firm in the shape of expertise and advice (Carpenter and Westphal, 2001; Gales and Kesner, 1994; Hillman et al., 2000; Pfeffer and Salancik, 1978). Therefore, it is imperative that directors bring diverse resources to the organization because of their different backgrounds. (Hillman et al., 2000). Thus, according to resource dependency, larger boards are better able to bring such resources (Hillman et al., 2000; Hillman and Dalziel, 2003; Hillman et al., 2009).

The major revelation of the study is that all structural variables influence the higher board activity monitoring role while inside-outside ratio and separation of CEO/chair duality also influence the board resource dependence role as well. A unique contribution of this research is the finding that the control role and/or the resource dependence role of the board partially mediate the relationship between a number of board structure variables and firm performance. Mediation is about the intervening functions that strengthen relationships between variables (Baron and Kenny, 1986). Uniquely, this study finds that board roles mediate the relationship between board structural characteristics and firm performance in Pakistan after the implementation of corporate governance reforms. This has important implications for future research on boards. It suggests that board roles may be a means in which boards can add value to their organisation. There are three specific findings of note with regard to the mediation effect. First, both the monitoring role and the resource dependence role of the board mediate the relationship between proportion of NEDs and firm performance, CEO/chairman separation and firm performance. Second, no significant relationship was found between diligence of audit committee and the resource dependence role which is represented here as size of the board, however, the audit committee independence is found related with the board monitoring and resource provision activity of the board represented as frequency of board meetings and board size here. Third and finally, the monitoring role of the board and resource dependence roles showed stronger relationships with Tobin Q as compared with ROA.

This study does, however, find that all structural variables were significant in explaining the monitoring role of the board. The proportion of NEDs, separation of CEO/chairman duality, audit committee diligence and independence were found significantly related to the monitoring role of the board when examining the relationship between a number of the board structural variables and it caused higher board monitoring activity to strengthen the

monitoring role of the board. However, only the audit committee independence was found to be significantly and positively related with resource dependence role of the board. This means boards with a higher proportion of executive directors on the board are less effective in undertaking their monitoring role. This suggests that boards with a higher proportion of NEDs and separate CEO from chairman of board are more active in their monitoring role activities. This is a finding in line with the predictions of agency theory (Fama, 1980; Eisenhardt, 1989; Jensen and Meckling, 1976) and also of recent empirical research from Van Ees et al., (2008). This result may be particularly applicable to the Pakistan with the strong emphasis on SECP codes. There is a possibility that the findings of the study may present some country specific differences even though it has significant implications for the board theory suggesting some more cross country specific studies in order to understand the impact of national context and particularly Anglo-Saxon contexts. As various authors suggest in order to better understand the workings of board of directors, greater cross-country comparison is required and this research adds to the studies that have taken place in US and UK (Huse, 2007; Minichilli et al., 2010; Pugliese et al., 2009; Wan and Ong, 2005).

The analysis also shows that proportion of NEDs and CEO/chairman role separations are influencing the size of the board after the implementation of SECP code. The study also showcases that board size increases after SECP code implementation. This is in line with Linck et al., (2008) and Minichilli et al., (2009) who argue that more skilled people are added to the board. However, the study didn't find any relationship between audit committee diligence and board resource provision role which is against the results of Cohen et al. (2008) which may be interpreted that members of the audit committee solely see themselves as monitors and their role as resource provider is undermined due to this perception.

When examining the relationship between all the independent variables, mediating variables and dependent variables in a multiple regression, this study finds that SECP code has stronger impact on board structure to influence the board roles and firm value. This concept highlights the importance of critical debate in improving level of board activity and skills (Amason, 1996; Amason and Sapienza, 1997; Eisenhardt et al., 1997). This has implications for the composition and the working style and development of boards. It is implied that after the implementation of SECP code boards have an environment where their role is being asserted and encouraged. These results are in line with a number of previous studies, according to which one of the most important antecedents of board roles is the presence of an independent board and effectively working sub-committees (Finkelstein and Mooney, 2003; Minichilli et

al., 2009; Roberts et al., 2005; McNulty et al., 2013). A further finding is that the board size increases after the implementation of SECP code to comply with the independent directors clause and to have expert and experienced members on the board (Forbes and Milliken, 1999; Linck et al., 2008) also the study is supportive of board monitoring and resource dependence roles (Minichilli et al., 2009).

This relates to the proposed new model in board structure and board role relationship, however, in common with calls from Pugliese et al., (2009) these findings lead to the suggestion that there is need for more research in board roles for better proxies in the Pakistani context. Our board roles research has been based upon the existing board theories: agency theory and resource dependence theory. But the theoretical underpinnings of the construct require further research. This could arise from the board roles measurement proxies which are imperfect and need further closer measurements. The reason being the nature of this unique data set being archival in nature from 1999 to 2005 for which we had to rely on the published data in the annual reports. However, the model in this study uses a host of board structure indicators, board roles and firm performance indicators which shows the robustness of the model. Unlike previous studies where subjective measures have been taken which are usually judgmental in nature and depend purely on the perception of the researcher, this study employs objective measures and data is collected from company annual reports which are considered as the strong proxy (Beattie et al., 2004). Also, the results in chapter 5 tables 5.5, 5.6, 5.7, 5.8 show that the values of adjusted R-square and χ -square of the model are improved in the post SECP era, similarly the value of adjusted R-square and χ -square are stronger in the relationship between board structural characteristics and board roles as compared to board roles and firm performance.

Therefore, overall the study reveals interesting findings. There is a clear trend of increased activity from the period before the implementation of SECP code to after the implementation of SECP code 2002. There is increase in the proportion of non-executive directors after the implementation of SECP code which is in line with its requirement. The code requires that the majority of the directors should be independent non-executive directors (SECP Code). There is a negative trend in the dual role of CEO and Chairperson of the board. The results show that the trend is on separation of role of CEO and chairperson of the board after the implementation of the code. The formation and working of the audit committees has been hallmark of the code. Previously, either the committees were non-existent or if existing they were by and large dormant. After the implementation of the code there is surge in the number

of meetings held by the audit committee and same is the case for the independence of the audit committee. However, the diligence of audit committee shows positive signals to board meeting frequency and independence of audit committee shows positive relation to board meeting frequency as well as board size. Therefore, the presence of NEDs on audit committee shows that board consists of independent NEDs which may improve its resource dependence role. The most important contribution of SECP code is increased activity in the board meetings, which may be attributed due to the increase in proportion of non-executive directors or increase in the audit committee activity and independence of audit committee after the implementation of the code. From year 2002 to onward, there is an increase in the size of the board as well which may be attributed to appointment of more independent non-executive directors on the board.

KSE-100 Index

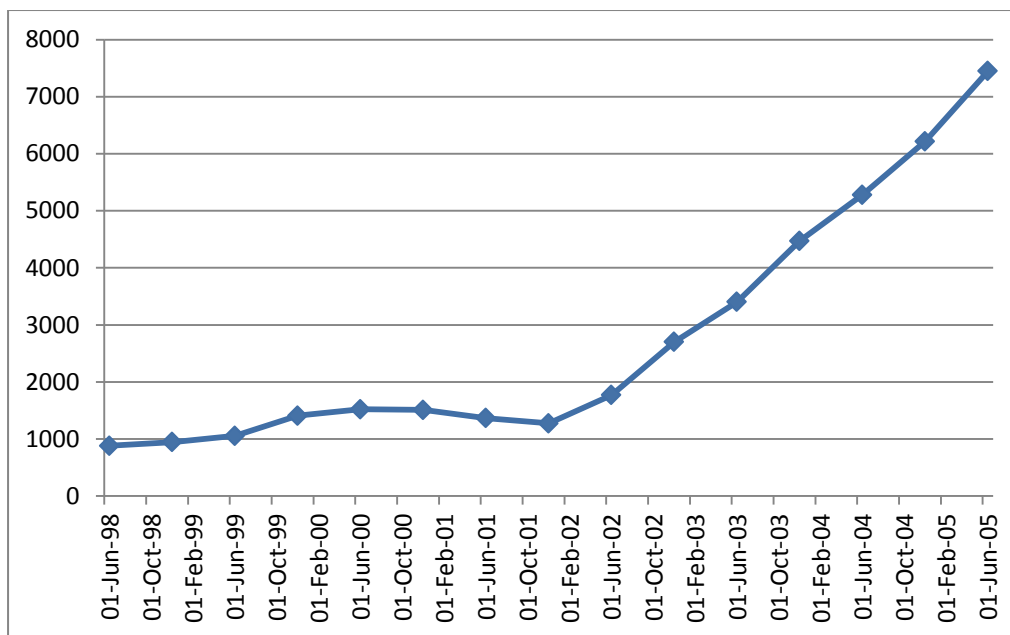


Figure 6.5 Source: Karachi stock Exchange, KSE Annual Report, 2005

Overall, the results show a compliant trend of the organizations with SECP code which is also according to the report of World Bank (2005) on the Country wise corporate governance assessment regarding code compliance. This report clearly indicates that after the initial bumpy start the companies adopted the requirements laid down by SECP code to succumb the external regulatory pressure. Although the empirical evidence shows that the companies

adopted these rules but there is no change in the firm profitability as a result of these changes which implies that changes were just to give positive vibes in the market which shows a positive increase in the value of Tobin Q to fulfil the pressures of stock exchanges.

The firm size shows the increasing trend which may be attributed due to the reason that the leverage and the capital expenditure are also growing in the same time period. However, the percentage of directors' share is decreasing in the overall director holdings, which may be an indication that the allocation of shares to the general public is increasing as may be seen from the graph in Fig. 6.5 (KSE, 2007).

The results of the study go in line with the market trend as well. The SECP code imposed severe restrictions on the organizations and the codes were implemented through a mechanism of stock exchanges. This proved that the compliance to the code was deemed necessary to remain on the stock exchange; otherwise organizations were facing the threat of delisting on the organization. We also saw that organizations that could not comply with the code were delisted from the KSE but the effect on the other hand on other organization seemed positive who got complied with the code. However, we saw that the overall market activity increased and we those organizations who managed to remain on the stock exchange, their market share prices went up (KSE, 2003, 2004, and 2005). This also implies that compliance to code generated positive signals to local as well as foreign investors who considered investing in KSE in the shape of portfolio investment as a safer option as compared to foreign direct investment which helped improved market listed capital as well as overall market capitalization (Economic Survey, 2008). The following figure supplement our findings as well.

Table 6.1 Listing and Delisting Activity on the Karachi Stock Exchange: 2001-2005

Year	Listed Companies at End of the Year	IPOs	Total Listed Capital Rs.In Millions	Market capitalization Rs. In Millions	Other Voluntary Delisting	Involuntary Delisting
2001	747	3	251,683.1	296,143.7	10	0
2002	712	4	291,240.85	595,205.63	19	5
2003	701	6	313,267.23	951,446.50	0	8
2004	661	17	405,646.32	1,723,454.36	15	30
2005	662	16	460,497.87	2,361,322.63	7	6

Source: Karachi stock Exchange, KSE Annual Report, 2005

6.10 Implications for board practice and policy

The empirical findings also have implications for board practice and policy. First, the important contribution played by SECP code to improving board monitoring, board resource dependence role and firm performance has implications for the dynamics and composition of the board. The boards' ability to institute and perform an independent audit mechanism is also very vital for the board roles. The ability of a board to work as team is critical to board effectiveness, but this needs to have better measurements for board roles and to work together for the benefit of the organisation. This has important implications for the audit committee of boards which will enhance board capability in formativeness. As well as the boards need to have an independent nomination committee for independent board members.

The finding that boards with more outside directors better perform their control role also suggests having a fine balance of outside and inside directors on the board, as well as on the resource dependence role. This will also help in reducing the board entrenchment prevailing as a result of closed family members on the board. This finding leads to board consisting of relevantly skilled board members as per the requirement of the code to have financial and legal experts on the board. The compliance to the SECP code leads to increase in board size as it is not easier to withdraw the services of existing executive board members. However, boards need to be more cautious in member selection and need to constitute a criterion through nomination committee for getting better board members. These findings support the contention of McNulty et al., (2005; 2013) that it is necessary to go beyond simply looking at matters of the composition of the board in terms of the independence of the board to the composition in terms of person characteristics that lead to open, and constructive debate in the boardroom. However, this study couldn't measure the knowledge and skills of the board members; therefore, the implication for boards is that they need to create mechanisms and opportunities for this to happen through for example, continuous board evaluations and board development programmes through some institutional mechanism and the same should be published for better understanding of academia about board roles.

Second, the results of this study have implications for the workings of the board and in particular the separation of role of the CEO and board chairperson. This result suggested that by separating CEO and board chairs, an open atmosphere has been created which is plausible to enhance the effective operational dynamics of the board. It also requires that the chairperson ensures that all the necessary information upon which such constructive debate is

available to board members with sufficient time for the careful scrutiny that can lead to open dialogue and disagreement. An annual review of overall board and individual board members performance may contribute to better group dynamics through a greater understanding of individual's contribution to effective board roles. As well as the independence of audit committee has been found related with better resource dependence role of the board which is according to a study by Goh (2009) but this result has some implications with respect to formation of audit committees as well.

Though SECP code requires three directors with two NEDs on an audit committee but the results suggest that firms had larger in size committees which may suggest that larger audit committees may lead to better internal control mechanisms and have legal experts than just accounting experts as advocated by SECP code. The size of the board has been assumed as the resource dependence role of the board. It is thus important that as a result of implementation of SECP code, new directors who are non-executive with specific expertise are involved in all board discussions and decisions where their knowledge and skills are able to be best utilised. This also may have implications for leadership roles inside the board room and to the concept of 'shared leadership'(Vandewaerde et al., 2011). This means to take advantage of members' diverse backgrounds, board chairs should consider undertaking an annual audit of members' skills and knowledge to identify gaps and look to see how such gaps can best be filled and try to arrange the relevant training for the existing members as well as strive to woo the required skilled members from the outer world to improve the board overall intellectual capital. In case of Pakistan, the members can be sent for the relevant training to Pakistan Institute of Corporate Governance.

Some additional findings regarding control variables; the proportions of shares held by the directors was insignificant and negatively related to monitoring role (Board meeting frequency) and resource depend role (Board size) of the board, which suggests that higher concentrations of shares tends to fewer board meetings and smaller board size and thus don't require board members to actively control the actions of the executives (Himmelberg et al., 1999; Ntim, 2012). The implication of this finding is that if in an organization the few directors have concentration of shares in their hands, they will not care about the disperse and relatively smaller shareholders which will create a different situation where principal is exploited by the principal which is another major issue in particularly family based organizations. This is because they hold enough voting power to effectively insulate themselves against any disciplinary action. Similarly, the relationship between firm size and

board monitoring (board meeting frequency) and resource dependence (Board size) roles provide support to the results of previous studies (Yermack, 1996; Carter et al., 2003). This shows that firm size is important for higher board activity and larger board size and firms can afford to have better equipped directors and they are frequently engaged in controlling the executives. By contrast, the study doesn't find any impact of R&D ratio or Capex which is against the previous studies (Myers, 1977). The reason for this may be that in Pakistani environment, not much is spent in modernizing and revamping in the local industries. The leverage is also positive and significant with board roles, the reason being that high leveraged firms may have agency problems (Jensen and Meckling, 1976) and need more monitoring and presence of additional board members from lenders so giving rise to resource dependence role by having bigger boards eventually. Our results show harmony with the previous literature showing that board roles and firm performance relationship may be different in different industries (Durnev and Kim, 2005; Haniffa and Hudaib, 2006). The industry dummies show that chemicals and industrial sector firms (have comparatively more level of significant coefficient than their counterparts in the other four industries. The reason may be that the firms in these sectors are bigger in size on average as compared to other firm in other sectors and they needed more board activity and bigger size of the boards.

Finally, the empirical findings have implications for corporate governance policy. Existing codes of governance like SECP code place greater emphasis on board structures and the importance of board independence. These results suggest that whilst recommendations on minimum numbers of NEDs should become mandatory rather than comply or explain and codes must also layout the reporting procedure to bring more transparency to internal matters of the board. Although, the biggest achievement of SECP code is an audit committee on the board which usually consists of only accounting experts, if the committee also has a legal expert, it will also help improve the resource provision role of the board. It is also suggested to have a mechanism of nomination committee for instituting the more transparent mechanism of finding the independent directors with a diverse range of knowledge and skills to fill the positions on the board and the audit committee. This will fulfil the demands of the disperse shareholders at large and will enhance the board monitoring and resource dependence roles. Therefore, it is needed as a matter of policy that companies should undertake periodical board members appraisal and the results of this assessment should be published. Nevertheless another important policy implication for the regulators will be to ascertain the attributes of those firms with more active and diligent audit committees so that

the failing firms can learn from them to constitute an effective internal control mechanism. Our study also provides sufficient evidence that regulatory pressure had an influence on the governance structure as activity increased in audit committees and they became more independent.

CHAPTER 7

Conclusion

7.1. Introduction

This research had four objectives at the outset to be achieved as a result of this study. First objective was to develop and examine a model of the relationship between board structural characteristics, board roles and firm performance. The objective was met by building a model on existing literature by employing multiple theoretical lenses. This model relates the board structural characteristics (Proportion of non-executive directors, CEO/Chairperson Duality, Diligence of Audit Committee, and independence of Audit Committee) before and after the implementation of SECP code to firm performance (Tobin Q and Return on Assets) through two mediating variables reflecting board monitoring role (Board meeting frequency) and board resource dependence role (board size). The model has been examined through various hypotheses.

The second objective was to investigate the factors affecting board structure and firm performance relationship in an emerging market under multi-theoretic lens. The objective was met by designing a study outside US and UK context to fill the knowledge gap in this area of the literature by proposing that board roles are important intervening variables in the relationship between board structural characteristics and firm financial performance. The study got its inspirations particularly from a group of researchers like e.g. Hillman and Dalziel, (2003); Huse, (2005); Van Ees et al., (2009); Roberts et al., (2005) to propose the control role and resource dependence role under agency and resource dependence theory to be found in the existing literature.

The third objective was to judge the influence of SECP code on board structure and firm performance in Pakistan. The objective has been met as the study provided evidence that changed board structure after the implementation of SECP code had been instrumental in creating an environment to strengthening the roles of the boards by increased board activity and board resources to enhance firm value. The model was tested through a unique data set of 200 non-financial sector companies registered on Karachi Stock Exchange (KSE) in Pakistan from 1999 to 2005 by comparing the results of two time periods. The period of 1999-2001 is the time period before the implementation of SECP code and 2003-2005 is the time period after the implementation of SECP code. However, the change in Tobin Q only shows that whenever the regulations are imposed through external pressures, they are adopted to bring

change to imitate or model according to others but no broad-based change is brought which is according to the deliberations of institutional theory which suggests that management practices and practices may be influenced by formal or informal pressures in the short run (Kury, 2007) while agency theory states that managers may collude in this particular situation to avoid the impact of these pressures as they would always like to show a relatively rosy picture eventually to shareholders (Rahman and Ali, 2006) .

The fourth and the final objective was to develop the recommendations for the policy makers and board members on how they individually and collectively can contribute to adding value to the firm. The objective was met as the study showed that the induction of new board members having relevant professional backgrounds caused an increase in board size to work as a board resource as well as the monitoring capability of the board after the implementation of SECP code. The study also proved that adoption of these reforms proved instrumental in the capital market development in Pakistan but their impact on individual firm profitability was mixed. Therefore, the study suggests that SECP needs to further address these issues to arrange that board members inducted fulfil the eligibility criterion established for them and furthermore, there should be regular refresher courses for the directors to keep them abreast with the upcoming changes in the international corporate governance scenario. The board members are required to follow the reforms in letter and spirit so that the results are transmitted in the actual profitability of the organization as well.

The findings accordingly have important implications for policy makers and managers, as well as contribute valuable comparisons and contrasts to the empirical findings and theoretical viewpoints to be found in the existing research literature.

7.2. Conclusions of the Study

A detailed literature review exploring the research on boards suggested that there is limited understanding of the research on board roles explaining board structure and firm performance. One of the stated aims of this study was to investigate this relationship in order to add to knowledge and to identify how corporate governance reforms restructured boards which may help to add value to a company through strengthening board roles. From this literature review, a model and hypotheses were developed to examine the relationships between board structural characteristics, board roles, and firm performance in the backdrop of SECP code. To be able to test the veracity of the model, two panel datasets were constructed. One panel was from 1999 to 2001 and the other panel from 2003 to 2005. Both the panels were

for three years time period and the study saddled the year 2002 which is the year when SECP code was enforced as the companies were in process of implementation of the code in that year. Using this model, the concepts of board roles mediation in board structural and firm performance relationship by using multiple theoretical lenses in the backdrop of corporate governance reforms by using the panel data was thought to be novel contributions to the board and corporate governance literature.

Following the model, the panel dataset was conducted for two independent periods to judge the impact of board structural characteristics on board roles and firm performance before and after the implementation of SECP code. The panel dataset was examined to judge the presence of panel specification effects using Hausman test. The results revealed that the panel data had random effects. Consequently, the process of hypotheses testing was conducted using random effect regression analysis. The hypotheses relating to the mediating impact of the board control role and board resource dependence role were tested using the method proposed by Baron and Kenny (1986) along with the application of the Sobel Test to check for the significance of the Baron and Kenny (1986) method, similar to the approach of De Jong and Elfring (2010). Most of the hypotheses were accepted or partially accepted at the 5% significance level.

There was no relationship found between, audit committee diligence and resource provision role of the board. This may be the result from the relatively small time frame of the panel dataset or it could be the result of imperfect measures used for the resource dependence role. Another view point is by Xie et al., (2003) is that more active audit committees assume a variety of board tasks to help manage the finance and audit related activities and in response the board may be relatively inactive. However, the relationship has been significant and positive between audit committee independence and board roles including both monitoring role and resource dependence role of the board

These results suggest that board structural characteristics are significant predictors of firm performance and that the monitoring and resource dependence roles of the board found their mediation relationship stronger after the implementation of the corporate governance reforms. The results confirm recent empirical findings of the importance of board roles as intermediary mechanisms in explaining firm performance (Aguilera and Cuervo-Cazzura, 2009; Brick and Chidambaran, 2010; Van Ees et al., 2009). In addition, the results showed that characteristics of board sub-committees such as diligence of audit committee was having

significant relationship with board meeting frequency and firm performance which proves the results obtained by Raghunandan and Rama (2007) and Sharma et al., (2009). The relationship of independence of audit committee is significant with board size and board meeting frequency and shows the strengthening of not only board control role but resource dependence role as well. This is also in line with the study of board subcommittee structural significance with board independence and resources (Braswell et al., 2012; Boone and Mulherin, 2012; Goh, 2009). This is also in line with another research that says that benefits of independence of audit committee are only achieved if they are independent (Bronson et al., 2009) and prospective investors perceive them independent. This shows that the prospective investors gave importance to not only boards but also to board sub-committee structures. The results also revealed that board structural characteristics and firm performance relationship was significant and stronger with market based firm performance measure (Tobin Q) as compared to accounting based measure of performance (ROA) which shows that investors consider the changes as positive but the corporate governance reforms couldn't bring any structural changes in the firms. The reason may be that at least in this time period of three years after the introduction of SECP, the data didn't reveal any significant changes in the profitability of the firms.

7.3 Contribution to Knowledge

There are five new contributions this research makes to knowledge on boards of directors. First, the monitoring role and the resource dependence role are found to be partial mediators of the association between various characteristics of board structural and financial performance of the firm based upon the market based mechanism. Most of the previous researches have used the board roles as the dependent variables to judge the output of the board structure. This study shows its novelty by employing the monitoring role and resource dependence role as mediating or intervening mechanism between major board structure indicators and performance of the firm. Within this first contribution, there are three specific findings of note with regard to the mediation effect. One, both the monitoring role and the resource dependence role of the board partially mediate the relationship between proportion of NEDs on the board, separation of CEO/board chairman, and firm performance. Two, the diligence of audit committee has a significant relationship with monitoring role of the board and independence of audit committee has significant relationship with both board roles including resource dependence role of the board as well as control role. Three, SECP code

influences board structure which has an impact on firm value via the performance of the control and resource dependence roles of the board.

The second contribution of the study is that it is different from the previous studies as it tries to use multi-theoretic perspective to prove that if the board monitoring and resource provision roles are strengthened, the financial performance of the organization will be strengthened. The study goes one step further and explains that the equivocal results of board structure and firm performance relationship are explained through the mediation of board roles and not through the direct relationship between board structure and firm financial performance. From the point of view of the literature, this study assumes the novelty by undertaking more than one board roles simultaneously in the empirical literature outside the developed world. Most of the studies in the past (Forbes and Millikan, 1999; Hillman and Dalziel, 2003; Huse, 2007) have studied the markets of either USA or UK and EU to discuss the board functions and board roles, in this way, the study is a response to the slow empirical progress in this field and tries to bridge the gap created as a result of fast progress on the qualitative fronts.

The third contribution of this research is to study the listed companies' data from Pakistan, an emerging economy in South Asian region, where generally the research culture is low except India. Whilst the results show some commonalities between Pakistan and other countries, they also suggest some significant differences like the study shows that the changes were brought in the organization which only wooed the external investors however, the real control of the organization remained with the powerful family. This suggests that that there is a need to recognise the importance of national context as a contingency variable in corporate governance research (Pearce and Zahra, 1991; Zahra and Pearce, 1989). Therefore, the study has built a unique corporate governance dataset comprising of two panel datasets that cover both the pre- and post-SECP code implementation periods. It also has investigated the changes took place in board structural characteristics since SECP was implemented. Therefore, by using cross sectional time series data, it provides stronger ground for the internal and external validity of the results. It has also discussed that changes in board structure after SECP code were instrumental in strengthening board roles and firm performance over all.

The fourth contribution of this study is to find the critical role of corporate governance reforms in shaping the board structure to enhance the firm value. It also proved that more members were added on the boards after the reforms with different backgrounds to make use

of member resources. Previous studies suggest board roles are the product of the structure whereas they are in fact mediating mechanisms that lead to firm performance. This novelty will allow future research to assess the value creating potential of boards.

The fifth and final contribution this research relates to the implications of the findings for board practices and policies in Pakistan on corporate governance in general and specifically on boards of directors. The results suggest greater emphasis on the board roles that enhance firm performance. Primarily, this proved that investors look the addition of more non-executive members on the board and separation of the role of CEO and board chair positively in order to avoid hegemony of single person and to create the environment conducive for members to actively participate in critical debate. However, this is double edged and should be used cautiously that chairperson doesn't have any biasedness towards any board member and treats all equally by providing equal chances of discussion. The findings also suggest that boards need to have members with a range of knowledge and skills as well as there is need for devising a mechanism to ensure that knowledge is used. This has important implications for the selection of board members and for board development. These results also suggest the need for boards to conduct regular reviews and evaluation of board members, to optimise the contribution of each member. The results also suggest that boards with a higher proportion of NEDs better perform their monitoring and resource dependence roles which are another major contribution of this study by using multi-theoretic lens. This is supportive of rules regarding the number of outside directors on boards. Similarly, the diligence and independence of audit committees have been found significant for the control role and resource dependence role of the board respectively. This may imply that there is need to make broad based changes in the information provided in the annual reports regarding director backgrounds and qualifications so that clear information is available regarding control with a diverse range of knowledge and skills respectively.

7.4 Limitations of the Study

As with most research efforts, this study is inevitably constrained by limitations and these limitations apply to the conclusions. Generally, the study suffers from five main limitations.

Although, the study is quantitative in nature and researcher has attempted to cover all aspects of the quantitative approach, however, the quantitative method is not free of limitations. As in this case, it is the tendency of the researcher to apply the principles of scientific enquiry to every phenomenon under investigation which potentially leads to ignoring the difference

between social and natural world, similarly, when conducting analysis using statistical quantitative methods tend to create a view which is devoid of real life relationships.

Second, the sample size was not consisting of all nonfinancial sector firms registered on KSE. The data was consisting of textile firms majorly but the sample taken was also a representative of overall population as the number of textile firms registered outnumbered any other sector on the stock exchange in Pakistan.

Third, the data was archival in nature and there was no digital archive available for this data. The data was primarily 10 to 15 years older and there was no trend of keeping the data digitally before 2010. Secondly, the proxies used for board roles were imperfect. The study could have used the more near proxies for board roles by getting information directly from the board members but over a period of more than a decade the majority of the directors either left or changed the companies and their updated information was not available. However, in that case depending on their memory for a firm for which they served 10 to 15 years before could have created some validity and reliability issues regarding the study. Therefore, directors up-to-date information regarding is notoriously difficult and this may limit the extent to which the conclusions can be generalised. However, the data was extracted from annual reports which are considered the certified and most authentic corporate data disclosure, thus increasing the strength of the generalisability of the results.

Fourth, the study used a single country and thus the findings may be limited to Pakistan and not generalised to other countries. Unfortunately, cross country studies also have their limitations in board research. This may be due to different legal structures, which can create comparative problems. One, legal requirements may mean countries have different board structures, for example single tier boards versus multiple tier boards. Two, legislation may specify the requirements of board members to do different things in different countries. (Seifert et al., 2005; Wu, 2005). These difficulties may lead to problems in undertaking comparator cross-country studies. However, whenever the codes are taken as cross-country comparison, there will always be differences with respect to different legal and social environments and it is difficult to unify a single framework of good practices across the boarders in the short term (Aguilera, 2005; Daily et al., 2003; Roberts et al., 2005; Sundaramarthy and Lewis, 2003; Zona and Zattoni, 2007). Whilst longitudinal studies have their own limitations, this study only uses a window of three years in a panel which might be

increased and more number of years may be tested again at some point in the future for better generalisability.

Fifth, whilst the study provides insights into the corporate governance reforms that influence board structural characteristics, board role, and firm performance, it does not examine the dynamic interactions of the various board roles as and when they happen due to the nature of the proxies used for the board roles, as well as due to non-availability of continuous historical data. Therefore, an event study technique couldn't be employed because daily and weekly events data is not available. Also the firms are not obliged to announce the governance changes they incorporate into the media and they only disclose in their annual reports, therefore, only the end results can be captured. However, this is not a big limitation as prior research (Chidambaran, Palia, and Zheng, 2010) indicates that there is not enough evidence that governance changes at a particular time bring immediate changes in the financial performance of the firms, therefore, use of the proxies like ROA and Robin Q seems quite reasonable. Nevertheless, it may be noted with a caveat that the founding families still have the influence on the firm and the context may be different from the other countries because of the ownership structures, therefore, while making generalization from this study to other contexts care should be taken. Because of the difference in the nature of the context, it may have different governance mechanisms and the results may not be directly applicable to contexts with different ownership structures.

7.5 Recommendations for Future Research

The findings and limitations of this study point to a number of areas requiring further research. First, a study examining the impact of different board structural characteristics on board roles, and firm performance is an area worthy of further exploration.

Second, the board roles may be measured by using an interactive process instead of using fixed proxies.

Third, for a longitudinal study, the number of years could be increased but the problem of availability of data will always plague the repetition of such study in the future. This will allow the results of the study to be compared with future studies and help increase the understanding of board role effectiveness.

Fourth, a cross country study could be undertaken to better understand the impact of national contexts on board structural characteristics, board roles, and firm performance. The study could be replicated using data from other countries enabling cross-country comparison in

developing a universal framework for investigating corporate governance. The findings that board structural characteristics are predictors of board roles lead to further questions regarding the dynamism of board roles, such as, discussion on meeting agendas, use of personal contacts and expertise and knowledge in different situations for the betterment of the organization. There are a number of interesting areas with regards to the board roles which future studies could examine. For example, the extent to which board diversity can enhance the board efficiency and effectiveness through more cohesive working environments.

Fifth, this study has used the organizational board as the unit of analysis. The contribution of the individual director was not the focus of this study. In future, studies can be conducted to judge the contribution of individual board member to study the board dynamics intrinsically such as a study by Greve et al (2011). Studies adopting a multi-level unit of analysis will help enhance our understanding of both the contribution of individual directors and the board efficiency and effectiveness. Further to this, the multiple board members for example a CEO as well as a non-executive member could be used as the respondent to explore the effects of the perceptions of other board members on board roles and performance in line with suggestions from Hillman et al., (2008) and Minichilli et al., (2010).

Sixth and another very important aspect of the future direction is that our study suggests that larger boards are better for monitoring as well as resource dependence roles. However, there is no less literature suggesting that smaller boards are more effective (Yermack 1996; Eisenberg et al., 1998). Therefore, what could be the repercussions of affording more directors as more cost is not the solution for improved monitoring and finding the optimal board size may be the optimal solution for better firm performance.

Another area in which the researchers in the future can shed more light is the choice of measures for the financial performance of the firm. Although this study used ROA and Tobin Q as the measures for the financial performance of the firm to capture the accounting as well as market based performance and the rationale and limitations for using each of these measures have been discussed in detail in section 4.9.1, nevertheless, in future researchers can use more elaborate performance measures such as market expectations and future abnormal returns to more closely observe the investors' reactions to governance measures changes.

7.6 Concluding Thoughts

This study has provided a useful contribution to the existing literature on board structural characteristics and their impact on board role and firm performance with respect to effectiveness of the corporate governance reforms. The novelty of this study is to use the multi-theoretic perspective in corporate governance studies in a context which is different from most of the studies conducted either in US or UK but provides support to the existing studies by providing empirical evidence that corporate governance reforms cause change in board structure to make the board perform better their monitoring and resource provision roles to achieve better the goals of shareholders. It contributes to the research on boards in several ways. First it examines through a multi-theoretic lens to explain board structural characteristics and board roles relationship than has hitherto taken place. Second it finds that board monitoring role and board resource dependence role are mediators of the relationship between board structural characteristics such as proportion of NEDs, separation of duality of board leadership structure, diligence and independence of audit committees and market based gauge of firm performance taken as Tobin Q. Third, it adds to the much argued area of a multi-theoretic approach to corporate governance. Fourth it has a number of implications for board practice and board policy. Specifically, the findings of the influence of corporate governance reforms on shaping the board structure and strengthening the board roles thereof is another very important contribution of this study. The induction of new board members having relevant professional backgrounds caused an increase in board size to work as board resource as well as the monitoring capability of the board. Finally, it offers suggestions on future directions for research on boards.

Appendix-A

Sectors wise Companies Registered on Karachi Stock Exchange

On 31st December, 2005

Name of Sector	Total Number of Companies in Sector	Proportion in Total Number of Companies listed	Number of Companies Sampled in Sector	Proportion of Sampled Companies in Sector
Textiles	220	33%	80	13%
Consumer Goods	104	16%	50	7.5%
Chemicals	70	10%	36	5.5%
Industrials	70	10%	34	5%
Financials	138	21%	Nil	
Oil and Gas	15	3%	Nil	
Utilities	13	2.5%	Nil	
Miscellaneous	26	4%	Nil	

Appendix-B

Sector Wise List of the Sampled Companies

1	GuL Ahmed textile	42	Artistic Denim Mills ltd
2	Ideal Spinning Mills	43	Quetta textile mills ltd
3	Sunrays textile	43	Glamour textile mills ltd
4	Shaheen Cotton mills ltd	44	Shehzad Textile mills ltd
5	Dewan Mushtaq textile mills	45	Gadoon textile mills ltd
6	Saleem Denim Industries ltd	46	Mian Textile industries ltd
7	Reliance cotton spinning mills ltd	47	Shahpur Textile mills ltd
8	Redco textile mills ltd	48	Fawad Textile mills ltd
9	Regent textile industries ltd	49	Kohinoor Textile mills
10	Saifex spinning mills ltd	50	Dar es Salaam Textile mills ltd
11	Sana Industries ltd	51	shams textile mills ltd
12	S.G. fibre ltd	52	Nishat (Chunian) ltd
13	Bannu Woolen Mills ltd	53	Kohinoor (Weaving) Mills ltd
14	Din textile mills ltd	54	Kohinoor Raiwind ltd
15	Olympia Spinning and Weaving	55	Shadman cotton mills ltd
16	Ishaq textile mills ltd	56	Janana de maluchu textile mills ltd
17	Fateh Sportswear ltd	57	Masood Textile mills ltd
18	Zahur cotton mills ltd	58	Saif textile mills ltd
19	Taha spinning Mills ltd	59	Indus Polyester company ltd
20	Al-Qaim textile mills ltd	60	Zahur textile mills ltd
21	Nadeem textile mills ltd	61	Eastern Spinning mills ltd
22	J.K spinning mills ltd	62	yassir industries
23	Al-Qadir textile mills ltd	63	The Ruby mills ltd
24	Asim textile mills ltd	64	Chenab ltd
25	Sajjad Textile mills ltd	65	Nishat mills ltd
26	Ayesha textile mills ltd	66	Idrees textile mills ltd
27	Fateh Textile mills ltd	67	Mahmood Textile mills ltd
28	Modern textile mills ltd	68	Fazal Cloth mills
29	Amin Spinning mills ltd	69	Fatima Enterprize ltd
30	Dewan textile mills ltd	70	ICC textiles ltd
31	Yousaf Weaving mills ltd	71	Service Fabrics ltd
32	Gulshan spinning mills ltd	72	Qayyum Spinning mills ltd
33	gulistan Spinning Mills ltd	73	Gillete Pakistan ltd
34	Apollo textile mills ltd	74	Rashid Textile mills ltd
35	Pakistan synthetics ltd	75	Ravi Textile mills ltd
36	Premium textile mills ltd	76	Maqbool company ltd
37	Olympia textile mills ltd	77	Tri Star Polyester ltd
38	Moonlite (Pak) ltd	78	Ibrahim Fabrics ktd

39 Quality textile mills ltd	79 Mahr Dastgir Textile mills ltd
40 Tata textile mills ltd	80 Paramount Spinning mills ltd
41 Khurshid Spinning mills ltd	

2. Consumer Products	46. Wazir Ali Ind. Ltd.
1. Adam Sugar	47. Suraj Ghee
2. Abdullah Shah	48. Thal Ind. Corp.
3. Al-Noor Sugar	49. Tandlianwala Sugar
4. Ansari Sugar	50. Unilever Foods
5. Baba Farid	3. Chemicals
6. Chashma Sugar	1. Sardar Chemicals industries ltd
7. Clover Pakistan	2. Biafo Industries ltd
8. Colony Sugar Mills	3. Bawany air products ltd
9. Data Agro	4. Haroon Mills Ltd.
10. Dewan Sugar	5. Wah Nobel Chemicals
11. Engro Foods Ltd.	6. Pakistan PVC Ltd.
12. Extraction	7. ICI Pakistan Ltd.
13. Faran Sugar	8. BOC Pakistan Ltd.
14. Goodluck Industries	9. Gatron Industries Ltd.
15. Habib Sugar Ind	10. Shafi Chemical Industries
16. Hussein Sugar	11. Nimir Industrial Chemicals
17. Haseeb Waqas Sugar	12. Mandviwala Plastic
18. Ismail Industries	13. PTA
19. J.D.W. Sugar	14. Cyanamid Pakistan Ltd.
20. Kohinoor Sugar	15. Nimir Raisins
21. Khairpur Sugar	16. Dynea Pak
22. Khairpur Sugar	17. Agritech-V
23. Mitchells Fruit Farms	18. Arif Habib Corp
24. Mirpur Khas	19. Archoma Pak
25. Morafoo	20. Descon Chemical
26. Mehran Sugar	21. Descon Oxychem
27. Mirza Sugar	22. Dewan salman
28. National Foods	23. Engro Fertilizers
29. Nestle Pak.	24. Engro Polymer
30. Noon Sugar	25. Engro Corporation
31. Noon Pakistan	26. Ghani Gases
32. Premier Sugar Mills	27. Fauji Fertilizers
33. Pangrio Sugar	28. Fauji Fertilizers Bin Qasim
34. Punjab Oil	29. Ittehad Chemicals
35. Quice Food	30. Linde Pakistan
36. Rafhan Maize	31. Lotte Chemicals

37. Sanghar Sugar	32. Leiner Pak Gelat
38. Sind Abadgar	33. Pak Gum and Chemicals
39. Shakarganj Mills	34. Sitara Chemicals
40. Shahtaj Sugar	35. United Dist
41. Shahmurad Sugar	36. Dawood Hercules
42. Sakrand Sugar	
43. Fronteir Sugar	
44. S. S. Oil	
45. United Sugar	

4. Industrials	18. Sazgar eng.
1. Aisha Steel	19. S.N. Kawasaki
2. Crescent Steel	20. Transmission engg.
3. Dost Steel	21. Al-Ghazi Tractor
4. Quality Steel	22. Al-Khair Gaddon
5. Siddiqsons tin Plate	23. Bolan Casting
6. Atlas Batteries	24. Dewan Auto Engg.
7. Atlas Honda Ltd.	25. Hinopak Motors
8. Bela Automotive	26. K.S.B. Pumps
9. Dewan Motors	27. Millat Tractors
10. Exide Pakistan	28. Pak. Engg.
11. Ghani automobiles	29. Balouchistan Wheels Ltd.
12. Ghandhara Nissan	30. Taga Pak Ltd.
13. General Tyre	31. Syed Match Comapny
14. Honda atlas cars	32. Huffaz Seamless
15. Indus Motor company	33. Int. Ind. Ltd.
16. Pak. Suzuki	34. Inter Steel Ltd.
17. Metro Steel	

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