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**THE ROLE OF CORPORATE GOVERNANCE AND  
DIVIDEND POLICY AS AN ALIGNMENT  
MECHANISMS TO CEO COMPENSATION AND FIRM'S  
PERFORMANCE**



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**DOCTOR OF PHILOSOPHY  
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March 2017**

**The Role of Corporate Governance and Dividend Policy as an  
Alignment Mechanisms to CEO Compensation and Firm's  
Performance**



**BY**  
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Universiti Utara Malaysia

**Thesis Submitted to  
Othman Yeop Abdullah Graduate School of Business  
Universiti Utara Malaysia  
In Fulfilment of the Requirements for the Degree of Doctor of Philosophy**



**Kolej Perniagaan**  
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Program Pengajian  
(Programme of Study) : Doctor of Philosophy (Financial Analysis & Policy)

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## ABSTRACT

Public perception of CEO compensation is evidently unfair as inefficient compensation structures that violate the rights of shareholders result in principal-agent problems. In order to mitigate this issue, theorists argued that executive compensation should be aligned with firm performance. Owing to the prevalence of agency conflicts in Pakistan, this study investigated the effect of firm performance and characteristics on CEO compensation in the capital market of Pakistan. Furthermore, consistent with prior theoretical arguments, this study examined the role of dividend policy and corporate governance as moderators to ensure their effect on pay-performance link. After data cleaning, this study utilized 284 Pakistani-listed companies (PSX) over the period 2010 to 2014. The findings from Multiple Linear regression showed that CEO compensation is positively aligned to operating performance, market performance, firm size and market share, however, no empirical evidence was found regarding the effect of growth opportunities on CEO compensation. The findings also indicated that family owners align their CEO's compensation with operating performance, institutional owners with market performance and firm size, and foreign investors with market share. Thus, these ownership structures play vital roles in mitigating agency conflicts in an organization. It was also revealed that optimal board size could strengthen the pay-performance link. On the other hand, CEO duality and dividend policy could distort the pay-performance link. Contrary to theoretical arguments, dividend policy cannot act as a substitute control device in the absence of strong corporate governance. The role of independent directors as an alignment mechanism to operating performance and CEO compensation is evident but due to their lower level of representation on the board, they have no influence over other accounting and market-based performance metrics. The study provides various theoretical and practical implications to improve corporate governance and compensation practices especially in the perspective of Pakistan.

**Keywords:** CEO compensation, firm performance, corporate governance, dividend policy.

## ABSTRAK

Persepsi orang ramai terhadap ketidakadilan pampasan Ketua Pegawai Eksekutif (CEO) adalah jelas disebabkan oleh ketidakcekapan struktur pampasan. Pampasan eksekutif banyak melanggar hak pemegang saham sehingga menimbulkan masalah di antara prinsipal dengan ejen. Bagi menangani isu ini, ahli teori berpendapat bahawa kadar pampasan eksekutif seharusnya sejajar dengan prestasi firma. Merujuk kepada pemasalahan konflik agensi di Pakistan, kajian ini menyelidik kesan prestasi firma dan ciri-ciri pampasan CEO dalam pasaran modal di Pakistan. Tambahan pula, selaras dengan hujah-hujah teori terdahulu, kajian ini meneliti peranan dasar dividen dan tadbir urus korporat sebagai pengantara untuk memastikan kesannya pada hubungan di antara bayaran dengan prestasi. Selepas saringan data, kajian ini menggunakan 284 buah syarikat yang tersenarai di Pakistan (PSX) bagi tempoh 2010 hingga 2014. Dapatan dari Regresi Garislurus Berganda menunjukkan bahawa pampasan CEO didapati sejajar secara positif dengan prestasi operasi, prestasi pasaran, saiz firma dan bahagian pasaran. Walau bagaimanapun, bukti empirikal tentang kesan peluang pertumbuhan bagi pampasan CEO tidak ditemui. Dapatan kajian juga menunjukkan bahawa keluarga pemilik menyelaraskan pampasan CEO dengan prestasi operasi, pemilik institusi dengan prestasi pasaran dan saiz firma, dan pelabur asing dengan bahagian pasaran. Oleh itu, struktur pemilikan memainkan peranan penting dalam mengurangkan konflik agensi dalam sesebuah organisasi. Hal ini juga mendedahkan bahawa saiz optimum Lembaga boleh mengukuhkan hubungan di antara bayaran dengan prestasi. Sebaliknya, dualiti CEO dan dasar dividen boleh memutarbelitkan hubungan di antara bayaran dengan prestasi. Bertentangan dengan hujah-hujah teori, dasar dividen tidak boleh bertindak sebagai peranti kawalan gantian dalam ketiadaan tadbir urus korporat yang kukuh. Peranan pengarah bebas sebagai mekanisme penyelarasan bagi prestasi pengoperasian dan pampasan CEO adalah jelas, tetapi kerana kedudukan yang lebih rendah daripada perwakilan dalam Lembaga, mereka tidak mempunyai pengaruh ke atas perakaunan lain dan pasaran dengan metrik prestasi berasaskan pasaran. Kajian ini memberikan pelbagai implikasi teori dan praktikal untuk meningkatkan amalan tadbir urus korporat dan pampasan khususnya dalam perspektif negara Pakistan.

**Kata kunci:** pampasan Ketua Pegawai Eksekutif (CEO), prestasi firma, tadbir urus korporat, dasar dividen.



## ACKNOWLEDGEMENT

In the name of Allah, the Most Gracious and the Most Merciful

“Oh Allah, increase me in knowledge, but let this knowledge be with sincerity, not seeking fame, glory, status, material wealth. Let this knowledge serve your cause in a way that you accept, and let it benefit humanity.”

First and foremost, praises and thanks to the Allah, the Almighty, for His showers of blessings throughout my research work to complete the research successfully. I am very grateful to Universiti Utara Malaysia and Othman Yeop Abdullah Graduate School of Business for providing me all the facilities and assistance without which it would not have been possible for me to complete this journey.

I would like to express my deep and sincere gratitude to my research supervisor, Prof. Madya Dr. Zahiruddin Ghazali, Deputy Dean, Othman Yeop Abdullah Graduate School of Business, Universiti Utara Malaysia, for giving me the opportunity to do research and providing invaluable guidance throughout this research. His dynamism, vision, sincerity and motivation have deeply inspired me. He is a great teacher who inspires hope, ignites the imagination and instills a love of learning. He is also a doctor who heals ignorance and an artist who inspires creativity.

My work would not have been completed if it were not for the help of all the Pakistan Stock Exchange (PSX) listed companies for facilitating the data for my work.

I am extremely grateful to my parents for their love, prayers, caring and sacrifices for educating and preparing me for my future. My father gave me the greatest gift anyone could give another person, he believed in me. He never forced me to walk in his ways, he lived and let me watch him do it and no matter how old I get, I always want my mother when I do not feel good. I also would like to thank my wife who did not tell me that it is going to be easy, she told me it is going to be worth it.

Last but not the least, my deepest gratitude goes to all my friends for their endless love, prayers and encouragement. May Allah bless you all with peace, good luck, happiness, a long life and success in every endeavor of life.

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## LIST OF ABBREVIATIONS

BI	Board Independence
CEOD	CEO Duality
CG	Corporate Governance
DIV	Dividend Policy
DPR	Dividend Payout Ratio
DY	Dividend Yield
FamO	Family Ownership
FC	Firm Characteristics
ForO	Foreign Ownership
FP	Firm Performance
GO	Growth Opportunities
InstO	Institutional Ownership
MP	Market Performance
MS	Market Share
OP	Operating Performance
PSX	Pakistan Stock Exchange





# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Over the past few decades, CEO compensation has gained noteworthy attention. Much of the attention is largely due to repugnant increase in compensation of executives in term of cash and stock bonuses and further fuel by debatable ethical practices. Public perception of CEO compensation is evidently unfair, that is why it gains enough attention of academic literature and practitioners (Gray & Benson, 2003; Lin, Kuo, & Wang, 2013, Wilmers, 2014). Researchers have conducted many studies to justify or to condemn the elevation of executive remuneration though most of these studies are related to developed countries and there are basic structural and institutional differences between developed and developing countries such as ownership, control, firm structure, markets, ethical, and business practices (Kashif & Mustafa, 2012).

CEOs are the most persuasive individuals in a firm who can create value or devalue the firm performance (Ueng, 2000). However, compensation of executives falls in the category of immense controversy due to the principal-agent conflicts. Many researchers believe that CEO compensation should be limited as it violated the rights of shareholders (Crumley, 2006). Conversely, according to Tosi, Werner, Katz and Gomez-Mejia (2000), CEOs are highly compensated owing to their eminent skills as they can increase the value of shareholder. Nonetheless, there are different school of thoughts regarding executive compensation and firm performance.

A number of researchers found positive relation between CEO compensation and firm performance (Mintzberg, 1973; Ozkan, 2007; Tai, 2004) though some proved negative relationship between these two variables (Balafas & Florackis, 2014; Brick, Palmon, & Wald, 2006; Cooper, Gulen & Rau, 2013; Gibbons & Murphy, 1990; Tariq, 2010; Tosi, et al. 2000). Therefore, it has become a provocative and indecisive issue of the era. Nonetheless, a good issue to dwell into especially in a developing capital market.

However, overly paid compensation cannot be justified in any way. Excessive compensation of CEOs can create agency problem as mentioned by Jensen and Meckling (1976). Managers or executives may use their discretion in many ways for their own advantages (Shleifer & Vishny, 1997). Mueller (2012) argued that CEOs might involve themselves in empire building and they avoid investing in positive NPV projects. Therefore, organizations failed to distribute enough cash to its shareholders due to lack of investment opportunities (Jensen, 1986). Furthermore, CEOs may entrenched themselves in strong designations, which create difficulties for firms to expel them on their inefficient performance. Thus, Bebchuk and Fried (2004) illustrated that executive compensation and agency problem are associated; agency conflicts can be reduced if board compensate their executives efficiently and if it will not affect shareholder value.

Callahan (2004) revealed the exponential growth of CEO compensation in his book, where he claimed that executive's greed for compensation is contributing the cheating culture and it has negative influence on society. Lin et al. (2013) used a term 'fat cat problem' to define the firms with inefficient performance because of highly paid CEOs. Bulk of the problem is due to lack of linkage between firm's performance and

CEO's compensation. Blinder (2009) demonstrated that inefficient compensation plans of executives were one of the major issues of financial crises in year 2008. Most of the CEOs were engaged in excessive risk taking and short-term gambles rather than paying attention to company's long-term objectives for viable growth (Fotouh, 2010). Although, developed countries are trying to overcome this issue but in a developing country or emerging economy like Pakistan, there is still a huge controversy in resolving agency conflicts.

Recent cases in Pakistan have revealed the excessive compensation of CEOs exclusively in the financial sector. According to Alam (2014), CEOs are not only highly paid but they are actually overpaid in Pakistan. The Chairman of financial research institution Dr. Siddiqui exposed the unjustifiable elevation in CEO compensation by citing different examples. He purported that the CEO of Standard Chartered Bank had the highest annual remuneration amounting USD 1.43 million in year 2012, which increased up to 34.7 percent from the preceding year 2011. While, the compensation of MCB Bank had elevated up to 93.7 percent from year 2011 to 2012. Additionally, almost 203 percent increase in the compensation of KASB Bank CEO had recorded in the year 2012 from the preceding year. The chairman of financial research institution condemned, "financial institutions have been enhancing their profitability only to the benefit of their majority shareholders," (Alam, 2014).

Dr. Siddiqui in a statement also criticize board of financial institutions, "...without sharing profits with depositors, their boards of directors have rewarded top managements unjustifiably and increased executive remuneration completely out of proportion" (Alam, 2014). Recently, in a general body meeting of a bank in Pakistan, shareholders showed much vexation toward overly paid CEOs. They protested that

annual compensation of CEO is more than the profit declares by the firm. Regulators and central bank of Pakistan are acquainted with this discernment but have not yet taken any necessary notice (Subohi, 2013).

Researchers proposed several models in the past to mitigate agency conflicts and excessive CEO compensation problem. One of the effective strategy proposed by agency theory is to align the CEO's compensation with firm performance as it could align the interests of executives with that of shareholders (Grossman & Hart, 1992; Jensen & Murphy, 1990). However, if firm does not distribute dividends time to time and compensation of executives remain high then it leads to agency conflicts and these conflicts could be more severe in case of a country like Pakistan where demand of dividends by shareholders are very high (Akhtar, Hunjra, Andleeb, & Butt, 2012). Therefore, Emerenciana (2012) suggests strong dividend policy as a solution to this problem. Goergen, Renneboog and Da Silva (2005) also view dividends as substitute control device which can mitigate managerial agency costs. However, consistent with economic intuition and principal agent paradigm, Bhattacharyya's model purported a different point of view on this notion. The author illustrates that shareholders prefer executives who invest in positive NPV projects and if there are no feasible projects then they should distribute dividends to shareholders (Bhattacharyya, 2003). Accordingly, Bhattacharyya, Mawani, and Morrill (2002) found negative relationship between managerial quality and dividend payouts because managers with higher productivity would invest more in profitable growth opportunities rather than distributing dividends among shareholders.

Bhattacharyya (2000) also verified this claim in his previous research where he found negative relationship between executive compensation and dividend payouts because

managers with lower productivity get lower compensation who distributes dividends without considering positive NPV projects. Nonetheless, Bhattacharyya's model omitted the propositions of agency theory and cash flow hypothesis. Organizations could restrict managers from overinvestment by paying dividends and these managers would approach financial institutions for external source of financing. In this case, managers or executives could involve themselves in rational investment decision-making in order to enhance firm's profitability as well as their own compensation (Easterbrook, 1984; Jensen, 1986; Richardson, 2006). Owing to these theoretical and empirical arguments, it is purported that strong dividend policy can mitigate agency conflicts as it restricts executives from rent extraction.

Brealey and Myers (2003) have listed dividend policy as one of the unsolved and complex issues of finance so dividend policy could not utterly resolve the principal-agent conflicts. Dividend policy can be utilized as a substitute control device but the prior academic literature focused more on efficient corporate governance as main control mechanism. For instance, Core, Holthausen and Larcker (1999) suggests that corporations with stronger corporate governance have lesser principal-agent problems and executives of these corporation receive lesser or reasonable compensation. In addition, the firms with lesser agency conflicts are more likely perform in efficient way. Therefore, the study by Li, Moshirian, Nguyen and Tan (2007) demonstrates that executives could take advantage of less demanding shareholders or weaker corporate governance to achieve excessive compensation packages especially in the developing countries. This occurrence previously studied by Boyd (1994) that CEO compensation in firms with lower level of board control was not aligned to firm size or profitability.

Board control can be enhanced with higher representation of independent directors on the board as a prior study by Mishra and Nielsen (2000) discovered positive association between CEO pay-performance sensitivity and the percentage of independent outside directors. These directors pay the CEOs according to the fluctuation in firm performance (Mizruchi, 1983). Nonetheless, agency theory opposed suboptimal level of board size or the presence of CEO duality within the firm. Higher board size could be associated with higher agency costs, passive monitoring and negative firm performance (Eisenberg, Sundgren, & Wells, 1998; Jensen, 1993; Yermack, 1996). Moreover, CEO duality enhance CEO's discretion and the ability to influence pay-setting process (Abernethy, Kuang, & Qin, 2014). Agency theory also disapproved concentrated ownership and favored dispersed ownership structure as different types of investors could provide different kinds of expertise to improve overall organizational effectiveness. For example, institutional investors have fiduciary obligations to grow investment returns for their shareholders by maintaining substantial investment stakes, thereby, they actively monitor the behaviors of firm's executives (Abernethy et al., 2014). Therefore, it is posited that corporate governance could be stronger if there is optimal level of board size, absence of CEO duality, greater representation of independent directors and dispersed ownership structures.

Owing to the weak legal system in Pakistan, there is also poor corporate governance in many firms as compared to the companies of developed countries (Ameer, 2013; Javid & Iqbal, 2010; Sheikh & Wang, 2012). Independent directors are practically absent (Javid & Iqbal, 2010) and most of the companies are family owned and they elected less skillful board of directors based on their personal links in the capital market of Pakistan. Consequently, agency conflicts arise as board make decisions in

favor of only a specific group (Shah & Butt, 2009). As a result, these issues have highlighted in this research to answer the disputable matter of principal-agent problem derived from CEO compensation and the results are discussed in the Pakistani corporate financial scenario. The focus of this study is to ensure if performance-related indicators are aligned to CEO compensation and what role corporate governance and dividend policy play in fabricating this link in the capital market of Pakistan.

## **1.2 Problem Statement**

As brought forth from prior discussion, the pro and cons of CEO's compensation has been widely discussed. Current study revealed that excessive CEO pay affects shareholder returns and future operating income negatively (Balafas & Florackis, 2014). Even during crises period, CEOs compensation in United States has raised to approximately 571 percent when average worker wage barely outpaced inflation. As mentioned in the study of Anderson, Cavanagh, Hartman, & Leondar-Wright (2001), several complaints have registered by shareholders regarding unfair compensation practices and prejudice with other workers. For instance, Coco-Cola faced enough criticism on executive pay from 83 percent shareholders and they demanded to revise the compensation plans (Eavis, 2014). Similarly, Facebook Incorporation's shareholders also filed complaint regarding unfair executive compensation. They accused that this biased compensation results in unjust enrichment, waste of corporate assets and breach of fiduciary duty (Odom, 2014).

Even though, it is a universal issue but recently cases regarding over-paid CEOs have observed in Pakistan. Recent financial crises (2008) in KSE has disclosed many

malpractices regarding executive compensation practices, which in turn creates extreme public uproar and controversy. In year 2002, before tax income of financial institutions was USD 0.011 billion and has raised to USD 1.82 billion in the year 2012 suggesting a significant increase of revenue in the financial sector within a decade (Alam, 2014). However, firms had shared very low profit with shareholders but compensated top managers with high rewards. Dr. Shahid Hasan Siddiqui, who is a Chairman of Research Institute of Islamic Banking and Finance in Pakistan, has criticized the unjustifiable increments of financial sector executives. The salaries of executives have amplified from 34.7 percent to 203 percent in year 2012 as compared to 2011, which is an abnormal enhancement. Chairperson said, “Financial institutions exploit depositors in Pakistan by operating like a cartel” (Alam, 2014).

In developed markets, such as U.S., companies especially related to public sectors are required to reveal their CEO-to-ordinary worker pay ratio under Dodd-Frank law. This law was designed to prevent excessive CEO compensation. However, in Pakistan, the relevant data regarding this ratio is not available but Subohi (2013) provided an anecdotal evidence to reveal excessive CEO compensation problem in Pakistan. A low level manager or worker may get only USD 20 per month after the retirement but the CEO get around USD 75000, which is signal of unjustified compensation of executives in Pakistan (Subohi, 2013). Excessive CEO compensation is not only the problem of financial sector of Pakistan but also many multinational and large local non-financial companies paid their CEOs a very high remuneration. For instance, CEO of Nestle Pakistan earned a sum of USD 0.77 million, GlaxoSmithKline USD 0.52 million, Pakistan Oilfields Limited USD 0.2 million,



Best Cement USD 0.23, and Oil and Gas Development Company USD 0.38 in year 2014 (Hussain, 2016).

Continuing the discussion of remuneration, shareholders have also filled resolutions to reduce pay disparities, which showed that shareholders are becoming more vocal and persistent in quest to remedy the perceived injustices related to CEO pay. For instance, the shareholders of British Petroleum (Macalister, Treanor, & Farrell, 2016), Renault (Frost, 2016) and Citigroup (Gray & Foly, 2016) revolt against their CEO's pay. A resolution, 'Say on pay' was passed few years ago which means shareholders have the right to vote on the remuneration of executives. Nevertheless, according to Cheffins and Thomas (2001), 'say on pay' can control the sudden jumps in CEO pay but it cannot stop the general drift in pay rates. Additionally, according to the Wall Street Journal, companies are not in the favor of this rule as the trend of negative votes can affect the company performance (Chasan, 2014).

Owing to the unresolved matter of CEO compensation, this issue has raised principal-agent problem, in particular the Type I agency problem that is between agents (CEOs) and principals (shareholders). This notion is aligned with Brick et al. (2006) study that suggest excessive CEO compensation has a relationship with corporate's underperformance and it creates agency problems. In the view of the fact, executives could take different actions for their own welfare, which can leads to shareholders' disadvantage (Balafas & Floackis, 2014).

Many studies have discovered negative relationship between firm performance and executive compensation (Gibbons & Murphy, 1990; Tariq, 2010; Tosi, et al., 2000). In addition, researches on manufacturing and financial sector in Pakistan also

illustrated the same negative association between these two variables (Iqbal, Khan, & Ali, 2012; Younas, Mehmood, Ilyas, & Bajwa, 2012). Brick et al. (2006) revealed that the reason for the negative relation between executive pay and firm performance is the mutual back scratching of CEOs with directors defined as boardroom courtesy at the expense of honesty, or in cronyism or weak oversight. It reflects the suboptimal performance of an administration that puts self-regard beyond shareholder interests (Brick, et al., 2006).

In Pakistan, there is a culture of favoritism and nepotism in organization. Especially in public sector, companies hire employees based on personal contacts regardless of professionalism or merit practices, which affects the job performance of employees (Sadozai, Zaman, Marri, & Ramay, 2012). Furthermore, firm's underperformance has also discussed by Thomas (2002). He purported that lower level managers and staff underperform when they observe injustice in their compensation as compared to higher compensation reward of executives. Simultaneously, productivity and employees' performance affects adversely due to this injustice, which at the end leads to decline in firm's value (Thomas, 2002). Therefore, it is essential to raise questions regarding the uncertain elevation in CEO compensation.

However, it cannot be hypothesized that CEOs compensations should be bounded, as attracting, retaining and rewarding CEOs is vital to the success of a firm. This is the reason that some studies relating CEO pay to organizational performance have found positive relationship between these two variables (Ozkan, 2007; Tai, 2004). Reflecting to an earlier study by Mintzberg (1973) demonstrated that CEO is the most important individual of a corporation due to many distinctive traits like decision-making, information processing and symbolic actions. Therefore, firms cannot neglect

the reward system for its executives as it motivates them to perform better. Moreover, another reason to pay CEOs a high compensation is to persuade them in chasing more risky strategies for better outcomes or payoffs (Bertsch & Mann, 2005). Thus, in order to mitigate executive CEO compensation issue and principal-agent problem, efficient compensation structures should be designed which could mutually benefit the executives and shareholders.

According to the implications of agency theory asserted by Jensen and Meckling (1976), evaluating the actions of the agent and firm's value is always a complicated process. Therefore, to overcome this complexity, various researchers suggested that executive pay should aligned with firm's performance (Grossman & Hart, 1992; Holmstrom, 1979; Jensen & Murphy, 1990; Tariq, 2010). An earlier study on the matter by Aggarwal and Samwick (1999) demonstrated that with the increase in firm performance, compensation of CEO should also be increased. Therefore, high pay of CEO can be justified with the increase in performance of firm (Tariq, 2010).

Furthermore, for the support of 'efficient' compensation structure, different firm characteristics that can determine executive compensation should also be considered. By utilizing market and accounting based measures, Matolcsy and Wright (2011) had tested a model regarding compensation structure of CEO, which was established by employing firm characteristics to ensure its effect on firm's performance. Their finding suggested that CEOs who receive compensation inconsistent with their firm characteristics show an inferior performance as compared to the firms who pay their CEOs consistent with firm characteristics. Therefore, CEO compensation should aligned with firm performance as well as various firm characteristics.

Pertaining to relationship between executive compensation and firm characteristics, study by Tariq (2010) comes into view. His study revealed a strong positive relationship between pay of CEO and Firm size. Similar results have concluded by Firth, Fung and Rui (2006). As well, some researchers have also considered growth or investment opportunities within the context of firm characteristics and found positive relationship between investment opportunities (Market to Book value) and CEO compensation (Barnes, Harikumar, & Roth, 2006; Tariq, 2010). Furthermore, along with size and growth, Pindado, De Queiroz and De La Torre (2010) have also counted market share while studying firm characteristics. They purported that regardless of enhancement in firm performance, size or growth opportunities, if company only creates value for CEO and ignore the value creation for shareholders then agency conflicts cannot be resolved.

Despite the fact that shareholders are against CEO's extravagant compensation and they do not want to pay more than a CEO's aptitude (Crumley, 2006). Seeing that, unreasonable and excessive compensation of executives can create biases and exploitation in dividend payouts to shareholders (Ali & Anis, 2012). In Pakistan, corporates distribute dividend if they have adequate amount after meeting their short-term needs and expenses (Imran, 2011). Conversely, according to Akhtar et al. (2012), shareholders in Pakistan demand dividends either in the form of cash or in the form of stocks. In addition, they have resilient desire for dividend even the firm has to distribute it by taking loans. Therefore, if CEO compensation remains high and firm does not pay dividends to investors then it will leads to principal-agent problems.

Nevertheless, strong dividend policy can reduce agency costs and eventually mitigate principal-agent conflicts. Additionally, dividend-paying firms are more effectual than

non-dividend paying firms in terms of incentivizing through compensation. By way of dividend paying firms have higher pay-performance sensitivity; therefore, these types of firms compensate CEOs according to their performance and firm's performance. Conversely, disproportionate compensation of non-dividend paying firms can have negative future performance (Emerenciana, 2012). Furthermore, if firm will reduce dividend payout ratio, stock price will also be dropped (Sar, 2008). Therefore, firms try to pay regular dividends to reduce their stock price volatility. In addition, Easterbrook (1984) argued that dividend policy is one of the effective ways to reduce the agency conflicts in a firm because it can align the interests of managers and shareholders. Dividend policy increases the control of capital market, which leads to reduction in agency costs (Easterbrook, 1984). The role of dividend policy to mitigate agency conflicts is also discussed precisely by agency theory. According to the theory, efficient dividend policy can be utilized as a substitute control device when governance, board and ownership provisions are unfavorable for shareholders (Haye, 2014). On that account, dividend policy can play the moderating role between firm's performance and CEO compensation. Additionally, it can also act as moderator between firm characteristics and compensation of CEO, which has been neglected by prior studies. Moreover, in the context of Pakistani market, this effect has never been studied.

Even so, dividend policy cannot solely diminish the agency conflicts. Thus, studies have anticipated the strong corporate governance structure as a solution for agency conflicts because CEOs of firms with more effective governance structure receive lesser compensation (Core, et al., 1999; Suherman, Rahma, & Buchdadi, 2011). Good governance regulations decrease agency costs, which leads to reasonable CEO

compensation and encourage investor welfare (Dicks, 2012). Therefore, Lee (2014) pointed out that stronger corporate structure could attenuate the negative relationship between future corporate performance and executive compensation. Prior studies have considered board characteristics and ownership structure in order to exhibit corporate governance mechanisms (Core, et al., 1999; Hashim & Devi, 2009; Singh & Davidson III, 2003). Brown and Roberts (2016) also theorized that effective board governance combined with proficient ownership structures could mitigate the agency conflicts. Although there is a wide range of academic literature on the direct relationship between corporate governance mechanisms and CEO compensation but researchers have given less attention to the role of these mechanisms in aligning pay-performance link.

General studies have taken family, institutional and foreign ownership into account while testing the link between ownership structure and CEO compensation (Kato & Long, 2005). Researchers have provided empirical evidence as well as theoretical justification regarding the role of these ownership types in setting CEO's pay. For instance, in family-controlled firms, CEOs receive lower compensation (Combs, Penney, Crook, & Short, 2010; Palmberg, 2009). In case of Pakistan, most of the firms are family-owned and dominate the financial landscape. In contrast to the assertion of Shah and Butt (2009) that family owners in Pakistan are involved in favoritism and nepotism, Javid and Iqbal (2010) posited that family firms bring better monitoring and governance practices in Pakistan.

In addition, Fama and Jensen (1983) presented a theoretical argument that family owners have the ability to mitigate classical agency conflicts between managers and owners. Therefore, this study is assuming that family ownership can strengthen the

pay-performance sensitivity and it can play a positive moderating role between performance-related indicators (firm performance, firm size, investment opportunities and market share) and CEO compensation. Although agency theorists argued that pay-performance link is not applicable in family firms as they are more prone to Type-II agency conflicts (between majority and minority shareholders) rather than Type-I agency conflicts (between agents and principals) but the study by Michiels, Voordeckers, Lybaert and Steijvers (2013) find the pay-performance evidence in US-based family firms. Owing to the fact that Michiels et al. (2013) conducted their study in a developed country whose outcomes cannot be generalized on a developing country like Pakistan due to different legal structures and organizational culture, another study to test the role of family ownership in aligning performance-based measures with CEO's compensation in Pakistan is called for.

Researchers have also asserted theoretical explanations pertaining to the link of institutional ownership with CEO compensation. Concerning the role of institutional investors in reducing agency problems, Smith and Swan (2014) have investigated the negative effect of institutional ownership on executives' pay. Researchers found that institutional investors possess different expertise and resources by which they can reduce the agency conflicts by supervising the actions of managers (Abed, Suwaidan, & Slimani, 2014; Lee & Chen, 2011) and they can also constrain CEOs' power in their pay-setting (Bebchuk & Fried, 2004).

In order to fulfill their fiduciary obligation to enhance their shareholder's wealth, institutional investors control the executive's behaviors and corporate malpractices (Abernethy et al., 2014). Therefore, meta-analysis of van Essen, Otten and Carberry (2015) suggested that institutional ownership could positively moderate the

relationship between firm performance and CEO compensation. Consequently, by considering the previous theoretical and empirical evidences, this study hypothesized that institutional ownership can align the interests of executives with that of shareholders and thereby play active role in strengthening pay-performance link. According to researcher's best knowledge, the empirical evidence regarding this proposition is non-existent in the perspective of Pakistan.

This study also incorporated the role of foreign investors in sustaining or developing pay-performance link. Contrary to the rent protection and restraining CEO overconfidence role of institutional investors, foreign investors pay their CEOs a high remuneration. Huang (2010) and Pan, Tian, Ma, Jun and Tang (2009) found positive relationship between foreign ownership and CEO compensation. Foreign investors pay CEOs a high compensation because they need an individual with effective skills who can enhance the firm performance. The evidences found by Javid and Iqbal (2010) from Pakistani firms also revealed that foreign investors are capable of sustaining better governance and monitoring practices, which is consistent with the theoretical argument of Eisenhardt (1989).

Although foreign investors pay their CEOs comparatively high compensation as compared to other investors but it does not mean that they are against optimal contracting. There are some prior studies who provided evidences that foreign investors could influence domestic firms' owners to improve pay-performance link (Garner & Kim, 2011; Swatdikun, 2013). This contention was empirically tested by Colpan and Yoshikawa (2012) who found positive moderating role of foreign investors on the relationship between firm profitability and CEO's bonus pay. Along with this academic literature, it can be posited that foreign ownership could align the



performance-related indicators with CEO compensation. In order to design optimal contracting mechanism, prior studies in the context of Pakistan have also ignored the role of foreign ownership in pay-performance alignment.

The effectiveness of overall corporate governance cannot be assessed without incorporating the board governance structure. The advocates of optimal contracting hypothesis argued that board of directors maximize shareholder value and minimize agency costs by actively monitoring the behaviors of executives (Grossman & Hart, 1983, Holmstrom, 1979). Thus, researchers have illustrated the role of different board characteristics in influencing CEO compensation. In relation to a prior study by Fama and Jensen (1983), board of directors can diminish the agency problems by exercising their power in order to control and monitor management. However, different board characteristics could have different effect on CEO compensation. For instance, agency theorists have supported the inclusion of greater number of independent outside directors on the board. Consistent with agency theory, studies argued that independent board of directors could set the CEO compensation efficiently (Conyon, 2006).

According to Dalton, Daily, Ellstrand, & Johnson (1998), independent directors are free of conflicts of interest and they are less sensitive to the influence of top management. Therefore, van Essen et al. (2015) suggested the positive moderating role of independent directors between firm performance and CEO compensation. Consequently, it is hypothesized that independent directors on the board could link the CEO compensation effectively with performance-based measures. This study is interested in testing this theorization empirically in the context of Pakistan due to lack of academic literature in this perspective.

Agency theory favored independent directors and optimal board size, however, very large supervisory board is not much effective which leads to inefficient CEO compensation structures (Bebchuk & Fried, 2004). CEOs can easily manipulate and control overcrowded board size as they cannot function efficiently (Jensen, 1993; Lipton & Lorsch, 1992). Therefore, prior studies found positive relationship between CEO compensation and board size (Core et al., 1999; Cyert, Kang, & Kumar, 2002). Owing to the fact that higher level of board size could not actively monitor executives' behavior, studies found negative effect of board size on pay-performance link (Fahlenbrach, 2009; Ozkan, 2007). In the light of these theoretical and empirical evidences, this study assumes that board size could attenuate the pay-performance link. However, optimal board size (seven or eight members) could act as a better control mechanism (Jensen, 1993). Therefore, van Essen et al. (2015) revealed positive moderating effect of board size on the relationship between firm performance and CEO compensation. The aforementioned debate shows that the role of board size in aligning CEO pay with performance is inconclusive which calls for further study to reveal the definite effect of board size on pay-performance link especially in a developing economy like Pakistan.

Prior studies also evaluated that when CEO's influence over the board increases, the compensation may also increase (Core et al., 1999; Hallock, 1997). As a result, this study has also considered the role of CEO duality as a sub-dimension of corporate governance mechanisms because this duality of positions place the CEO in a powerful position to oversee the firm direction and operations through which they could also influence their own compensation. Agency theory also discouraged the presence of CEO duality in efficient board structure as it feeds agency conflicts and leads to

CEO's opportunistic behavior. CEO's discretion and power may increase with CEO duality through which they could expropriate shareholder resources for their self-interest (Peng, Zhang, & Li, 2007).

Consistent with this argument, Fahlenbrach (2009) found that CEO duality negatively affect pay-performance sensitivity. On the other hand, the advocates of stewardship theory support the presence of CEO duality in board structure, therefore, Dorata and Petra (2008) revealed a positive moderating role of CEO duality between CEO compensation and firm performance in U.S. public listed companies. In contrast, van Essen et al. (2015) purported that CEO duality do not play a moderating role between firm performance and CEO compensation. Owing to these inconsistent arguments, there is a need of further study regarding the moderating role of CEO duality in aligning performance-based measures with CEO compensation.

The aim of this study is to ensure the association of performance-based measures (operating performance, market performance, firm size, growth opportunities and market share) with CEO compensation in the capital market of Pakistan. Furthermore, this study is also interested in investigating the role of corporate governance (main control mechanism) and dividend policy (substitute control device) in aligning CEO compensation with performance-related indicators. There is a lack of academic literature especially in the reference of Pakistan, thus, this knowledge gap needs to be filled by a new research.

### **1.3 Research Questions**

This study will cover the aspects regarding elevation in CEO compensation by asking following central questions:

1. Is there any significant influence of firm performance on CEO compensation?
2. Is there any significant influence of firm characteristics on CEO compensation?
3. Does dividend policy can act as moderate influence between firm performance and CEO compensation?
4. Does dividend policy can act as moderate influence between firm characteristics and CEO compensation?
5. Does corporate governance can act as a moderate influence between firm performance and CEO Compensation?
6. Does corporate governance can act as a moderate influence between firm characteristics and CEO Compensation?

### **1.4 Research Objectives**

Following are the proposed research objectives of this research:

1. To examine the influencing role of firm performance on CEO compensation
2. To examine the influencing role of firm characteristics on CEO compensation
3. To examine the moderating role of dividend policy between firm performance and CEO compensation
4. To examine the moderating role of dividend policy between firm characteristics and CEO compensation
5. To examine the moderating role of corporate governance between firm performance and CEO compensation

6. To examine the moderating role of corporate governance between firm characteristics and CEO compensation

### **1.5 Scope of the Study**

This study explores the conventional scope of CEO compensation studies. By utilizing the concept of agency theory, managerial power theory and free cash flow hypothesis, this study contains quantitative analysis for CEO compensation, firm performance, dividend policy, corporate governance and firm specific characteristics in the context of Pakistani industry. It is observed that in developing countries like Pakistan, firms are suffering from agency conflicts, which further affect their performance. Therefore, CEO compensation must be defensible and should be capable of creating value for shareholders. Prior studies regarding CEO compensation in Pakistan do not fully explore the simultaneous natures of these factors. Moreover, the scope of these studies was also limited. Previous studies have collected the data from the firms listed on Karachi Stock Exchange (KSE), Lahore Stock Exchange (LSE) and Islamabad Stock Exchange (ISE), however, this study has considered the companies from Pakistan Stock Exchange (PSX). Basically, SECP merged all these three different stock exchanges (KSE, LSE and ISE) to shape one bigger and more efficient stock exchange (i.e. PSX) (Dawn, 2016).

While studying the relationship between board structure and CEO compensation, Anjam (2011) have considered only Lahore Stock Exchange (LSE), which is a small stock market as compared to Pakistan Stock Exchange (PSX). Moreover, he analyzed only year 2009 for the completion of their study. In addition, Iqbal et al. (2012) investigated the relationship between CEO Compensation and performance of Pakistani banks. The period of their study was 2000 to 2009 and they consider only

one sector, i.e. banking sector. In addition, the study by Younas et al. (2012) on the relationship between firm performance and CEO compensation employed the period from 2006 to 2009. However, this study will cover the period from 2010 to 2014. Moreover, to achieve the objectives of this study, data will be collected from all sectors listed in Pakistan Stock Exchange (PSX). Subsequently, considering the omissions of previous literature, this study will define the role of dividend policy and corporate governance as moderators to bridge the gap between previous academic literatures and to assist practitioners in resolving principal-agent conflicts.

### **1.6 Significance of the Study**

Excessive compensation of executives can precipitate or provoke agency conflicts, which can further affect an organization negatively. Moreover, weak corporate governance and weak dividend policy could lead agency conflicts to worse situation. Therefore, the extravagant elevation of CEO compensation is questionable. As CEOs are the most effective individuals of a firm, so they are held accountable for firm's performance. Nonetheless, if firm is not performing well and it is not paying dividend to shareholders then the elevation of the compensation cannot be justified. The chief contribution of this study is its analysis. This study revealed that if compensation of executives is aligned with firm characteristics and performance or the link is nonexistent in the companies of Pakistan. Furthermore, this research tested out the moderating influence of dividend policy on the relationship between performance-based measures and CEO compensation. As per best knowledge of researchers, previous literature have not yet ensured the moderating role of dividend policy as if it can strengthen or weaken the pay-performance relationship.

In addition, prior literature demonstrated the effect of corporate governance on CEO compensation and agency problem. Therefore, it is expected that corporate governance moderate the relationship between independent and dependent variable of this study. These results revealed the effect of board and ownership in moderating the relationship between firm performance/characteristics and CEO compensation in the cultural context of Pakistan. The knowledge of this study could help in resolving principal-agent problems and could help practitioners, economists, managers, directors and academics to rethink about CEO compensation especially of Pakistan. In addition, this study can also help scholars in further studies as this study could effectively contribute in the body of knowledge.

### **1.6.1 Theoretical Significance**

The model of the study is supported by the agency theory as excessive compensation creates principal-agent conflicts. According to agency theory, the dilemma of principal-agent occurs when agents (executives) work for their own interests rather than increment in principal (shareholder) value. Excessive compensation reflects this dilemma. Agency theory also contends that dividends can be employed as a substitute control device when ownership, board or governance provisions are unfavorable for shareholders. Furthermore, free cash flow hypothesis has utilized to justify the role of dividend policy in this study, which suggests that dividends can reduce agency costs and free cash flow so that managers could not exploit the funds. Therefore, inclusion of dividend policy underpins these two theories. Furthermore, by influencing board or pay-setting process, CEOs effectively set their own compensation. Therefore, managerial power theory is also vital to discuss in the perspective of this study. It is

expected that the variables utilized in the study will contribute and support these three theories.

### **1.6.2 Practical Significance**

Institutions of Pakistan should improve the compensation practices of CEOs. Although, compensation motivates CEOs to perform better but the excessive compensation can create severe agency conflicts. Therefore, there must be efficient compensation plan. Additionally, considering the role of strong corporate governance and dividend policy will suggest some practical implications for the interested organizations and researchers. This study could also assist central bank of Pakistan, SECP and compensation committees of public private bodies to design an efficient plan of compensation by linking it to firm characteristics and firm performance. Moreover, the results related to the moderating role of dividend policy and corporate governance can also guide practitioners in developing innovative and productive compensation plan to reduce agency conflicts in the firms.



## **1.8 Organization of the Chapters**

This thesis has organized into five chapters. First chapter is related to introduction. It includes background of the study, problem statement, research objectives, research questions, scope of the study and significance (theoretical and practical) of the study. Second chapter includes literature review regarding dependent, independent and moderating variables. Chapter three briefly describes the methodology of the research. This chapter consists of research framework, hypothesis development, sampling and units of analysis that are employed to evaluate the results. Chapter four is related to hypothesis testing and results of the study and lastly, Chapter five elaborates the discussion, limitations, implications, future recommendations and conclusion of the study.

## **1.9 Summary of the Chapter**

Excessive elevation of CEO compensation in Pakistan has observed in Pakistan, which brings out agency conflicts in the organizations. This chapter identified the problem and research gap and thereafter created the researchable objectives and questions to precede the study. Furthermore, this chapter ascertains the moderating role of corporate governance and dividend policy in the perspective of firm performance, characteristics and CEO compensation. Additionally, this chapter involves the scope and significance of the study. Significance of the study has further categorized into two domains, theoretical significance and practical significance for the ease of related readers.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.0 Introduction**

A constant shifts and modifications in management strategies, policies, outside forces and boards over the past several years have transformed the face of executive compensation. This chapter reviews the different strands of opinions identified by prior researchers, to explain the determinants of CEO compensation and the role of different moderators between these relationships. The purpose of the literature is to evaluate different CEO pay-setting strategies in different countries and to examine solution for agency conflicts proposed by previous studies. The chapter starts with the underpinning theories of the study and later discuss the relationship between independent and dependent variables and role of moderating variables between them through previous academic literature.

#### **2.1 Underpinning Theories**

Researchers have utilized different theories to support their argument regarding CEO compensation and agency conflicts. However, in the context of this study, four theories are considered to underpin the arguments. These theories include agency theory, stewardship theory, managerial power theory and free cash flow hypothesis.

### **2.1.1 Agency theory**

Agency theory cannot be neglected while discussing executive compensation. Although, different theorists (e.g. Berle & Means, 1932; Eisenhardt, 1989) tried to propose other approaches in the context of executive pay, but agency theory introduced by Jensen and Meckling (1976), remained the focal point of most of the studies. This theory argued that separation of ownership and control establishes overwhelming power of executives in the firms. With the advent of agency theory, researchers started focusing on optimal contracting (Gomez-Mejia & Wiseman, 1997) based on pay-performance, market forces and behavior (Barkema & Gomez-Mejia, 1998; Gomez-Mejia, 1994).

Agency theory is based on conflicts of interests between the different contracting parties including debt holders, the corporate managers and the shareholders (Jensen & Meckling, 1976). Moreover, it is also a very worthy addition to organizational theory (Eisenhardt, 1989), because it broadens the concept of organizational theory by involving principle-agent problem. In academic literature, agency theory is considered as a “black box”, which enhances the value and profits of the firm. Jensen and

Meckling (1976) principals (shareholders) cannot manage operations of all their businesses due to diversified portfolio, therefore, they hire manager or executives to perform operational duties on their behalf. Additionally, principals also offer some decision-making rights to these agents within this contract. Gomez-Mejia and Wiseman (1997) demonstrate three fundamental assumptions of agency model, i.e. 1) The interests of agents are not aligned with principals, 2) Agents behave according to self-interest assumptions, and 3) Agents are risk averse.

According to aforementioned assumptions, the aim of agency theory is to regulate the best contract to administer the relationship between principal and agent. These contracts could be of two types, i.e. outcome oriented or behavior oriented. Outcome oriented contracts consists of performance-based compensation, e.g. commissions or stock options and behavior oriented contracts involves hierarchical governance and fixed basic salaries (Eisenhardt, 1989). Usually, there are two types of general agency problems. First agency problem involves goal related conflicts between agent and principal or it may arise when monitoring and agency costs of principals may increase. The second agency problem is related to different risk taking and sharing preferences, when agent and principal perceive risks in a different way (Eisenhardt, 1989).

In addition, Jensen and Meckling (1976) argued that agents (CEOs) do not make the optimal decisions until and unless they are actively monitored by board and their interests are aligned with the interests of shareholders. The theory suggested that behaviors of agents can be controlled if their compensation will be align with firm performance. Consequently, this study has considered various accounting and market

based measures to ensure their association with CEO compensation in the reference of Pakistan.

Agency theory is also in the support of the argument that efficient corporate governance restrict CEO's opportunistic behavior, mitigate agency conflicts and eventually improve the firm performance. In order to incorporate best corporate governance practices, board of directors should be composed of a majority independent directors and there should be no CEO duality. Moreover, there should be optimal level of board size and dispersed ownership structure (Fama, 1980; Fama & Jensen, 1983; Jensen, 1993; Jensen & Meckling, 1976). The interests of the CEO may dominate shareholders' interests in the case of CEO duality, lower level of independent directors' representation and overcrowded board. When corporate governance structures are weak, CEO's could influence their own compensation. Consistent with agency theory, Bonazzi and Islam (2007) revealed that proper monitoring of CEO by board could resolve the agency conflicts and enhance the performance.

Agency theorists are also in the favor of the notion that ownership should be dispersed or else majority shareholders may expropriate the rights of minority shareholders. In addition, different types of ownerships may have different expertise to deal with the certain dilemma within an organization. For instance, family owners have the capability to mitigate classical agency conflicts (Adams, Almeida, & Ferreira, 2009; Anderson & Reeb, 2003; Fahlenbrach, 2009; Palia, Ravid, & Wang, 2008; Villalonga & Amit, 2006), institutional owners actively monitor the behaviors of executives (Abernethy et al., 2014; Croci, Gonenc, & Ozkan, 2012; Hartzell & Starks, 2003) and foreign investors are usually arms-length investors and most of the times play active

monitoring role (Ahmadjian & Robbins, 2005; Yoshikawa, Rasheed, & Del Brio, 2010). Therefore, it is posited that the combined structure of these ownerships could develop better corporate governance practices within an organization.

Consistent with the propositions of agency theory, firms with strong corporate governance could have lesser agency conflicts (Core et al., 1999). However, the theory also argued that dividend policy can be utilized as a substitute control device in the presence of weak corporate governance mechanisms (Haye, 2014). Thus, in the light of agency perspective, this study has incorporated corporate governance and dividend policy which could align the interests of executives (CEO compensation) with that of shareholders (performance-related measures). Although agency theory is an empirically testable, realistic and unique approach but Eisenhardt (1985) suggested that other theories should also be used along with agency theory to go beyond the economics literature.

### **2.1.2 Stewardship Theory**

Oppose to agency theory's assumption of managerial opportunistic, Donaldson (1990) proposed an alternative theory regarding managerial behavior. All executives or managers may not be motivated toward monetary benefits only but they also possess sense of responsibility, altruism or achievement. Contrary to the postulation of agency theory, Donaldson and Davis (1991) argued that managers want to maintain their position as stewards in the organization. Therefore, stewardship theory suggested that there are certain situational and psychological factors involve through which some executives chase organizational interests even when they conflict with the self-centeredness, thereby, compensation mechanisms proposed by agency theory could be ineffectual in this scenario. Owing to the organizational centered behaviors of these

executive, they receive lower level of compensation (Davis, Schoorman, & Donaldson, 1997).

Contrary to the agency perspective, stewardship theory support the CEO duality structure on the board. With the unity of command, the decision could be made in a faster and efficient manner in the presence of CEO duality (Donaldson & Davis, 1991). The theory also discouraged the presence of independent outside directors on the board due to its assumption that executive directors or managers are self-motivated and they work in the best interest of shareholders to maximize their returns. Non-independent directors have non-financial motives such as strong work ethic, satisfaction, recognition and achievement (Muth & Donaldson, 1998).

In this case, external control and monitoring are unnecessary which increase organizational fixed cost. Therefore, according to the theory, independent directors are less committed to the organizational goals which eventually decrease the firm's performance (Muth & Donaldson, 1998). As stewardship theory favors insiders over outsiders, therefore, it provide positive postulations for family ownership as compared to other types of ownership structures. This theory is included in the study to ensure if the corporate governance structures in Pakistan are inclined toward stewardship or managerial opportunism.

### **2.1.3 Managerial Power Theory**

The managerial power theory was initiated by the concept of Galbraith (1967) who coined a term “managerial capitalism” in his book. According to this concept on the directional and decisional process, managers get more influence and power than shareholders. Researchers further try to focus on the importance and critical points of

this theory (Bebchuk & Fried 2004; 2006; Bebchuk, Fried & Walker, 2002; Jensen & Murphy, 2010).

Through managerial approach to executive compensation, Bebchuk and Fried (2004) stated that there is “pay without performance”. From this approach, it can be purported that managerial compensation is not the solution for agency conflicts but it is a part of principal-agent problem. In the companies who possess many small shareholders, managers influence their own compensation. According to Bebchuk and Fried (2003), managers are awarded well when firm performance increase but they are not punished when they perform low due to dispersed ownership. Therefore, managerial power theory suggests that executive compensation is not the ultimate implementation to align the interests of managers and shareholders. This theory contradicts the agency theory.

Managerial power approach is associated with rent extraction. The managers who get more power get more rents. Bebchuk et al. (2002) defined rents as the compensation received under optimal contracting. Under this theory, managers receive compensation by manipulating stakeholders and shareholders, which is not associated to firm performance. Therefore, this theory is valuable to consider in this study as results from previous study by Younas et al. (2012) related to CEO compensation in Pakistan has supported managerial power theory. In the absence of pay-performance link, excessive CEO compensation and high CEO power, the explanation of managerial power theory can be utilized to explain the phenomenon.



#### 2.1.4 Free Cash Flow Hypothesis

Free cash flow is the excess funds that remain in the company's balance, after all the activities that keep the company running. These excess funds or free cash flow can be utilized for future investment or this amount can be paid to equity and debt holders of the company. However, managers or executives can misuse or manipulate these funds by increasing their remuneration. These managers can also invest these funds in negative NPV projects (Emerenciana, 2012). Jensen (1986) has introduced free cash flow hypothesis in which he argued that the use of debts could decrease agency costs or free cash flow because funds for new projects can be acquired from other financial institution like banks that have a better position in the administrating of corporate activities.

In addition, overinvestment problem can also be caused by free cash flow. For Instance, Richardson (2006) found that when free cash flow are high there are probability of overinvestment by managers as he revealed high correlation between free cash flows and overinvestment. Moreover, high amount of free cash flow means the company has high agency costs. Managers can use free cash flow for empire building or overinvestment, which further effect shareholder value negatively. Additionally, paying dividends to shareholders is also the solution for agency conflicts as it leads to lower free cash flows and lower agency costs (Emerenciana, 2012). Easterbrook (1984) also purported that dividend can be utilized to avoid misusing funds by executives. To meet the needs of new investment opportunities, executives approach capital market for funds. This effort would impose a discipline on the managers and thus reduce the cost of monitoring the managers or executives.

Consistent with this hypothesis, dividends can reduce agency conflicts and could also be utilized as a substitute control device.

## **2.2 CEO Compensation**

There are number of players involve in a modern corporate structure such as shareholders and managers to improve team effort (Brealey & Myers, 2003). In a previous study by Jensen and Meckling (1976), an issue regarding the conflict of interest between owners and managers was identified. These authors also tried to propose some strategies to resolve these conflicts. In the business world, principals who either lack necessary skills to operate business functions or they are not willing to manage them may hire an individual who is skilled and has good ideas to produce and distribute the product in the capital market. Nonetheless, it does not mean that concerns of both of the parties are same; they may be different and could cause agency conflicts (Jensen & Meckling, 1976). Managers could be risk-averse or they avoid involving themselves in profitable projects because of additional efforts but shareholders want to maximize their wealth through these projects.

Various theories can be found in academic literature which discussed how top managers and executives should be compensated. For instance, tournament theory was presented by Lazear and Rosen (1981) in which they did not consider high executive compensation as a dilemma. They purported that CEO has the highest rank in the company and take pay as a prize. Sub-ordinates or lower level managers should consider CEO's disproportionate pay as the motivation. They need to work hard, win the tournament and be promoted. The disproportionate size of CEO's pay motivate other employees to make more achievements and reach the final level (Rosen, 1986). Tournament theory revealed positive effect of compensation gap on firm

performance. This theory argued that greater compensation gap between employees and CEO is essential because it aligns the interest between agents and principals and eventually lowers the monitoring costs.

Contrary to the assumptions of tournament theory, equity theory argued that managers should be rewarded according to their effort and contribution toward the firm (Gerhart, Minkoff, & Olsen, 1995). These executives should compare their return-contribution ratio to efforts of insiders and outsiders of the firm in order to receive their compensation. Nonetheless, the feeling of inequity may emerge, if a CEO observes a higher compensation of other CEOs in the same industry and with the same capabilities (Gerhart et al., 2005). Although there are numerous theories which explain the determinants of executive compensation, agency theory is still dominant in academic literature. Previous studies in this context tried to build a link between CEO compensation and its determinants.

Gomez-Mejia, Tosi and Hinkin (1987) explored the impact of ownership structure on executive compensation. They developed a two-factor model by utilizing performance measures of 17 companies listed on the S&P's. They posited that dominant owners with major shareholding can influence executive compensation. In addition, outside blockholders also have the motivational and discretion to align the compensation of CEO with firm performance. On the similar notion, Carr (1997) also examined the determinants of CEO compensation in small firms. He considered the sample size of 31 companies and found risk, profitability and sales as the key determinants of CEO compensation. Carr (1997) also employed certain board and ownership variables but did not find their significant role in aligning pay-performance link.

With regard to executive compensation, the study of Core et al. (1999) is very prominent. They explored the association between ownership structure, board characteristics and executive compensation. They investigated 205 US public listed firms and found that ownership and board structure have significant impact on CEO compensation. Core et al. (1999) revealed that weak corporate governance structures influence stock return and operating performance negatively and also give rise to agency conflicts. A study by Elloumi and Gueyié (2001) was also reviewed in which they tried to find the association between investment opportunity set and CEO compensation through 415 Canadian firms. They asserted that firms with greater investment opportunities, pay their CEO's a higher compensation.

Gu and Kim (2009) employed US airlines firms to examine the determinants of CEO compensation. They assessed that firm size and revenue efficiency are the important predictors of CEO compensation. Larger sized firms pay a higher compensation to their CEOs and the presence of positive link between revenue efficiency and CEO compensation exhibits pay-performance principle in airline industry of United States. Lee and Chen (2011) also investigated the determinants of CEO compensation in Taiwan public listed firms. By applying panel data analysis, they asserted that firm risk, firm age and R&D expenditures have significant negative relationship with CEO compensation, however, performance, institutional ownership, board size and firm size have positive influence over CEO compensation.

The study by Wang, Frostburg and Providence (2013) employed 1622 firms and found that firm size, investment opportunities, accounting earning performance and international diversification have positive effect on CEO compensation. Abed et al. (2014) considered 266 Jordanian listed companies under investigation to analyze the

determinants of CEO compensation in Amman Stock Exchange. They argued that CEO tenure, board size and firm size have positive influence in the variation of CEO compensation. Nonetheless, negative relationship between CEO compensation and CEO age was demonstrated by their results. In brief, most of the studies have considered ownership structures, board characteristics, firm performance and firm characteristics to explain the variation in CEO compensation. Nonetheless, owing to weak financial disclosure policy in Pakistan, this study has chosen the factors for which the data is publicly available in the context of Pakistan.

### **2.3 Firm Performance**

The pay-performance link is thought to be crucial because the separation between management and ownership in firms gives rise to agency conflicts in which managers chase self-regard over the shareholder value (Jensen & Murphy, 1990). Consistent with agency theory, many researchers propose that efficient compensation design can resolve this problem (Bizjak, Lemmon, & Naveen, 2008; Gabaix & Landier, 2008; Hall & Liebman, 1998; Himmelberg & Hubbard, 2000; Kaplan, 2008; Kaplan & Rauh, 2010). The relation between CEO compensation and firm performance has been a topic of extensive controversy in previous academic literature. Researchers found mixed empirical results pertaining to their relationship (e.g. Ang, Cole, & Lin, 2000; Cole & Mehran, 1998; Grossman & Hart, 1983; Himmelberg, Hubbard, & Palia, 1998; Holmstrom, 1979; Jensen & Murphy, 1990; Saunders, Strock, & Travlos, 1990).

There are a number of studies, which provide empirical evidences in relation to CEO pay alignment with performance. By employing 75 executives from Standard and Poor's financial data for the period 1981 to 1986, Abowd (1990) found that increased

performance sensitivity in compensation leads to better market-based and economic performance. Similarly, based on 299 UK listed firms, Conyon and Freeman (2004) found positive relationship between market performance and CEO compensation. Through quantile regression model analyzed on non-financial firms, a current study by Li, Yang and Yu (2015) examines the positive impact of CEO compensation on firm performance in the higher earning quantile level firms.

Correspondingly, by utilizing the sample of 30 U.S. restaurant firms, Dalbor, Oak and Rowe (2010) found evidence relating compensation alignment with performance. In the same U.S. industry, Demirer and Yuan (2013) revealed that compensation only in the form of bonuses and non-equity positively affects restaurant firm performance. In addition, Ghosh (2010) employed cross-section data to explore the link between firm performance and CEO compensation on Indian manufacturing firm for the year 2007. He observed the significant pay for performance sensitivity estimates but magnitude was smaller.

In contrast, many researchers determine evidences that are consistent with “skimming view” or managerial power vis-à-vis executive compensation. On that account, Core et al. (1999) employed 205 publicly traded U.S. firms to reveal a negative association between excessive executive compensation and subsequent market and operating performance. Parallel to this study, on the basis of executive compensation datasets of 1441 Standard and Poor's firms, Brick et al. (2006) found empirical evidence persistent with cronyism hypothesis. Moreover, they suggest that excessive compensation leads to value destruction and it is an indication of agency conflicts in a firm.

Along the same lines, Malmendier and Tate (2009) coined a term, “superstar CEOs” for those chief executives who extract and enjoy the bulk of compensation. In line with managerial power theory, they also found underperformance of firm’s market and accounting performance due to these superstar CEOs. Furthermore, over the period from 1998 to 2010, Balafas and Florackis (2014) examine the ex-post consequences of CEO compensation for shareholder value with a sample size of 1787 U.K. listed firms. Through panel data regressions, they ascertain the negative relationship of excess CEO compensation with future operating performance and short-term subsequent returns of firm. Likewise, Cooper, Gulen and Rau (2013) also found the negative affect of excess CEO compensation on future shareholder return by utilizing a sample size of NASDAQ, AMEX and NYSE firms.

Additionally, Banker, Darrough, Huang and Plehn-Dujowich (2013) establish a fundamental two-period principal-agent model with adverse selection and moral hazard from the period 1993-2006. They determine a positive relationship of CEO salary with future performance. However, they purported that current bonus has a negative relationship with both future and past performance as bonus include adverse selection problems and moral hazards which detach agents into contracts with different levels of risk. However, in the context of developing countries, majority of the studies revealed no association of firm performance with CEO compensation. For instance, with a sample size of 46 Kenyan listed firms, Erick, Kefah and Nyaoga (2014) found no significant association between CEO compensation and firm performance.

By the same token, most of the studies conducted in a transitional economy like Pakistan do not find any relation between CEO compensation and firm performance.

By computing common effect model on 114 KSE listed companies, Shah, Javed and Abbas (2009) found no significant relationship of firm performance variables with CEO compensation. Similarly, Anjam (2011) also discovered that listed firms in Pakistan have no association with firm performance. However, holding the managerial power theory, Younas et al. (2012) revealed negative association of CEO compensation with firm performance by performing fixed effects regression on 151 KSE listed companies. Therefore, it can be concluded from previous studies that agency conflicts in Pakistan prevails due to absence of pay-performance link, back scratching and cronyism. There is only one study by Yahya and Ghazali (2015) which revealed positive association of operating and market performance with CEO compensation in the financial sector of Pakistan. However, it is still not clear if other sectors of Pakistani capital market have aligned their CEO's compensation with firm performance. This study proposed that CEO compensation should be aligned with both operating and market performance indicators, therefore, both measures are considered in the study.

### **2.3.1 Operating Performance**

Operating performance measures are designed to assess various characteristics of a firm's central operations. These measures evaluate the firm's efficiency, liquidity and the ability to use resources to generate sales. Higher value of these ratios indicates efficiency of firm to generate high level of cash flows as well as revenues (Fabozzi & Markowitz, 2002). There are only a hand full of studies who separately discussed the effect of operating and market performance on CEO compensation (Balafas & Florackis, 2014; Cooper, Gulen, & Rau, 2010; Core et al., 1999; Ju & Ge, 2010; Malmendier & Tate, 2009; Raithatha & Komera, 2016).



Directors believe that the best measure of firm performance is shareholder return while CEOs consider accounting-based operating measures more effectual because CEO's could directly influence operating performance rather than stock returns (Donatiello, Larcker, & Tayan, 2016). Majority of U.S. based firms have tied their CEO's compensation with market-based performance measures to align the interests of shareholders and management, however, some companies believe that these measures reflect little operating efficiency and can be influenced by buybacks. In this case, operating performance measures are more suitable (Brettell, Gaffen, & Rohde, 2015).

Nonetheless, there is a possibility that CEOs could indulge in myopic acts and manipulate accounting-based measures to enhance their equity-based incentives (Denis, Hanouna, & Sarin, 2006; Harris & Bromiley, 2007). Owing to the earning's manipulation evidences from Pakistan (Iqbal, Khan, & Ahmed, 2015; Tabassum, Kaleem, & Nazir, 2014), this study suggests that CEO compensation should also be aligned with market-based measures in Pakistan.

### **2.3.2 Market Performance**

Market performance can be simply defined as the behavior of an asset or security in the marketplace. It is also the indication of organizational contribution toward economic welfare optimization (Huang, 2007). Aligning market performance with CEO compensation could testify the postulation of optimal contracting in a competitive market for managerial talent (Frydman & Jenter, 2010). Calcagno and Heider (2007) believed that the share price aggregates speculators' dispersed information and thereby assess the performance of executives before the

materialization of firm's long-term performance which is a major advantage of market-based compensation.

The preferences of different organizational stakeholder groups could be different but their ultimate goal is to enhance their market returns. These shareholders want their CEOs to enhance their market returns, therefore, they are in the favor of linking CEO's pay with market performance despite of the different managerial perspective (Veliyath & Bishop, 1995). Accounting-based measures are backward-looking and historical and usually do not take risk, cost of capital and intangible assets into account.

Furthermore, these measure may encourage earnings manipulation, short-term decisions and can be distorted by inflation (Aliabadi, Dorestani, & Balsara, 2013), on the other hand, efficient market hypothesis suggested that stock prices fully reflect all available information (Fama, 1970). Although self-centered executives may fool the market by propping up their share prices through various techniques and then cash out their equity holdings (Hall, 2003) but still market performance measures cannot be manipulated easily by managers. Therefore, this study is in favor of the argument that CEO's compensation should also be aligned with market performance.

## **2.4 Firm Size**

Larger firms need more efficient, costly and talented administration (Rosen, 1982). Therefore, numerous authors found that large size of firm is positively correlated with executive compensation (Baker, Jensen, & Murphy, 1988; Banghøj, Gabrielsen, Petersen, & Plenborg, 2010; Basu, Hwang, Mitsudome, & Weintrop, 2007; Gomez-Mejia, Larraza-Kintana, & Makri, 2003; Ke, Petroni, & Safieddine, 1999; Young &

Tsai, 2008). In a competitive market or efficient firm, CEO compensation is determined and it reflects the size of corporations affected by aptitude (Gabaix, Landier, & Sauvagnat, 2014). Researchers found that firm size is one of the major determinants of CEO compensation. For instance, through meta-analysis, Tosi et al. (2000) show that firm size comprise over and above 40 percent of the variance in total compensation of CEO.

Baker et al. (1988) revealed that CEO compensation increase when CEOs increase the firm size even if the firm's market value decreases due to increase in size. However, Murphy (1999) demonstrated that the pay-size link has destabilized over time. Moreover, by examining U.S. public firms, Bebchuk and Grinstein (2005) determined that increase in firm size leads to increase in CEO compensation. Nevertheless, they have not observed reduction in CEO pay with decrease in firm size. In addition, they also concluded that even with irrational decisions, compensation of CEO escalates with firm size. In like manner, the study of Nourayi and Mintz (2008) which consists of 1446 Standard and Poor's listed companies also provide evidence that firm size is a significant explanatory factor for the compensation of CEO despite performance and CEO's tenure.

In addition, Abed et al. (2014) found positive relationship between compensation of CEO and firm size in Jordanian corporations. Similarly, Conyon (2014) determined a positive correlation between firm size and executive pay. Additionally, Siglar (2011) employ 280 New York Stock Exchange (NYSE) listed firms from the period 2006 to 2009 and concludes that firm size is a most significant determinant of CEO compensation. However, in case of technology companies listed in NYSE, Nulla (2012) has not found any association between firm size and CEO compensation.

Brenner and Schwalbach (2003) illustrated positive relationship between firm size and CEO compensation in German firms though they revealed negative relationship in the perspective of UK firms. Moreover, Aduha (2011) found negative relationship between firm size and CEO compensation in Kenyan listed firms. He suggests that negative correlation is due to the capping of executive compensation to ensure maximization of returns to shareholders.

Prior evidences show that the prosperity to grow firm size is related to agency conflicts (Jensen, 1986) because CEOs try attain large targets to enhance firm size, which is a sign of empire building (Darrough, Guler, & Wang, 2014). Moreover, according to Grinstein and Hribar (2004) executives obtain large targets, which subsequently diminish the economic value of goodwill, consequently, compensation committee can respond more pessimistically toward executives who attain large targets as compared to those CEOs who focus on small targets. Consequently, it is assumed that strong link between firm size and CEO compensation is itself a cause of agency conflicts. Therefore, previous studies pertaining to relation between CEO compensation and firm size revealed significant positive relationship between these two variables (Hussain, Obaid, & Khan, 2014; Iqbal, et al., 2012; Shah, et al., 2009). This study does not discourage the alignment of CEO compensation with firm size as large firms need managerial talent to sustain in the competitive market, however, their pay should not be solely associated with firm size. Moreover, the effect size on the relationship between firm size and CEO compensation should not dominate the other performance metrics.

## 2.5 Growth Opportunities

Growth opportunities can be deemed as future possibilities for investments, which should be magnificent for the firm. Therefore, firms with high growth opportunities and operational complexity demand high quality CEOs (Chalmers, Koh, & Stapledon, 2006). Consequently, several researchers proved that the firms with higher growth or investment opportunities, pay their CEOs a high level of compensation (e.g. Elloumi & Gueyié, 2001; Kim & Suh, 1993; Sloan, 1993; Wang et al., 2013).

Additionally, Baber, Janakiraman and Kang (1996) evaluated the results from 1,249 publicly traded U.S. firms that firms with greater investment opportunities have stronger pay-performance link. Furthermore, based on the results of 217 firms, Ittner, Lambert and Larcker (2003) found positive relationship between stock-based compensation and growth compensation. However, Yermack (1995) revealed a negative relationship as he argued that high growth corporations do not just rely on short-term performance so they favor equity-based compensation to ensure long-term performance.

Similarly, John and John (1993) also argued that companies with higher growth or investment opportunities pay their CEOs a high level of compensation. In addition, consistent with agency theory, Conyon and He (2008) found positive relationship between growth opportunities and CEO compensation by employing 1481 Chinese listed companies. However, Smith and Watts (1992) argued that CEO monitoring in the firms with higher growth opportunities is not a simple job because managers are familiar with the value of growth opportunities confidential information. Therefore, firms offer high compensation to the CEOs to retain the information in the company. The relationship between growth opportunities and CEO compensation is not widely

studies topic in Pakistani reference. There is only one study by Yahya and Ghazali (2015) who found that CEO compensation in financial sector of Pakistan is positively aligned with growth opportunities.

## **2.6 Market Share**

Despite of widened opportunities in developing economies, further obstacles in maintaining and developing competitive and customer captivity has increased. Over a decade ago, the competition was not much tough, however, now managers, executives and firms need to work harder to gain greater market share. Moreover, the price for top talent rises, if demand for market share increases and supply of executive talent remains limited. Increased competition affects the pay incentives which firms provide to their managers and may also affect overall pay structure (Ferreira, 2015).

It is observed that these days some corporations are aligning market share with their CEOs compensation. For instance, General Motors has reshaped their executive compensation based on market share (Phillips, 2014). However, according to WorldatWork (2007, p. 298), if managers will be compensated for increasing market share then the firm can get higher market share but at the cost of reduced shareholder value and reduced incomes. Furthermore, Ross, Westerfield and Jordan (2008) argued that only managers of the low-cost producers in the industry could get successful in enhancing market share in the long-run. Therefore, it can also be purported that if executive compensation is aligned with market share, the company would be cost-effective. Previously, while discussing firm characteristics for their study, Pindado et al. (2010) also employed market share along with size and growth. Nevertheless, according to author's best knowledge, no previous study has discussed the direct relationship between market share and CEO compensation.

## **2.7 Corporate Governance**

Previous studies show that strong corporate governance plays an important role in diminishing agency conflicts and aligning pay with performance. For instance, Core et al. (1999) measures the amount of cross-sectional variation in CEO compensation with ownership and board characteristics. They found that due to weak corporate governance CEOs earn higher compensation based on 205 publicly traded U.S. firms. Moreover, they also suggest that weak corporate governance leads to agency conflicts and can negatively affect the operating and market performance. Parallel to this study, many researchers explain corporate governance mechanisms with ownership structure and board characteristics (e.g. Bekiris, 2013; Fauzi & Locke, 2012; Tusiime, Nkundabanyanga, & Nkote, 2011).

### **2.7.1 Board Characteristics**

Through literature review, three characteristics of board have been evaluated to pursue this study due to their stronger influence on CEO compensation and principal-agent problem. These three characteristics include board independence, board size and CEO duality.

#### **2.7.1.1 Board Independence**

Researchers have denoted board independence as the percentage of independent directors on the board (e.g. Davidson III & Rowe, 2004; Hermalin & Weisbach, 1991; Rechner & Dalton, 1986, p. 89; Wang, 2014; Wang, Zhao, & Wei, 2006). Agency theorists have argued that company board should include independent board of directors (Zahra & Pearce, 1989) because they are free of conflicts of interest and less sensitive to the influence of corporate insiders (Dalton et al., 1998).

Moreover, studies have revealed a dynamic role of independent directors in resolving agency conflicts through efficient executive pay setting. By utilizing 362 from 2001 to 2004 and 492 from 2005 to 2007 Chinese listed firms, Zhu, Tian, Gang and Ma (2009) found that independent board directors generate a stronger association between firm performance and executive compensation. Similarly, Conyon and He (2011) determined that firms with greater independent directors have stronger pay-performance link. By employing 1381 Chinese public listed companies, they also purported that independent directors can replace the CEO if they perform poorly.

Moreover, while studying the determinants of CEO compensation in 20 U.K. public listed companies from the period 2008 to 2010, Buigut, Soi and Koskei (2015) discovered that increase in independent board directors could decrease the level of CEO compensation. However, on contrary, Wan (2003) do not find any association of independent directors with corporate performance or executive compensation in U.S. public listed firms. In addition, a study conducted by Capezio, Shields and O'Donnell (2011) through a random sample of 283 S&P 500 listed companies, revealed that proportion of independent directors on the board are not effective in lowering the cash compensation or increasing the incentive based compensation. Moreover, they also discussed that independent directors do not moderate the relationship between CEO compensation and stock returns.

Nonetheless, a recent meta-analysis of 219 U.S. based studies by van Essen et al. (2015) suggests that independent directors can positively moderate the relationship between CEO compensation and firm performance as CEOs receive lower compensation in case of powerful board and the pay-performance link would be tighter in that case. In the same lines, Chee-Wooi and Chwee-Ming (2010) also



suggested that independent directors strengthen the pay-performance relationship if they are in majority. The aforementioned debate derived the argument that independent directors provide effective monitoring role and eventually moderate the relationship between performance-related indicators (firm performance and characteristics) and CEO compensation.

### **2.7.1.2 Board Size**

According to van Essen et al. (2015), board size has the greatest effect on CEO compensation after firm size. In the academic literature, it is argued that ascribe to peer culture, board of directors seek to evade the conflicts with CEO. Jensen (1983) argued that to fulfil the functions of board, board size is a crucial determinant of board effectiveness. Additionally, he also suggested that there should be at least eight members of board to function effectively. However, due to large board size, problems regarding decision-making or CEO monitoring can arise (Fama, 1980; Jensen & Meckling, 1976). Moreover, low firm performance and free rider problems can also be caused by large board size (Ghosh, 2003). Board size can be enlarged if firm involve only knowledgeable or skilled people or if firm needs external resources, e.g. funding or budget (Dalton, Daily, Johnson, & Ellstrand, 1999). Otherwise, it is better for a firm to have smaller board size as Jensen (1993) argued that CEOs could easily manipulate the board member if they are larger. In addition, according to Yermack (1995), CEOs can be fired for poor performance and pay-performance linked is tighter if there is smaller board size. The study by Petra and Dorata (2008) also supported that argument by analyzing logistic regression on 237 publicly traded US firms. They revealed that the companies, who do not have more than nine boards of directors, pay their CEOs a lower level of compensation.

In line with this context, Ali and Teulon (2014) analyzed 290 SBF 120 Index companies from the period of 2009 to 2011 and found a positive relationship between CEO compensation and board size. Ozkan (2011), Core et al (1999) and Sapp (2008) also supported this argument. Correspondingly, Mertens and Knop (2010) concluded their results from 75 firms of Netherland for the period 2006-2008 that overcrowded or larger board members are ineffective which leads to CEOs excessive compensation. Bebchuk and Fried (2004) described different reasons for the ineffectiveness of large board size. They argued that larger board members feel less focused or less responsible regarding executive compensation or other firm's affairs. Furthermore, board members are less cohesive due to their larger size and it is difficult to gather a major portion of board to monitor or challenge the matters of CEO or vice versa. A recent study by Reddy, Abidin and You (2015) also found positive effect of board size on CEO compensation but negative effect on firm performance in the listed companies of New Zealand.

There are inconclusive empirical and theoretical evidences relating to the effect of board size on pay-performance link. For instance, by utilizing 1,648 firms U.S. public firms traded on the NASDAQ, AMEX and NYSE, Cyert et al. (2002) proposed a theoretical agency model and suggests that there is an indirect effect of board size on the strong relationship between firm size and executive compensation. The meta-analysis of van Essen et al. (2015) also proposed that board size strengthen the link between CEO compensation and firm performance. However, Fahlenbrach (2009) and Ozkan (2007) proposed a negative effect of board size on pay-performance sensitivity. Owing to these inconsistent results, this study is intended to explore the moderating role of board size on the pay-performance link in the relevance of Pakistan.

### 2.7.1.3 CEO Duality

CEOs can influence the board if the governance is weak as there are some evidences, which shows that if the influence of CEOs increases over board then their compensation can be increased (Hallock, 1997; Core et al., 1999). Chairperson of the company leads the board of directors. In many firms, CEOs also serves as the chairperson of the board, which is called “CEO Duality”. This duality of positions makes the CEOs capable of supervising, controlling and managing the firm. In CEO duality, CEOs are responsible of compensating top management, supervising the hiring/firing process, agenda setting and board meetings (Dorata & Petra, 2008). However, agency theorists are not in the favor of CEO duality as it can escalate the agency issues. In addition, in these dual positions, CEOs gain all the decision-making powers, which can only benefit the specific owners and harm the shareholder value (Finkelstein & D’Aveni, 1994).

Core et al. (1999) found that CEO duality is an indicator of weak governance, which can leads to high CEO compensation. It is also negatively associated with size and performance. Some other studies support this argument and found positive relationship between CEO compensation and duality (see Cyert et al., 2002; Grinstein & Hribar, 2004; Jensen, 1993; van Essen et al., 2015). Furthermore, Vemala, Nguyen, Nguyen and Kommasani (2014) revealed significant positive relationship between CEO duality and CEO compensation in both pre and post-crises period while analyzing Fortune 500 listed firms.

However, some studies do not find any significant relationship between CEO duality and firm performance. For example, Amba (2013) examined 39 firms from the year 2010 to 2012 and found no significant effect of CEO duality on firm performance.

Likewise, Chen (2014) also found insignificant relationship between CEO duality and firm performance in EU listed firms. Moreover, meta-analysis of van Essen et al. (2015) suggests that CEO duality cannot moderate the relationship between CEO compensation and firm performance. Nonetheless, contrary results have found by previous empirical studies, e.g. Fahlenbrach (2009) investigated the effect of CEO duality in U.S. public listed firms from the year 1994-2004 revealed significant but negative effect of CEO duality on pay-performance sensitivity.

On the other hand, Dorata and Petra (2008) selected a sample of 143 non-merging firms and 77 merging firms and found a positive moderating role of CEO duality between firm performance and CEO compensation. Owing to these inconclusive empirical evidences, the role of CEO duality on pay-performance link is debatable. Agency theory and managerial power theory proposed adverse effect of CEO duality on pay-performance link while the advocates of CEO duality assume positive role of CEO duality in aligning pay-performance link. The research outcomes evaluated from developed countries cannot be generalized on a transitional economy like Pakistan due to cultural and structural difference. Thus, this study will further look into the role of CEO duality in tying CEO's pay with performance metrics.

### **2.7.2 Ownership Structure**

Prior studies have shown the relationship between ownership structure and CEO compensation or ownership structure and firm performance. Moreover, due to major influence of family, foreign and institutional ownership, this study includes these three types.

### 2.7.2.1 Family Ownership

Family control is the leading ownership structure around the world and there are significant portion of family firms in all publicly traded firms. However, researchers revealed crucial differences between non-family and family controlled firms (Anderson & Reeb, 2003; Dyer & Whetten, 2006). Furthermore, researchers also gave attention pertaining to compensation practices and agency conflicts in family owned firms. Despite of agency theorists assumption that managers act in their own self-interest (Eisenhardt, 1989), followers of stewardship theory argued that some managers can sacrifice their greed and interest for the welfare of organization (Davis, Schoorman, & Donaldson, 1997). In case of family-member CEOs, researchers labelled them as stewards. For instance, the results of Gomez-Mejia et al. (2003) support stewardship theory. By using a sample of 253 family-controlled firm, they found that CEOs act like stewards if they are member and also receive lower compensation in exchange of greater socio-emotional wealth and job security.

In addition, Croci et al. (2012) investigated 754 firms in 14 countries of Europe. They found that family control curbs the fraction and the level of CEO total compensation. However, no significant effect of family control on excessive compensation has ensured by these researchers. They also suggest that family control firms do not employ CEO compensation to manipulate or expropriate capital from minority shareholders. With regard to family ownership, Combs et al. (2010) supports agency theory and through a sample of S&P 500 firms they revealed that if additional family members are represented on the board or in the management then family-member CEOs accept lower compensation. However, they discovered that if CEO is the lone family member then he accepts higher compensation.

Pertaining to agency conflicts in family firms, Barontini and Bozzi (2010) analyzed the 175 Italian firms and found worse stock and accounting performance due to excessive CEO compensation, which could therefore be interpreted as a form of rent extraction. They also ascertain that instead of agency conflicts between managers and shareholders, family firms of Italy have prevalent agency conflicts between minority shareholders and family owners. The reason for paying high compensation to CEOs in family firms is for the extraction of private benefits by the family members or it may be a premium for the loyalty. Moreover, in the context of family firms, agency theorists claim that the pay-performance link is not applicable.

However, contrary results have been found by Michiels et al. (2013). By employing a sample of 529 family firms of U.S., they suggest that performance-based measures play a vital role in compensating CEOs. Nonetheless, a slightly stronger pay-performance relationship among non-family CEOs has been purported. Michiels et al. (2013) have utilized ownership as a moderating variable in their study. Chrisman, Chua, Kellermanns and Chang (2007) also revealed that family owners try to build a link between CEO compensation and firm performance. Similar evidence was advanced by Graziano and Rondi (2016). On the other hand, Connelly, Limpaphayom and Sullivan (2010) provided evidence from Thai listed firms that firms with a higher level of family ownership align director's compensation with firm performance but not managerial compensation.

Although there are a wide range of studies related to the direct association between family ownership and CEO compensation, however, studies have neglected the moderating role of family ownership on the relationship between performance-based measures and CEO compensation. Thus, consistent with the proposition of Fama and

Jensen (1983) that family owners have the ability to mitigate classical agency conflicts, this study assumes that family ownership in corporate governance structure could be effective mechanism in aligning CEO compensation with firm performance and other metrics. This study is more inclined toward alignment effect of family owners rather than entrenchment effect as suggested by Gomez-Mejia et al. (2003).

### **2.7.2.2 Institutional Ownership**

In the past 20 years, dramatic increase and involvement of institutional investors in the firms is the most crucial corporate governance changes (Useem, 1996). Institutional ownership is considered as one of the efficient mechanism for monitoring firm performance and compensation as it can mitigate the principal-agent problem by supervising actions of managers (Abed et al., 2014). They can also constrain CEOs power in their pay-setting (Bebchuk & Fried, 2004; David, Kochhar, & Levitas, 1998). By different resources and expertise, institutional investors have the capability to monitor the CEO compensation effectively (Lee & Chen, 2011).

Agency theorists are also in the favor of institutional ownership due to its effective monitoring benefits as it plays a significant role in aligning CEO compensation with performance (Jensen & Murphy, 1990). Moreover, institutional investors can pressurized the managers to work in the best interest of the firm and shareholders as these investors give keen attention on their role of influencing, disciplining and monitoring managers (Cornett, Marcus, Saunders, & Tehranian, 2007).

Therefore, through Hong Kong listed firms, Cheng and Firth (2005) purported a negative association between CEO compensation and institutional ownership as these investors offer better monitoring in the case of CEO pay-setting policy. Furthermore,

Hartzell and Starks (2003) studied 1914 S&P firms and revealed that existence of institutional investors could affect CEO compensation negatively and it is positively related to pay-performance sensitivity. However, contradictory results were found by Smith and Swan (2014). Additionally, while studying Taiwan listed companies, Lee and Chen (2011) revealed positive relationship between CEO compensation and institutional ownership.

However, due to different organizational culture, results can be varied from country to country and efficiency of the firm depends on the activeness of investors. Therefore, Victoravich, Xu and Gan (2013) suggest that active institutional investors have strongest impact on CEO compensation though grey or passive investors have little impact. Recently, meta-analysis of van Essen et al. (2015) found lower compensation of CEOs in the presence of institutional investors. Moreover, they also suggest positive moderating role of institutional ownership between executive compensation and firm performance. Studies by Dharwadkar, Goranova, Brandes and Khan (2008), Feng, Ghosh, He and Sirmans (2010) and Ozkan (2011) also purported that institutional investors strengthen pay-performance sensitivity.

Ivanova (2017) considered institutional investors as the stewards of the organizations because they possess fiduciary duty to enhance their clients' return, thus, they actively participate in organizational decisions and monitor the opportunistic behaviors of executives (Abernethy et al., 2014). In the light of these theoretical and empirical arguments, this study is in support of the explanation that institutional investors can bring better monitoring practices, restrain executives from exploitation of shareholders' resources and thereby align their CEO's compensation with firm performance indicators.



### 2.7.2.3 Foreign Ownership

Around the globe, almost every country allows the foreign investors to be a part of their firms. Foreign investors usually possess effective skills who emphasis on firm performance and hire highly skilled managers with international experience (La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1999). These efficient managers demands high compensation, therefore, foreign investors pay them a high salary but also try to pay compensation consistent with firm performance. In line with this argument, by employing a mixed method (qualitative and quantitative) on Chinese listed firms, Pan et al. (2009) found positive relationship between CEO compensation and foreign ownership.

Parallel to Pan et al. (2009) study, Randøy and Nielsen (2002) found the positive relationship between foreign ownership and CEO compensation. However, their sample size was composed of 104 Swedish and 120 Norwegian publicly listed firms. Similarly, Mäkinen (2007) utilized a sample of 62 Finnish firms listed in Helsinki Stock Exchange and found same results. Although most of the researchers found positive relationship between CEO compensation and foreign ownership but foreign investor also reduce the power of CEOs (see Abrahamson & de Ridder, 2010). On the other hand, Kato and Long (2005) interpret their results differently. By taking the companies from Shanghai and Shenzhen Stock Exchanges, they inferred that firms strengthen the pay-performance link to attract more capital from foreign investors.

Furthermore, foreign investor could be less capable of monitoring as compared to institutional investors due to cultural differences. For instance, while analyzing Swedish listed firms, Collin, Gustafsson, Smith and Petersson (2012) purported that foreign investors cannot perform or monitor well in the sense of influencing CEO as

they do not understand the business culture of Sweden. Collin et al. (2012) favors institutional investors over foreign owners due to less efficient monitoring capability of foreign investors that leads to weak corporate strategy. While studying pay-performance link, Balasubramanian, Barua and Karthik (2015) also purported that foreign investors cannot effectively set their CEO's pay.

Conversely, according to David, Yoshikawa, Chari and Rasheed (2006), foreign investors can affect the strategic decisions of the firms in which they have invested regardless of their smaller portion of share in the firm. These investors want to achieve their financial objectives. Therefore, they try to link the firm profitability with CEO compensation closely. Accordingly, using a sample size of 200 largest Japanese manufacturing firms, Colpan and Yoshikawa (2012) found that foreign investors exhibit a positive moderating effect on the relationship between bonus pay and firm profitability. Likewise, the studies by Garner and Kim (2011), Paskelian, Bell and Omer (2012) and Swatdikun (2013) also argued that foreign investors align the interests of management and shareholders by tying their pay with CEO's compensation. Consistent with these arguments, this study also assumes that foreign investors positively moderate the pay-performance link in Pakistan.

## **2.8 Dividend Policy**

Financial theorists assumed that dividend pay-outs is the best solution to resolve the agency conflicts. Investors always demand reward for their investments, by this means, higher dividends satisfy the demand of these investors (Michael, 2013). However, Finnerty (1986) observed from New York stock exchange listed companies that younger or family firms do not pay dividends to their shareholders. Nevertheless, they pay common dividends in their life cycle at some occasion. Finnerty (1986) also

advised that firms should maintain and view the dividend policy by considering the shareholder wealth maximization and investment opportunities need. The outcome model of La Porta, Lopez-de-Silanes, Shleifer and Vishny (2000) created a link between dividend payouts, agency costs and minority shareholders' protection. They purported that minority shareholders demand dividends by pressurizing corporate management to reduce the excessive cash available in the company.

In addition, agency costs exists in a corporation where there is high amount of available free cash flow which further leads to lower shareholder value, overinvestment or empire building by executives or majority shareholders. Therefore, it is suggested that to reduce agency costs and free flows, firms should pay dividends (Emerenciana, 2012; Richardson, 2006). Moreover, according to Twu (2010), dividends are the perpetual ways to lessen the free cash flows, as dividends are very sticky. Once the firm started paying dividends, then it cannot be stopped until and unless it is unquestionably mandatory. Owing to the fact that value of shares drops with the reduction in dividend payouts.

Inversely, supported by the evidence from 438 S&P 500 firms, Emerenciana (2012) revealed that dividend paying companies exhibits more rent extraction, pay their CEOs a higher compensation and possess lower pay-performance sensitivity. Another view point on the relationship between compensation and dividends has presented by Bhattacharyya, Mawani and Morrill (2008). They suggest that high quality executives have superior ability to find investment opportunities as compared to low quality executives. High quality executive invest in positive NPV projects leaving a smaller amount of wealth to issue dividends to shareholders. Owing to this quality of executives and their addition in the value of firm, they receive higher compensation.

Unfortunately, there is a lack of empirical evidence regarding the moderating role of dividend policy on the relationship between firm performance metrics and CEO compensation. Thus, consistent with the agency perspective that dividend policy can act as a substitute control device in the absence of strong corporate governance (Haye, 2014), this study proposes that strong dividend policy build a tight pay-performance link. While studying dividend policy, most of the prior researchers have considered dividend pay-out as well as dividend yield. Therefore, both indicator are employed to accomplish the study's objectives.

### **2.8.1 Dividend Pay-out**

Dividend payout also indicates the shareholder's return. It specify how much a company retained for cash reserves, paying off debt and growth purposes and how much a company paid to its shareholders (Bernstein, & Wild, 1998). It is observed that companies pay steady dividend at maturity level. The growth-oriented and new enterprises may not have very low payout ratio because they prefer to invest in growth opportunities and new product development (Baker, 2009). Analysts divided the dividend payouts into loss-making (less than 0 percent), good (0 to 35 percent), healthy (35 to 55 percent), high (55 to 75 percent), very high (75 to 95 percent), unsustainable (95 to 150 percent) and very unsustainable (more than 150 percent).

Investors should invest in the firms with healthy payout rather than very high payout because it may provide them short-term benefits but they face loses at later stage (Dunn, 2011). Prior academic literature postulated that agency costs can be mitigated with dividend payouts due to two main reasons. First, dividend payouts increase liquidity risk so managers make rational investment decisions (Zwiebel, 1996). The second reason is the capability of dividend payouts to restrict management from

overinvestment (Tirole, 2010). Dividend payouts are highly associated with cash flow of the firm and managers could have more control over payout rather than yields.

### **2.8.2 Dividend Yield**

Dividend yield can be described as the percentage return of an investment. This return can be in any type of distribution including dividends and interests. The ratio of dividend yield may indicate how well a firm can sustain its dividend rate. Generally, investors get attracted toward firms with higher dividend yield. Nonetheless, the higher dividend yield is not the guarantee of organizational sustainability because the higher ratio means either the company's stock price is falling or it is raising the payout size. Sometimes lower level of dividend yield are good for investors if the share price is rising (Dunn, 2011). Despite of managerial and investors perception, this study aims to mitigate agency conflicts from organization, therefore, it is proposed that payment of dividends could restrict opportunistic behavior of managers and majority shareholders (Lepetit, Meslier, & Wardhana, 2017) result in lower level of agency conflicts.

### **2.9 Summary of Literature Review**

Literature review is written with the perspective of prior researchers. This chapter acknowledged four theories (agency theory, stewardship theory, managerial power theory, free cash flow hypothesis) in the relevance to the scope of this research. Agency theory is the focal point of the study which explains pay-performance link and the moderating role of corporate governance and dividend policy. Nonetheless, owing to different theoretical perspectives, stewardship theory and managerial power theory are also incorporated as alternative theories in case of opposite results. Cash

flow hypothesis is added to provide further explanation regarding dividend policy as substitute control device. Empirical literature pertaining to the relationship between independent variables and dependent variables is discussed. CEO compensation is the dependent variable of this study while firm performance (operating and market performance) and characteristics (firm size, growth opportunities and market share) are the independent variables. Furthermore, corporate governance and dividend policy are considered as moderating variables. Various knowledge gaps are identified through prior literature.

For instance, only a hand full of studies have discussed operating and market performance separately while building their link with CEO compensation. Moreover, the empirical association between market share and CEO compensation is absent in previous academic literature. Studies have provided theoretical explanation regarding the corporate governance and dividend policy as control mechanisms but the empirical studies on this area are rare. By considering the propositions of prior literature into account, this study proposed that corporate governance (main control mechanism) and dividend policy (substitute control mechanism) can strengthen the pay-performance link and eventually mitigate the agency conflicts.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.0 Introduction**

This chapter is composed of proposed methodology to pursue the further study. Research methodology is assumed as backbone of the research as it strengthens the base of the research. Chapter three is divided into many sections in order to improve the clarity and readability. Section 3.1 is related to research framework in which theoretical and conceptual model of the study is discussed. In Section 3.2, hypotheses are developed with theoretical and empirical evidences. Section 3.3 discusses the measurement of the variables considered in this study with brief justification. Section 3.4 includes sampling and population of the study. Section 3.5 is related to statistical tests and techniques utilized in the study. Section 3.6 explains operational model of the study and Section 3.7 concisely discusses the definition of the variables. Lastly, Section 3.8 presents summary of the chapter.

#### **3.1 Research Framework**

One of the main reasons of agency conflicts is excessive compensation practices (Bebchuk & Fried, 2003). Therefore, most of the researchers argued that CEO compensation should be aligned with firm performance and characteristics (Bowie, Silberglied, & Williams, 2014; Copper, et al., 2010; Grossman & Hart, 1983; Jensen & Murphy, 1990; Richey, 2013) in order to avoid agency conflicts (Jensen & Meckling, 1976). Consequently, this study has considered firm performance and firm characteristics as independent variables and CEO compensation as dependent variable in the framework (see Figure 3.1).

In the academic literature, there is a standing debate over the solutions of agency problems. Core et al. (1999) suggests that stronger corporate governance can reduce the agency conflicts. Researchers have pondered efficient owner structure and board characteristics as the dimensions of strong corporate governance. Accordingly, Sun and Cahan (2009) posit that board of directors play a vital role in aligning CEO compensation with firm performance, as well linking the interest of executives with shareholders. Therefore, corporate governance is demonstrated as a moderator in the model of the study. In addition, efficient dividend policy can also resolve the conflicts between managers and shareholders (Emerencana, 2012). In the absence of weak corporate governance mechanisms, dividend policy can be utilized as substitute control device (Haye, 2014). Thus, this study hypothesized that dividend policy can act as a moderating variable between firm's performance, characteristics and CEO compensation.

Employing these moderating variables are justifiable with the proposition of Baron and Kenny (1986). They argued that moderating variable can be employed if there is inconsistent relationship between predictor and criterion variable. Owing to inconsistent relationship between performance-related metrics and CEO compensation especially in the relevance of Pakistan, utilizing corporate governance mechanisms and dividend policy as moderating variable could provide robust effect of existing model. Consistent with the theoretical debate and focus of the study, the framework of the study is demonstrated in Figure 3.1



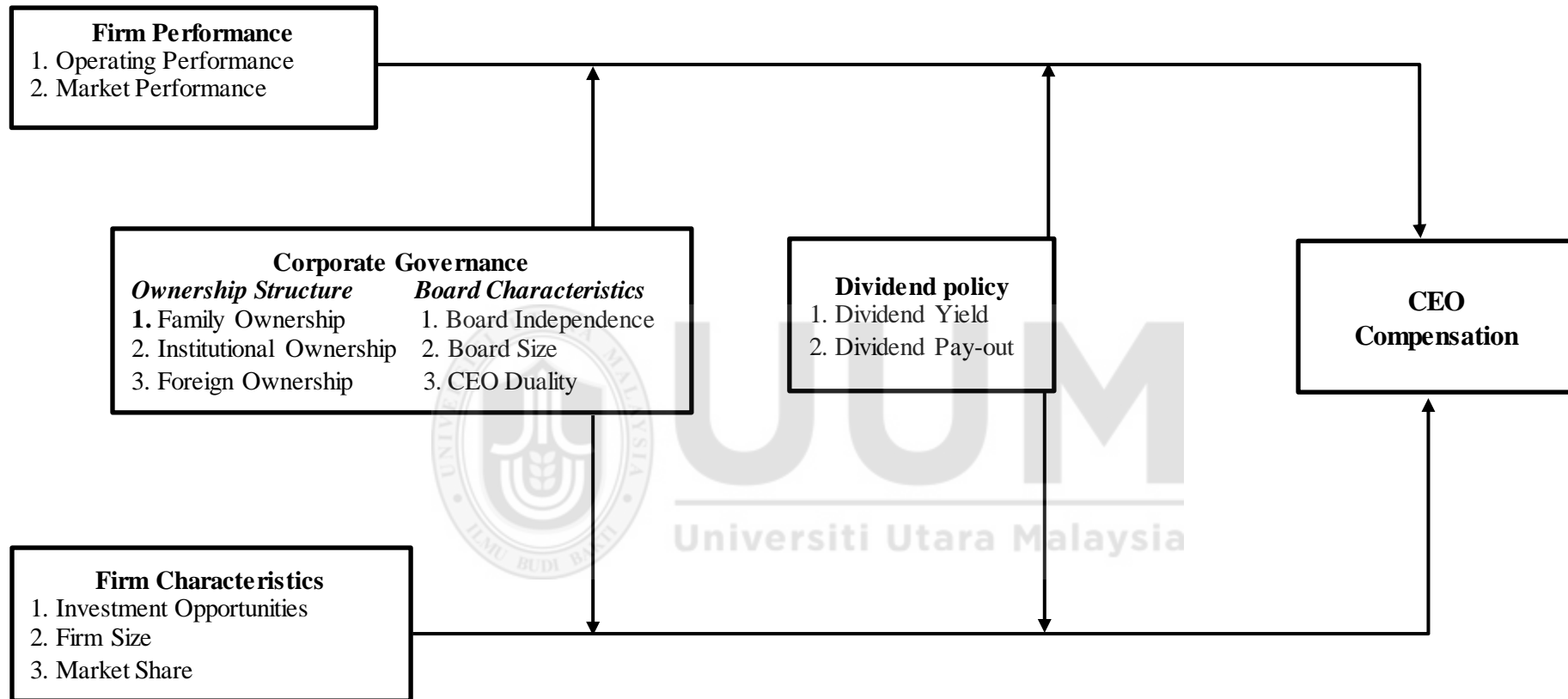


Figure 3.1  
*Moderating role of Corporate Governance and Dividend Policy between firm performance, characteristics and CEO compensation*  
 Source: Author's own elaboration

### 3.2 Hypothesis Development

Consistent with principal-agent paradigm, Jensen and Murphy (1990) define pay-performance sensitivity as the change in CEO compensation has a relationship with change in shareholder value. Stronger the pay-performance sensitivity, lower would be the agency conflicts. In addition, Thevenoz and Bahar (2007) argued that executives would be responsible for their actions, if pay is linked to firm performance. Wallsten (2000) argued that CEOs should be punished if their decision causes low market value of the firm. Similarly, according to Hartzell and Starks (2003), there should be strong link between CEO compensation and firm performance. Sun, Wei and Huang (2013) studied U.S. insurance industry in relation to pay-performance link. They found positive relationship between operating performance and CEO compensation. Furthermore, in a previous study by Deckop (1988) related to determinants of CEO compensation, evaluated that CEO compensation was positively associated to profit (measured as percentage to sales). In the reference of Pakistan, Yahya and Ghazali (2015) also found positive association of operating and market performance with CEO compensation. Therefore, consistent with agency theory that there should be tight pay-performance link, it is hypothesized that operating and market performance should be aligned to firm performance. Accordingly, following hypotheses are formulated:

*H<sub>1</sub>: Operating performance has a positive relationship with CEO Compensation*

*H<sub>2</sub>: Market Performance has a positive relationship with CEO Compensation*

Most of the researchers found that increase in firm size leads to increase in CEO compensation. Based on Fortune 500 firms, Riahi-Belkaoui and Pavlik (1993)

concluded that firm size has an effect on CEO compensation. Similar results were purported by (Vemala et al., 2014). By the same token, Bebchuk and Grinstein (2005) found that firm size is positively correlated with CEO compensation in U.S. public listed companies. Furthermore, Mäkinen (2007) found that there is high pay-for-firm size elasticity in Finland firms. The meta-analysis of van Essen et al. (2015) revealed that firm size is the major determinant of CEO compensation. Studies conducted in the capital market of Pakistan also revealed positive link between firm size and CEO compensation (Lone, Hasan, & Afzal, 2015; Usman, Akthar, & Akthar, 2015; Yahya & Ghazali, 2015). In the light of prior theoretical and empirical debate, the hypothesis for this study is developed as follows:

*H3: Firm Size has a positive relationship with CEO Compensation*

Prior studies have also considered growth opportunities as a strong determinant of CEO compensation. CEOs receive high compensation in the firms with growth opportunities to keep this information confidential (Smith & Watts, 1992). Consistent with agency theory, Barnes et al. (2006) observed that corporations with greater growth opportunities pay their CEOs a high salary. Furthermore, Conyon and He (2008) also found the positive correlation between executive compensation and growth opportunities in Chinese firms. Theorists argued that compensation of CEOs should also be aligned to growth opportunities or else they will involve themselves in value destructing activities. The studies regarding pay-growth link are not widely discussed in the capital market of Pakistan. There is only one study by Yahya and Ghazali (2015) who ensured positive association between growth opportunities and CEO compensation in financial sector of Pakistan. Consequently, consistent with

previous literature and agency theory, the hypothesis has established in a following way:

*H4: Growth opportunities have a positive relationship with CEO compensation*

According to the best knowledge of the researcher, empirical evidence regarding the relationship between CEO compensation and market share is absent in prior academic literature. However, it is assumed that the firms with larger market share compensate their CEOs highly as one of the attribute of a CEO is to gain competitive advantage. While discussing firm characteristics, Pindado et al. (2010) also consider market share along with growth opportunities and firm size in their study. The study by Ferreira (2015) argued that compensation of managers may rise when the demand for gaining market share rise and when there are less talented executives in the market. Some multinational organizations have tied their CEO's pay with market share (Phillips, 2014) because it increase cost-effectiveness of the firm (Ross et al., 2008). Owing to these practical and theoretical applications for pay-share link, this study ought to test the following hypothesis:

*H5: Market share has a positive relationship with CEO compensation*

The meta-analysis of Tosi et al. (2000) related to performance metrics and CEO compensation suggested that moderator variables between them might play a crucial role. Pertaining to previous academic literature, the relationship between CEO compensation and board independence has discovered. According to Boyd (1994), board of directors are responsible for overseeing the CEOs as efficient compensation, keen governance and superior control can push the CEOs to enhance the firm performance and to fulfill the demands of shareholder. Studies also revealed that high

level of independent directors on the board can also help in reducing agency conflicts. With reference to this argument, Bebchuk, et al. (2002) discussed that independent directors have more power to prevent the CEOs from rent-seeking. A recent study on UK public limited companies by Buigut et al. (2015) confirmed that there is a significant relationship between decrease in CEO compensation and percentage of independent directors. Moreover, independent directors effectively monitor the opportunistic behavior of executives and link their compensation efficiently with firm performance (Chee-Wooi & Chwee-Ming, 2010; van Essen et al., 2015).

Therefore, this study assumed that board independence could play a moderating role between CEO compensation and its performance-related determinants. However, previous studies have taken board independence as a moderating though in another way, e.g. between top management and team heterogeneities (Angriawan, 2008), between corporate entrepreneurship and firm performance (Burkemper, 2014) and between CEO duality and firm performance (Hsu, Wang, Tsai, & Lu, 2012). Nevertheless, van Essen (2015) suggests that independent directors can moderate the relationship between CEO compensation and firm performance. Chee-Wooi and Chwee-Ming (2010) also found that independent directors improve pay-performance link. Consistent with the agency theory, this study proposes that independent directors can restrict executives from rent extraction and self-centeredness and thereby, align their compensation with performance-related indicators. Owing to lack of this evidence especially in the context of Pakistan, following hypotheses are developed to fill the knowledge gap in academic literature:

*H6: Board independence positively moderates the relationship between operating performance and CEO compensation*

*H7: Board independence positively moderates the relationship between market performance and CEO compensation*

*H8: Board independence positively moderates the relationship between firm size and CEO compensation*

*H9: Board independence positively moderates the relationship between growth opportunities and CEO compensation*

*H10: Board independence positively moderates the relationship between market share and CEO compensation*

Prior studies have found inconclusive evidence on the relationship between executive compensation and board size due to two varying point of views. On the one hand, resource dependence theory argued that larger board size probably has an extensive level of proficiency and skills. Conversely, agency theory purported that overcrowded board size becomes ineffectual in accomplishing and coordinating their role of monitoring (Bebchuk & Fried, 2004). Some researchers have observed no relation between board size and CEO compensation (Firth, Fung, & Rui, 2007; Tariq, 2010).

However, contradictory to these studies, Banghøj et al. (2010) claimed that board size is the only corporate governance characteristic that explains variations in executive compensation. Similar results have concluded by Ali and Teulon (2014) by using a sample of 290 SBF 120 Index companies. Nonetheless, Anjam (2011) found negative relationship between CEO compensation and board size in Pakistani listed companies. Owing to two different perspective on the association between board size and CEO compensation, researchers found mixed evidence regarding their effect on pay-

performance link. For instance, Cyert et al. (2002) and van Essen et al. (2015) found positive while Fahlenbrach (2009) and Ozkan (2007) found negative effect of board size on pay-performance link. However, this study is in support of agency perspective so it is proposed that large board size play an ineffective monitoring role and therefore, could weaken the pay-performance link. Previously, board size has tested as moderator between firm performance and other board characteristics (Bathula, 2008), between firm performance and R&D spending (Ren, Chandrasekar, & Li, 2012), between top management team tenure and corporate illegal activity (Williams, Fadil, & Armstrong, 2005). Seeing that board size is extensively used as moderating variable in prior academic literature, this study is also interested in testing it in the reference of Pakistan. Therefore, the following hypotheses in the context of this study are worth testing:

*H11: Board size negatively moderates the relationship between operating performance and CEO compensation*

*H12: Board size negatively moderates the relationship between market performance and CEO compensation*

*H13: Board size negatively moderates the relationship between firm size and CEO compensation*

*H14: Board size negatively moderates the relationship between growth opportunities and CEO compensation*

*H15: Board size negatively moderates the relationship between market share and CEO compensation*

With regard to CEO duality, several researches have reviewed. Most of the studies are available in the reference of CEO duality's effect on firm performance. With the empirical evidence on Egyptian listed firms, Elasyed (2007) found no impact of CEO duality on firm performance. However, he suggested that the impact could be varied from industry to industry. Same results have purported by Chen, Lin and Yi (2008). Nonetheless, an earlier study by Alexander, Fennell and Halpern (1993) argued that CEO duality plays a vital role in affecting the firm's value. A single person being the CEO and the Chairman could improve the value of a firm. Moreover, CEO duality eliminates the cost between two. In addition, the evidence from Toronto Stock Exchange determines significant relationship between CEO compensation and CEO duality roles (Nulla, 2013). These arguments are consistent with stewardship theory.

However, agency theory is not in the favor of CEO duality as it feeds agency issues. Consistent with the theory, Core et al. (1999) claimed that weak corporate governance includes CEO duality. Previous studies have provided mixed evidence relating to the impact of CEO duality on pay-performance link. For instance, van Essen et al. (2015) suggests that CEO duality cannot moderate the relationship between CEO compensation and firm performance. However, Dorata and Petra (2008) employed a random sample of US publicly traded firms and observed that CEO duality moderates the positive association between firm performance and CEO compensation. On the other hand, Fahlenbrach (2009) found adverse effect of CEO duality on pay-performance sensitivity. This study views CEO duality as a barrier toward organizational effectiveness in line with agency perspective. Therefore, it is proposed that CEO duality could distort the link between performance-related measures and CEO compensation. Consistent with agency theory, it is hypothesized that:



*H16: CEO duality negatively moderates the relationship between operating performance and CEO compensation*

*H17: CEO duality negatively moderates the relationship between market performance and CEO compensation*

*H18: CEO Duality negatively moderates the relationship between firm size and CEO compensation*

*H19: CEO duality negatively moderates the relationship between growth opportunities and CEO compensation*

*H20: CEO duality negatively moderates the relationship between market share and CEO compensation*

Prior studies revealed that ownership structure exerts a significant effect on CEO compensation. Barontini and Bozzi (2010) inspected the reason of agency conflicts in Italian listed firms. They demonstrated that family firms thoroughly pay their CEOs more than other firms do. They also found rent extraction in CEOs of family firms and negative relationship between their excess compensation and future firm performance. However, in Italian family firms, they found Type II agency conflicts (between majority and minority shareholders). They purported that family owners pay their CEOs a high compensation to extract their private benefits.

Contrary to Barontini and Bozzi (2010), Combs et al. (2010) argued on the basis of agency theory that family-member CEOs accept lower compensation if other family members are also on the board or management. However, if CEO is the sole family

member then he or she extracts high compensation. Similar results were observed by Gomez-Mejia et al. (2003) that family CEOs accept lower compensation as compared to outside CEOs. Although, classical agency theorists assume that pay-performance link is not pertinent in the context of family firms but Michiels et al. (2013) found significant role of performance measures with CEO compensation in privately held family firms. Similarly, Chrisman et al. (2007) also postulated that family owners link their CEO's compensation with firm performance. In order to empirically test this assumption that family owners could mitigate classical agency conflicts (Fama & Jensen, 1983), this study has formulated following hypotheses:

*H21: Family ownership positively moderates the relationship between operating performance and CEO compensation*

*H22: Family ownership positively moderates the relationship between market performance and CEO compensation*

*H23: Family ownership positively moderates the relationship between firm size and CEO compensation*

*H24: Family ownership positively moderates the relationship between growth opportunities and CEO compensation*

*H25: Family ownership positively moderates the relationship between market share and CEO compensation*

Correspondingly, in terms of expertise, large institutional owners have stakes in a number of firms, along with proficient executives to manage their investments.

Therefore, institutional investors or owners are more effective than discrete individual proprietors in pay setting or inducing compensation arrangements (Shleifer & Vishney, 1997). By linking the institutional ownership and agency theory arguments, it is anticipated that the larger the holding of institutional investors, the greater their influence will be on CEO compensation (John, Makhija, & Ferris, 2014). Moreover, Ozkan (2007) found the negative relationship between CEO compensation and institutional ownership in the large UK firms. Likewise, Hartzell and Starks (2003) found same results though they also argued that institutional ownership is positively related to pay-performance sensitivity.

Therefore, Ahmad and Jusoh (2014) suggests that involvement of institutional investor in controlling and monitoring the operations of firms is beneficial in diminishing principal-agent problems in an organization as they revealed positive relationship between firm performance and institutional ownership in Malaysian public sector firms. Consistent with these theoretical and pragmatic arguments, van Essen et al. (2015) suggests that institutional investors can positively moderate the relationship between CEO compensation and firm performance. Similarly, many researchers also argued institutional investor monitor CEO's opportunistic behavior effectively and eventually align their pay with performance metrics (see Dharwadkar et al. 2008; Feng et al., 2010; Ozkan, 2011). Therefore, following hypotheses will contribute effectively toward body of knowledge especially in the context of Pakistan:

*H26: Institutional ownership positively moderates the relationship between operating performance and CEO compensation*

*H27: Institutional ownership positively moderates the relationship between market performance and CEO compensation*

*H28: Institutional ownership positively moderates the relationship between firm size and CEO compensation*

*H29: Institutional ownership positively moderates the relationship between growth opportunities and CEO compensation*

*H30: Institutional ownership positively moderates the relationship between market share and CEO compensation*

In almost every country, government policies allowed firms to issue shares to foreign shareholders because these investors are capable of improving firm performance efficiently (Jusoh, 2015; Phung, & Mishra, 2016). Foreign investors are conscious about firm performance and strongly emphasize on hiring highly qualified CEOs with international experience (La Porta et al., 1999). Therefore, these skilled CEOs may demand high compensation. Nonetheless, foreign shareholders also attention to aligning CEO compensation with firm performance (Pan et al., 2009). Owing to the fact that foreign investors hire competent CEOs with high compensation, many researchers found positive relationship between CEO compensation and foreign ownership (Mäkinen, 2007; Pan et al., 2009). Abrahamson and De Ridder (2010) also established the same relationship; however, from a sample of Stockholm Stock Exchange they exhibits that CEO power will reduce through the involvement of foreign ownership.

Therefore, the chances of rent extraction by CEOs could be reduced. Furthermore, Yoshikawa et al. (2010) studied the moderating role of foreign ownership and argued that foreign investors reduce cash bonus payments and actively monitor the executives' behaviour. In line with this argument, some other researchers also argued that foreign investors positively affect pay-performance sensitivity (Colpan & Yoshikawa, 2012; Garner & Kim, 2011; Paskelian et al., 2012; Swatdikun, 2013). Therefore, it is recognized that the role of foreign ownership is dynamic to discuss in the standpoint of this study. Thus, the hypotheses are developed accordingly:

*H31: Foreign ownership positively moderates the relationship between operating performance and CEO compensation*

*H32: Foreign ownership positively moderates the relationship between market performance and CEO compensation*

*H33: Foreign ownership positively moderates the relationship between firm size and CEO compensation*

*H34: Foreign ownership positively moderates the relationship between growth opportunities and CEO compensation*

*H35: Foreign ownership positively moderates the relationship between market share and CEO compensation*

According to Jensen's (1986) free cash flow hypothesis, firms distribute dividends to shareholders to reduce free cash flow so that executives do not invest in negative NPV projects or misuse the resources. Additionally, La Porta et al. (2000) also argued that

firms distribute dividends when agency problem is mitigated. Based on agency paradigm, Bhattacharyya (2003) developed a model in which he argued that executives differ in their capability of identifying positive NPV projects. Shareholders prefer that executives should invest in positive NPV projects and if there are no profitable projects, shareholders prefer that executives should pay out dividends. In this argument, Bhattacharyya (2003) assumed that high quality executives have access to positive NPV projects, so shareholders compensate them highly. Therefore, he verified the negative relationship between dividend payouts and executive compensation. Consistent results were found by Bhattacharyya et al. (2008) in Canadian firms. Additionally, in the case of dividend yield and executive compensation, Eichholtz, Kok and Otten (2008) determined negative relationship between these two variables in the UK property industry. However, they found weak pay-for-performance rule in these firms. On the other hand, according to Carrel (2010), paying dividends subjects firms to certain checks and balances as dividends make executives more liable to shareholders.

Correspondingly, Zoan (2014) argued that holding on to yield might lead to excessive compensation so dividends bring more discipline to executive decision-making ability. Despite of the argument of Emerenciana (2012) that dividend paying firms have lower level of pay-performance sensitivity, this study have put the postulation in another way. Consistent with agency theory, this study argued that dividend policy can be utilized as a substitute control in the absence of strong corporate governance (Haye, 2014) and thereby mitigate agency conflicts. Therefore, in order to test this proposition in the relevance of capital market of Pakistan, following testable hypotheses are generated:

*H36: Dividend payout positively moderates the relationship between operating performance and CEO compensation*

*H37: Dividend payout positively moderates the relationship between market performance and CEO compensation*

*H38: Dividend payout positively moderates the relationship between firm size and CEO compensation*

*H39: Dividend payout positively moderates the relationship between growth opportunities and CEO compensation*

*H40: Dividend payout positively moderates the relationship between market share and CEO compensation*

*H41: Dividend yield positively moderates the relationship between operating performance and CEO compensation*

*H42: Dividend yield positively moderates the relationship between market performance and CEO compensation*

*H43: Dividend yield positively moderates the relationship between firm size and CEO compensation*

*H44: Dividend yield positively moderates the relationship between growth opportunities and CEO compensation*

*H45: Dividend yield positively moderates the relationship between market share and CEO compensation*

### **3.3 Measurement of Variables**

Measurement of the variables are adopted from the prior related studies. Total salary and benefit of CEO are considered to measure CEO compensation though the log of this value is more preferred by prior studies to move the data toward linearity and normality (Bachan, 2008; Barnes, et al., 2006; Bivens & Mishel, 2013). In order to measure operating performance, this study has considered ROS/ operating margin (Awang, et al., 2010; Dehning & Stratopolous, 2002). Most of the prior studies have considered ROA or ROE to measure accounting-based operating performance. Very few studies have employed operating margin to build its link with CEO compensation (Awang, et al., 2010; Dehning & Stratopolous, 2002). Thus, employing operating margin is more appropriate in this sense because executives could have more control over this metric.

Prior studies have measured market performance with different proxies such as stock market return, stock price, Tobin's Q and P/E ratio. Researchers and analysts argued that P/E ratio is a good indicator for market performance because it provide future insight for a specific security (Adams & Periton, 2007). Tobin's Q is not considered in this study to assess market performance because it could have cause multicollinearity with M/B ratio. Therefore, P/E ratio is employed as a proxy of market performance (Leong, et al., 2009; Williams & Naumann, 2011).

Previous literature have suggested many proxies for firm size such as log of sales, log of assets, log of market capitalization and log of total employees (Dang, & Li, 2015).



This study employed log of sales because it also reflect product market competition (De Andres, et al. 2005; Raheman & Nasr, 2007). In order to assess growth or investment opportunities many studies have considered market to book value ratio. Although investment opportunity set (IOS) is better and advanced proxy but the data for real options is not publically accessible in the reference of Pakistan (Alti, 2006; Fich & Shivdasani, 2005). Identifying an adequate measure of market share could be difficult but most of the researchers have measured it by comparing a firm's total sales with total sales of industry (Banker, et al., 2013; Kaydos, 1998; Khorana & Servaes, 2012).

Prior studies have measured dividend policy by utilizing both dividend payout and dividend yield (Al Masum, 2014; Hashemijoo, et al., 2012; Okafor, et al., 2011) because rational investors evaluate both of these proxies before making an investment. Ownership structures are measured with the percentage of holdings by family, institutional and foreign investors respectively in the firm (see Table 3.1). Board independence is measured by number of independent directors, board size with total number of board and CEO duality with a dummy variable. For ease of readability, measurements of variables are demonstrated in the table. Following Table 3.1 shows the list of variables, their specific measurements and the authors who utilized these measurements in their previous studies (Alti, 2006; Fich & Shivdasani, 2005).

Table 3.1  
*Measurement of Variables*

<b>Variable</b>	<b>Measurement</b>	<b>Proxy or Ratio</b>	<b>Employed by</b>
CEO Compensation	CEO Salary and Benefits	Log of CEO's salary and Benefits	(Bachan, 2008; Barnes, et al., 2006; Bivens & Mishel, 2013)

Firm Performance	Operating Performance	ROS = Operating Margin: Operating profit/ Sales	(Awang, et al., 2010; Dehning & Stratopolous, 2002)
	Market Performance	Price to earnings ratio	(Leong, et al., 2009; Williams & Naumann, 2011)
Firm Characteristics	Firm Size	Log of Sales	(De Andres, et al. 2005; Raheman & Nasr, 2007)
	Growth Opportunities	Market to book value: Market Capitalization/ Book value of equity	(Alti, 2006; Fich & Shivdasani, 2005)
	Market Share	Total sales/ total sales of industry	(Banker, et al., 2013; Khorana & Servaes, 2012)
Dividend Policy	Dividend Pay-out	Total Annual Dividends per Share /Diluted Earnings per Share	(Al Masum, 2014; Hashemijoo, et al., 2012; Okafor, et al., 2011)
	Dividend Yield	Dividend per Share/ Price per Share	
<i>Ownership Structure</i>			
Corporate Governance	Family Ownership	Percentage of stock held by Family members	(Pindado, et al., 2008)
	Institutional Ownership	Percentage of stock held by institutions	(Blume & Keim, 2012)
	Foreign Ownership	Percentage of stock held by foreign investors	(Bircan, 2011)
<i>Board Characteristics</i>			
Corporate Governance	Board Independence	Percentage of Independent directors on the board	(Abidin, et al., 2009; Hermalin & Weisbach, 2001)
	Board Size	The number of directors on the board	(Abidin et al., 2009; Booth, et al., 2002)
	CEO Duality	Dummy Variable: 1 if CEO is also chairman, 0 otherwise	(Booth et al., 2002; Dorata & Petra, 2008)

### 3.4 Sampling

Sekaran (1992) pointed out that a careful selection of data for analysis is very important part of a good research. According to Hair (2007), if the population is small then whole population should be considered in the study. However, for large population, small sample would be sufficed if carefully chosen which represents population (Hair, 2007). There are 558 companies listed on Pakistan Stock Exchange (PSX) with a market capitalization of USD 95 billion. As this study is intended to capture the picture of entire capital market of Pakistan, all companies listed on Pakistan Stock Exchange are considered. However, through data cleaning process, some companies are eliminated from the data due to unavailability of data or lack of disclosure.

Additionally, previous studies on CEO compensation in Pakistan have covered the period up to year 2012. Thus, this study has considered the period from 2010 to 2014 in this study. The data before 2010 is not available for most of the companies because many companies were dissolved in year 2008 due to financial crises. Accordingly, the expected total year-firm observations of the study was 2790 ( $5 \times 558$ ), nonetheless, due to lack of disclosure and missing data, this study was able to collect only 1420 observations ( $5 \times 284$ ). In addition, data was collected from annual reports of companies. Furthermore, corporate transparency has increased with the advent of corporate governance code of 2012, which bound the Pakistani listed firms to disclose the information regarding CEO compensation and board of directors. Therefore, information regarding corporate governance, dividend, firm characteristics and performance can be extracted from annual report of firm.

### 3.5 Statistical Tests

This study will employ two statistical software to analyze the results, i.e. Microsoft Excel and SPSS. These statistical packages are user-friendly and can perform basic functions easily. Through these statistical applications, following tests are performed:

#### 3.5.1 Identification of Outliers

Outliers are those observations, which are particularly different from other observation due to their unique characteristics. Existence of outlier in the data can be due to data entry error, an unanticipated extraordinary event or an extra ordinary event that has an explanation (Hair, Black, Babin, Anderson, & Tatham, 2006). However, Tabachnick and Fidell (1996) argue that these outliers can be questionable as they can misrepresent or mislead the results. There are two methods for identifying outliers in the data, i.e. statistical and graphical methods (Tabachnick & Fidell, 1996). Outliers that are unattached cases from the rest of data can be identified by using histogram in graphical method.

On the other hand, Mahalanobis distance proposed by Mahalanobis (1936) can be computed to detect outliers in a statistical procedure. Hair et al. (2006) suggest utilizing Mahalanobis  $D^2$  measure in multivariate analysis. Tabachnick and Fidell (2007) defined outliers as individuals who have such extreme scores on an individual variable, or on a set of variables, that they will distort the overall results. Furthermore, Cook's distances by Cook (1977) can also be calculated to further recognize the outliers. Cook's distances are measures of influence and cases with influence scores of more than one are suspected of being outliers (Tabachnick & Fidell, 1996).

### **3.5.2 Identification of Multicollinearity**

Multicollinearity issue has adverse effect on assumptions and usage of regression analysis. This study will utilize tolerance value and variance inflation factor (VIF) to identify the existence of multicollinearity issue among the predictor variables. According to Hair, Black, Babin and Anderson (2010) tolerance value is the variability in a variable that is not accounted for other variable. In addition, the VIF indicator is the proxy and corresponding to the tolerance value. Tolerance value should be more than 0.01 and VIF should be less than 10 to indicate that there is no multicollinearity issue among independent variables and they are not highly correlated.

### **3.5.3 Normality**

One of the assumptions of regression analysis is to ensure normality for the fitness of data. Statisticians have suggested many ways to test the normality of the data. However, this study selects normality plots, kurtosis and skewness value to interpret the outcomes. This study employed the normal distribution method of skewness ratio between + 2 to - 2 at 0.05 alpha values range suggested by Hair, Anderson, Tatham and Black (1998). Moreover, this study also employed histogram and normal Q-Q plot to validate normality of data. However, if the data would be abnormal then transformation method can be employed to transform the data into normality (Hair, et al., 1998).

### **3.5.4 Testing the Linearity, Homoscedasticity and the Independence of Errors**

This study utilizes the scatterplot of the residuals with the intention of inspecting the independence of errors, homoscedasticity and linearity. Hair et al. (2010)

recommended that linearity, independence of errors and homoscedasticity is confirmed and verified if there is no clear indication of association between predicted values and residuals.

### **3.5.5 Multiple Linear Regression Analysis**

Ordinary least square (OLS) is a statistical technique for evaluating the unidentified parameters in a regression model. The model fits would be better if the sum of the squares of the difference between observed and predicted response is smaller. However, OLS estimator can provide unbiased estimates only when regressors are exogenous and the errors are serially uncorrelated and homoscedastic (Rao, 2009). In addition, OLS is the maximum likelihood estimator if the errors are normally distributed. Furthermore, OLS is the best linear unbiased estimator according to Gauss-Markov theorem. The usefulness of data of OLS technique can be enhanced with data transformation methods (Fox, 2002) and grouped explanatory variables (Hutcheson & Moutinho, 2008). Therefore, the hypotheses of this study can be tested with OLS method. The study will try to remove all biases and anomalies from the data in order to evaluate un-biased estimates.

Before undertaking multiple linear regression, this study analyzed Pearson correlation to achieve the objectives of the study and to fulfill the basic process. Multiple linear regression is analyzed to evaluate the variation in dependent variable due to change in independent variables and moderating variables. Regression analysis is most widely used statistical analysis (Hair et al., 2010). In order to carry out multiple regressions, Hair et al. (1998) reported that the ratio should not be less than 5:1, with a favorable level of 15-20 observations for each independent variable. Hair et al. (2010) suggested that the ideal number of observations is 20:1. However, this study has enough



### **3.7 Definitions of Terms**

#### **3.7.1 CEO Compensation**

CEO compensation is the remuneration paid to CEOs including basic salary, incentives and other benefits. Previously researchers have utilized log of total CEO compensation to measure this variable (Bachan, 2008; Barnes, et al. 2006; Bivens & Mishel, 2013). Log has been utilized to transform skewed data into normal. Moreover, taking log in this case is justifiable because CEO compensation cannot be negative.

#### **3.7.2 Operating Performance**

It is the measure of profitability in term of sales revenue. Operating margin ratio or return on sales ratio can be utilized to measure operating performance. Many authors have utilized it in their studies (e.g. Awang, Asghar, & Subari, 2010; Dehning & Stratopolous, 2002; Gray, & Cannella, 1997). Higher performance margin, higher will be the operating performance.

#### **3.7.3 Market Performance**

It is the behavior of security or company performance in the marketplace. Researchers have measured the market performance through price-earnings ratio or P/E ratio (e.g. Leong, Pagani, & Zaima, 2009; Williams & Naumann, 2011). Higher P/E ratio will indicate the better market performance of the firm.

#### **3.7.4 Firm Size**

Size of the company can be determined in term on its assets, sales or number of employees. However, this study have chosen log of sales to indicate firm size because previous studies have considered sales more relevant in the context of CEO



compensation (De Andres, Azofra, & Lopez, 2005; Raheman & Nasr, 2007). Greater value indicates larger firm size.

### **3.7.5 Growth or Investment Opportunities**

New investment or projects that have potential to grow in near future along with profits are termed as growth or investment opportunities for investors. Researchers employed market to book value ratio to indicate growth opportunities (Alti, 2006; Fich & Shivdasani, 2005). High value of this ratio means that company has greater growth opportunities.

### **3.7.6 Market Share**

A portion holds by the company in the market or sector is called market share. Market share can be measured by total sales of the company divided by total sales of the industry (Banker, Darrough, Huang, & Plehn-Dujowich, 2013; Khorana & Servaes, 2012).

### **3.7.7 Dividend Policy**

The policy of company to pay cash or common dividend to shareholders is called dividend policy. Researchers have measured this policy through dividend payouts and dividend yield (e.g. Al Masum, 2014; Hashemijoo, Ardekani, & Younesi, 2012; Okafor, Mgbame, & Chijoke-Mgbame, 2011). The dividend payout ratio is the amount of dividends paid to stockholders relative to the amount of total net income of a company and dividend yield is a measure of what percentage an investor is earning in the form of dividends.

### **3.7.8 Family Ownership**

It is the total percentage of stocks hold by family members (Pindado, Requejo, & Torre, 2008).

### **3.7.9 Institutional Ownership**

The total percentage of stocks hold by institutional investors can be used to indicate institutional ownership (Blume & Keim, 2012).

### **3.7.10 Foreign Ownership**

The total percentage of shares own by foreign investors can be termed as foreign ownership (Bircan, 2011).

### **3.7.11 Board Independence**

Independent board has a majority of outside non-executive directors have no or minimal stakes in the organization and they have no affiliation with top executive directors of the organizations. Therefore, board independence is indicated as percentage of independent directors on the board (Abidin, Kamal, & Jusoff, 2009; Hermalin & Weisbach, 2001).

### **3.7.12 Board Size**

The number of board of directors is the proxy of this variable (Abidin et al., 2009; Booth, Cornett, & Tehranian, 2002).

### **3.7.13 CEO Duality**

When CEO also holds the position of chairman then it is called CEO duality. Researchers measured it as a dummy variable, 1 if CEO is also a chairman; 0 otherwise (Booth et al., 2002; Dorata & Petra, 2008).

### **3.8 Summary of the Chapter**

Chapter three is regarding proposed methodology to conduct the study. This chapter has discussed the theoretical and conceptual framework of the study supported by underpinning theories. Directional hypotheses are also developed in this study with theoretical and empirical evidence from prior academic literature. The justification of measurements of the variables along with the authors who previously utilized them are also mentioned. In addition, all companies listed on KSE listed companies are selected for data collection. The chapter also discussed the units of analyses and statistical techniques accordingly, e.g. diagnostic tests and multiple linear regression. Last but not the least, operational model and definition of terms are elaborated concisely.

## CHAPTER FOUR

### DATA ANALYSIS AND FINDINGS

#### 4.0 Introduction

The main purpose of this chapter is to analyze the data and interpret the results pertaining to the model of this study. In the model, various determinants of CEO compensation has been tested along with different moderating variables. In order to construe clarity on how the data analysis is made, this chapter is separated into different sections. Section 4.1 is related to data cleaning. Section 4.2 illustrates the descriptive analysis of the data. The process of data screening and validity has been shown in Section 4.3. Section 4.4 discusses and review the multiple regression analysis. Section 4.5 is regarding the results of hypothesis testing and summary of these analysis. Lastly, the chapter is concluded with the summary of the chapter in Section 4.6.

#### 4.1 Data Cleaning

The data has been collected from the annual reports of companies listed on Pakistan Stock Exchange because these companies fall under the jurisdiction of Security and Exchange Commission of Pakistan (SECP) and Code of Corporate Governance (2012). Pakistan Stock Exchange (PSX) has been divided into several sector as shown in Table 4.1. This study has selected the period from 2010 to 2014 because due to financial crisis in year 2008, the companies were able to sustain in year 2010. Annual reports were downloaded from the relative websites of the companies. The information regarding CEO compensation was mentioned in the notes of annual reports. The values to estimate operating performance, firm size and market share

were stated in income statement. Moreover, earning per share was also available on income statement though book value of equity was extracted from balance sheet. However, KSE website was consulted to extract the share price and market capitalization to calculate market performance and growth opportunities.

The information pertaining to dividend was mentioned in Director's report to shareholders and in the notice of annual general meeting. The data regarding ownership structure was available in the "Categories of Shareholders". Moreover, information to evaluate board characteristics was stated in the Statement of Compliance with the Code of Corporate Governance and Company profile. Almost every company listed on KSE was considered. There are almost 558 total companies listed on KSE but due to many reasons only the data of 284 companies was available. For instance, some of the companies were established after 2010. Some companies faced severe deficit and they postponed their operation due to which their annual reports were not available. In addition, the companies with different issuance data and fiscal year are also excluded from the data. Table 4.1 further illustrates the description of available sample.

Table 4.1  
*Descriptive of Available Sample*

<b>Details</b>	<b>No. of Firms</b>
Total Companies	558
Data unavailable from 2010 to 2014	(167)
Total	391
Missing Data	(53)
Total	338
Different Fiscal Year	(54)
Total Sample	284

## 4.2 Descriptive Statistics

The descriptive statistics of this study has been illustrated in Table 4.2. The table shows the minimum, maximum, mean and standard deviation values of all dependent, independent and moderating variables from the year 2010 to 2014. The total number of observations for every variable are 1420 derived from five years data of 284 KSE listed companies. It is revealed from the Table 4.2, on average, the compensation of CEOs in Pakistan is 16,106,684 Rupees (USD 154,013). Nonetheless, the minimum value shows that some companies have not paid their CEOs any compensation due to severe deficit and the maximum compensation has been paid to the CEO of Standard Chartered Bank. Previous studies in the context of Pakistan have presented the descriptive statistics of CEO compensation in natural logarithm, however, this study has demonstrated the descriptive statistics before any transformation for normality to make the interpretation realistic.

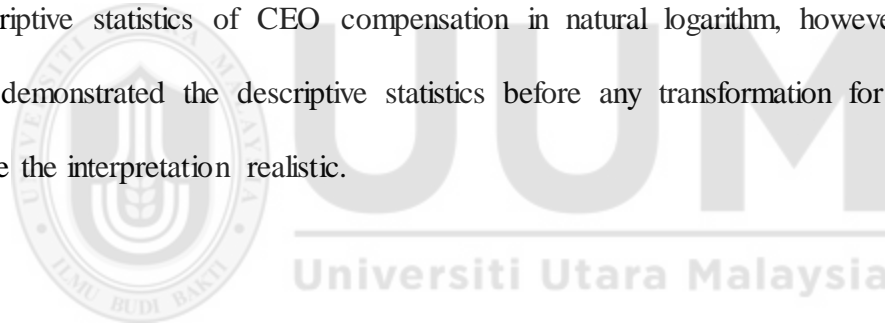


Table 4.2  
*Descriptive Statistics*

	N	Minimum	Maximum	Mean	Std. Deviation
CEO Compensation	1420	0.00	277516.00	16106.68	25263.09
Operating Performance	1420	-98.93	20.48	-0.06	3.44
Market Performance	1420	-1205.00	14060.00	18.50	377.31
Firm Size	1420	3.50	20.90	14.97	2.11
Growth Opportunities	1420	-31.98	2534.88	5.09	81.71
Market Share	1420	0.00	0.94	0.08	0.14
Dividend Payout	1420	-193.55	16.67	0.11	5.18
Dividend Yield	1420	0.00	1.31	0.04	0.07
Family Ownership	1420	0.00	0.99	0.23	0.26
Institutional Ownership	1420	0.00	0.99	0.45	0.32
Foreign Ownership	1420	0.00	0.89	0.05	0.15
Board Independence	1420	0.00	0.78	0.10	0.14
Board Size	1420	4.00	21.00	8.02	1.50
CEO Duality	1420	0	1	0.23	0.42

Table 4.2 also shows that the average operating performance is negative (i.e. -.0621) which means the overall operating efficiency or pricing strategy of KSE listed companies is not effective. Additionally, most of the companies are also not able to satisfy their creditors as well as shareholders due to inadequate operating cash flow. The companies also possess higher financial risk and incompetency to pay their fixed costs (Heintz & Parry, 2016). The minimum (-98.93) and maximum (20.48) values are illustrating worst and highest operating performance accordingly. A comparison with previous studies in the context of Pakistan cannot be made because these studies have utilized net profit margin, ROA, ROE or other performance indicators rather than operating margin or ROS to conclude their results.

The market performance has been measured through price to earnings ratio which indicates the expected price of a share on the basis of its earning. Table 4.2 demonstrates that the average P/E ratio of KSE listed companies is 18.51 which is a

good indicator of overall future performance. It can also be purported that investors could be interested in financing more for the shares of KSE listed companies. Minimum value shows the poor market performance of Siemens Pakistan Ltd. and the maximum value shows the highest price to earnings ratio of Lotte Pakistan who is a chemical manufacturer. Nonetheless, investors need to evaluate other performance indicators because this ratio can be manipulated by management with specific accounting techniques as it is based on earnings per share (Riggs, 2007).

According to the author's best knowledge, previous study which has investigated overall KSE listed companies is not available. However, a study by Afza and Tahir (2012) ensured the determinants of price to earnings ratio in chemical sector of Pakistan and found an average 7.204 P/E value from year 2005 to 2009 which is lower than the P/E ratio of current study. Similarly, Arslan and Zaman (2014) have taken 111 non-financial KSE listed companies into account and presented 8.82 mean value of P/E ratio from year 1998-2009. It can be postulated that the overall market performance has enhanced after year 2009. The literature regarding the utilization of P/E ratio in the context of Pakistan is very scarce so further comparison is difficult.

Natural logarithm of sales was analyzed to measure firm size. On average, the companies listed on KSE have achieved a firm size of 14.97 with a minimum value of 3.5 and a maximum value of 20.90. Previously, Abbas, Bashir, Manzoor and Akram (2013) also computed firm size with natural log of sales and found a mean of 13.88 which is closer to this study. Moreover, growth opportunities has been determined through market to book ratio. The book value of company's equity indicates the historical financing and operating decisions by managers. On the other hand, the market value reflects these decisions along with shareholders' collective expectations



and assessment about the firm's future cash flow generating investment opportunities. Therefore, higher market to book value ratio indicates that the company possess higher growth opportunities (Ryan, 2007).

Table 4.2 indicates that on the average, there are positive growth opportunities (M=5.09) with a minimum value of -31.98 and a maximum value of 2534.88. These results are different than the results of previous studies because of different time period and limited number of companies investigated by those studies. For instance, Hijazi and Tariq (2006) revealed negative growth opportunities (M=-0.0172) in cement sector of Pakistan from year 1997-2001. On the other hand, Bushra and Mirza (2015) analyzed 75 Karachi listed companies from year 2005 to 2010 and found 1.7 mean value for market to book value ratio.

In case of market share, it varies from less than 1 percent to 94 percent. The sector with greater number of companies contained diversified market share. On the other hand, there is greater market share of a company which lies in the sector with less number of companies. Furthermore, the results for dividend payout and dividend yield are also demonstrated in the Table 4.2. The growth-oriented firms which aim to reinvest in new market, products and services for further expand usually hold low or even zero dividend payout ratio. In contrast, mature or established companies pay the dividends regularly to satisfy the shareholders and to sustain their share price. The minimum value for the dividend payout in the table shows negative ratio due to loss faced by the companies. For instance, Siemens Pakistan Ltd. paid their shareholders DPS of 120 despite of their negative earnings per share (-0.62) in year 2012, however, it was considered as outlier by Cook's distance which was excluded from core analysis. On the average, the dividend payout ratio is close to 0.11 and dividend yield

is almost 0.04. These results are close to the study of Bushra and Mirza (2015) who found a mean value of 0.7 dividend payout and 0.06 dividend yield for the 75 companies listed on KSE.

In accordance with ownership structure, this study has considered three types of ownerships, i.e. family ownership, institutional ownership and foreign ownership. On the average, there is almost 23 percent family ownership in KSE along with minimum 0 percent and maximum 99 percent. The studies who have considered the data prior to the implementation of revised Code of Corporate Governance (2012) purported that most of the companies in Pakistan are family-owned (Shah & Butt, 2009). Nevertheless, after the revised Code, the family ownership has been reduced as shown in the Table 4.2. This notion has been supported by the study of Bushra and Mirza (2015) who found 34 percent average family ownership.

The largest ownership in Pakistan Stock Exchange is institutional ownership ( $M = 0.45$ ) with the minimum zero and maximum 99.1 percent institutional ownership. However, the mean value regarding this ownership type varies across studies due to their limited sample size or older data. For instance, Bushra and Mirza (2015) found 49 percent average institutional ownership. On the other hand, Kamran and Shah (2014) investigated 372 KSE listed companies over the period 2003 to 2010 and found 36 percent institutional ownership. Tahir, Saleem and Arshad (2015) have carried out their study with a limited sample size of 26 KSE listed companies from year 2008 to 2013 and evaluated 26 percent average institutional ownership. However, Table 4.2 shows that foreign ownership is lowest in Pakistan Stock Exchange ( $M = 0.05$ ).

Before the implementation of revised Code of Corporate Governance (2012), independent directors were almost absent in Pakistan. However, after the circulation of this Code, the importance of independent directors have been emerged. Nevertheless, still some companies do not include independent directors as the minimum value shows in Table 4.2 is zero percent though the maximum value is 78 percent. On the average, KSE is comprised of 10 percent independent directors. Although, this percentage is low at this instance but it is expected that Security and Exchange Commission of Pakistan (SECP) will enforce companies regarding the maximum representation of independent directors on the boards in near future. Previous studies in the perspective of Pakistan supported the argument that before the implementation of revised Code, independent directors in KSE were very minimal. For instance, Iftikhar-ul-Amin, Iftikhar and Yasir (2013) revealed only 2.83 average independent directors in 40 KSE listed companies over the period 2006 to 2010. Most of the researchers and agency theorists favor smaller board over larger board size. Jensen (1993) prefer smaller board size which emerges from organizational and technological change and eventually leads to downsizing and cost cutting. In case of larger board size, some directors may tag along as free-riders and may increase the agency problems (Hermalin & Weisbach, 2003). Although, most of the researchers did not mention any specific or optimal board size in their studies but Lipton and Lorch (1992) argued that board size between seven to eight members could take effective decisions. This study has evaluated that the average board size in KSE is eight which can be considered as optimal board size. Additionally, the minimum board size is 4 and the maximum is 21.

These results are similar to the study of Chughtai and Tahir (2015) who also found 8.34 average board size in Pakistan over the period 2009 to 2013. Furthermore, very close results ( $M=7.9$ ) have been postulated by Daud, Qazi and Atta-Ur-Rahman (2015) while analyzing 30 companies listed on KSE from 2007 to 2011. Table 4.2 also specifies that there is almost 23 percent ( $M=.23$ ) CEO duality in Pakistan Stock Exchange. Although, the revised Code of Corporate Governance (2012) has discouraged the duality of positions but still some family firms contain CEO duality. Nonetheless, it is expected that CEO duality will be vanished from Pakistan in near future as per the strict guidelines of SECP.

### **4.3 Data Screening and Validity**

This study has utilized multiple regression analysis to fulfill the objectives of the research. However, before analyzing the data, some assumptions need to be satisfied, i.e. outliers, normality, linearity, Multicollinearity, autocorrelation and heteroscedasticity. Therefore, the analyses has been conducted accordingly.

#### **4.3.1 Identification of Outliers**

Outliers are those observations, which are particularly different from other observation due to their unique characteristics. Existence of outlier in the data can be due to data entry error, an unanticipated extraordinary event or an extra ordinary event that has an explanation (Hair et al., 2006). However, Tabachnick and Fidell (1996) argue that these outliers can be questionable as they can misrepresent or mislead the results. Tabachnick and Fidel (2007) defined outliers as value that have such extreme scores on an individual variable, or on a set of variables, which eventually distort the

overall results. There are several methods to identify the potential outliers (Tabachnick & Fidell, 1996).

Outliers that are unattached cases from the rest of data can be identified by using histogram in graphical method. On the other hand, Mahalanobis distance proposed by Mahalanobis (1936) can be computed to detect outliers in a statistical procedure. Furthermore, Cook's distances by Cook (1977) can also be calculated to further recognize the outliers. Cook's distances are measures of influence and cases with influence scores of more than one are suspected of being outliers (Tabachnick & Fidell, 1996).

This study has utilized Cook's distance to identify the outliers because Mahalanobis distance was evaluating too much outliers and also it was increasing the variance of some regression coefficients. Pardoe (2012) purported that the observations with a Cook's distance less than 0.5 are rarely so influential. There were some potential observations in the model with the Cook's distance greater than 0.5 which were removed accordingly. Table 4.3 shows the Cook's distance statistics for the model (CEO compensation). The analysis has detected almost 170 outliers which were removed from the main dataset. Accordingly, the final observations for the model are 1250 (see Table 4.3).

Table 4.3  
*Cook's Distance Statistics*

	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>N</b>
Cook's Distance	0	0.039	0.001	0.002	1250

### 4.3.2 Identification of Multicollinearity

Multicollinearity is also known as collinearity which means two or more explanatory or independent variables are highly correlated in a multiple regression model. With a substantial degree of accuracy, one can be linearly predicted from the others in case of perfect multicollinearity. Multicollinearity issue has adverse effect on assumptions and usage of regression analysis. This study has utilized Pearson's Correlation, tolerance value and variance inflation factor (VIF) to identify the existence of multicollinearity issue among the predictor variables. According to Hair et al. (2010) tolerance value is the variability in a variable that is not accounted for other variable. In addition, the VIF indicator is the proxy and corresponding to the tolerance value. Tolerance value should be more than 0.1 and VIF should be less than 10 to indicate that there is no multicollinearity issue among independent variables and they are not highly correlated.

Table 4.4 demonstrates that there is no issue of multicollinearity as no tolerance value is higher than 0.1 and also all VIF values are lower than 10 in all three models. Additionally, this issue has also confirmed through Pearson's correlation. Researchers argued that there could be the problem of multicollinearity if the correlation among independent variables is above 0.9 (Hair et al., 2010; Tabachnick & Fidell, 2007). Table 4.5 illustrated that all the correlation coefficients are below 0.9 with the highest correlation (-.69) between institutional and family ownership. Therefore, no issue of multicollinearity has been confirmed.

Table 4.4  
*Collinearity Statistics*

Variables	Tolerance	VIF
Operating Performance	0.39	2.57
Market Performance	0.18	5.66
Firm Size	0.27	3.76
Growth Opportunities	0.43	2.33
Market Share	0.33	2.99
Board Independence	0.70	1.42
Board Size	0.61	1.64
CEO Duality	0.74	1.35
Family Ownership	0.40	2.50
Institutional Ownership	0.39	2.54
Foreign Ownership	0.58	1.73
Dividend Payout	0.14	7.02
Dividend Yield	0.12	8.60
OPBI	0.67	1.49
MPBI	0.57	1.77
SizeBI	0.41	2.47
GOBI	0.59	1.70
MSBI	0.41	2.46
OPBoard	0.71	1.40
MPBoard	0.57	1.77
SizeBoard	0.27	3.74
GOBoard	0.51	1.98
MSBoard	0.29	3.44
OPCEOD	0.61	1.64
MPCEOD	0.50	1.98
SizeCEOD	0.30	3.36

GOCEOD	0.55	1.80
MSCEOD	0.32	3.16
OPFamO	0.31	3.25
MPFamO	0.30	3.36
SizeFamO	0.17	5.94
GOFamO	0.33	3.02
MSFamO	0.19	5.19
OPInstO	0.31	3.25
MPIInstO	0.29	3.51
SizeInstO	0.15	6.54
GOInstO	0.33	3.08
MSInstO	0.18	5.67
OPForO	0.57	1.75
MPForO	0.55	1.82
SizeForO	0.34	2.95
GOFforO	0.56	1.77
MSForO	0.34	2.94
OPDPR	0.43	2.32
MPDPR	0.25	4.05
SizeDPR	0.24	4.17
GODPR	0.39	2.60
MSDPR	0.29	3.42
OPDY	0.21	4.83
MPDY	0.13	7.70
SizeDY	0.19	5.26
GODY	0.13	7.91
MSDY	0.29	3.43

*Note:* OPBI= Interaction of operating performance with board independence, MPBI= Interaction of market performance with board independence, SizeBI= Interaction of firm size with board independence, GOBI= Interaction of growth opportunities with board independence, MSBI= Interaction of market share with board independence, OPBoard= Interaction of operating performance with board size, MPBoard= Interaction of market performance with board size, SizeBoard= Interaction of firm size with board size, GOBoard= Interaction of growth opportunities with board size, MSBoard= Interaction of market share with board size, OPCEOD= Interaction of operating performance with CEO duality, MPCEOD= Interaction of market performance with CEO duality, SizeCEOD= Interaction of firm size with CEO duality, GOCEOD= Interaction of growth opportunities with CEO duality, MSCEOD= Interaction of market share with CEO duality, OPFamO= Interaction of operating performance with family ownership, MPFamO= Interaction of market performance with family ownership, SizeFamO= Interaction of firm size with family ownership, GOFamO= Interaction of growth opportunities with family ownership, MSFamO= Interaction of market share with family ownership, OPInstO= Interaction of operating performance with institutional ownership, MPIInstO= Interaction of market performance with institutional ownership, SizeInstO= Interaction of firm size with institutional ownership, GOInstO= Interaction of growth opportunities with institutional ownership, MSInstO= Interaction of market share with institutional ownership, OPForO= Interaction of operating performance with foreign ownership, MPForO= Interaction of market performance with foreign ownership, SizeForO= Interaction of firm size with foreign ownership, GOFforO= Interaction of growth opportunities with foreign ownership, MSForO= Interaction of market share with foreign ownership, OPDPR= Interaction of operating performance with dividend payout, MPDPR= Interaction of market performance with dividend payout, SizeDPR= Interaction of firm size with dividend payout, GODPR= Interaction of growth opportunities with dividend payout, MSDPR= Interaction of market share with dividend payout, OPDY= Interaction of operating performance with dividend yield,



MPDY= Interaction of market performance with dividend yield, SizeDY= Interaction of firm size with dividend yield, GODY= Interaction of growth opportunities with dividend yield, MSDY= Interaction of market share with dividend yield.



Table 4.5  
*Pearson's Correlation Coefficients*

	CEO	OP	MP	Size	GO	MS	BI	Board	CEOD	FamO	InstO	ForO	DPR
CEO	1												
OP	.108**	1											
MP	.211**	-.141**	1										
Size	.563**	-.293**	.089**	1									
GO	-.274**	-0.016	-.454**	-.208**	1								
MS	.539**	-.103**	.173**	.688**	-.222**	1							
BI	-.320**	-.102**	-.159**	-.185**	.124**	-.140**	1						
Board	-.274**	.070*	-.108**	-.269**	.144**	-.232**	.111**	1					
CEOD	-.295**	-.088**	-.158**	-.124**	.136**	-.142**	.192**	.228**	1				
FamO	-.365**	-.105**	-.161**	-.236**	.139**	-.304**	.218**	.145**	.208**	1			
InstO	.390**	.100**	.096**	.237**	-.112**	.245**	-.197**	-.185**	-.265**	-.690**	1		
ForO	-.293**	-.138**	-.106**	-.283**	.128**	-.265**	.144**	0.02	.129**	.224**	-0.016	1	
DPR	-.254**	-.117**	-.253**	-.198**	.245**	-.246**	.066*	.082**	.083**	.183**	-.142**	.132**	1
DY	0.039	-.105**	.146**	-0.041	-.123**	-0.039	-0.024	-.071*	-0.01	0.039	0.018	-0.032	.449**

*Note:* CEO= CEO Compensation, OP= Operating performance, MP= Market performance, Size= Firm size, GO= Growth opportunities, MS= Market share, BI= Board independence, Board= Board size, CEOD= CEO duality, FamO= Family ownership, InstO= Institutional ownership, ForO= Foreign ownership, DPR= Dividend payout ratio, DY= Dividend yield. \*\*. Correlation is significant at the 0.01 level (2-tailed), \*. Correlation is significant at the 0.05 level (2-tailed).

### 4.3.3 Normality

One of the assumptions of regression analysis is to ensure normality for the fitness of data. According to Kline (1998), normality means that the distribution of the error (or residual) is normally distributed. Statisticians have suggested many ways to test the normality of the data. However, this study has selected normality plots along with kurtosis and skewness value to interpret the outcomes. Primarily analysis demonstrated that most of the variables were not normally distributed. Researchers argued that if the data would not be normal then transformation methods could be employed to transform the data into normality (Hair et al., 1998).

Box-Cox power transformation has been utilized to transform the skewed data toward normality. Box and Cox (1964) proposed a power transformation tool with the intention of reducing anomalies such as heteroscedasticity, non-normality and non-additivity. This technique use an adequate exponent (optimal Lambda) to transform data within the normality curve. An online tool is available which has been developed by Wessa (2016) to evaluate the optimal Lambda. All skewed variables were further transformed by using QI Marcos for Microsoft Excel. Table 4.6 has illustrated the variables along with their respective optimal Lambdas. Nonetheless, Box-Cox transformation does not deal with zero and negative values, therefore, variables with zero values were transformed to  $\text{Log}(X+c)$  and negative values were transformed to positive values by using larger Lambda (i.e.  $\lambda=2$ ).

Table 4.6  
*Optimal Lambda for Box-Cox Transformation*

<b>Variables</b>	<b>Optimal Lambda</b>
CEO Compensation	2
Operating Performance	0.01
Market Performance	0
Firm Size	0
Growth Opportunities	-1.37
Market Share	0.12
Dividend Payout	-2
Dividend Yield	-2
Family Ownership	1.4
Institutional Ownership	2
Foreign Ownership	-1.12
Board Independence	-2
Board Size	-1.01

The data can be usually considered normally distributed if the kurtosis is less than 10 and the value of skewness is less than 10. Table 4.7 exhibits the skewness and kurtosis values for all variables. All variables can be considered reasonably normal as the kurtosis values of these variables are less than 10 and the skewness values are lower than three except one variable, i.e. Dividend yield. The skewness and kurtosis of this variable is not satisfying the criteria for normality. However, it is argued that modest violations of univariate normality does not distort the model if it is violating the skewness value but not outliers (Hair et al., 2010).

Katz (2011) also argued that in case of large number of observations, the data as a whole can be considered normal or a little deviation cannot affect the overall model. Gliner, Morgan and Leech (2011) argued that only dependent variables used in a parametric analysis needs to be normally distributed. Thus, it is assumed that the inclusion of dividend yield will not distort the model. Furthermore, histogram has also

been utilized to ensure the normality assumptions. For CEO compensation model, most of the data lies within normality curve (see Figure 4.1).

Table 4.7  
*Testing Normality for the Model*

Variables	N	Skewness		Kurtosis	
		Statistic	Std. Error	Statistic	Std. Error
CEO Compensation	1250	0.034	0.069	0.022	0.138
Operating Performance	1250	-0.132	0.069	2.523	0.138
Market Performance	1250	-0.072	0.069	2.148	0.138
Firm Size	1250	-0.030	0.069	0.133	0.138
Growth Opportunities	1250	-0.193	0.069	-1.181	0.138
Market Share	1250	0.024	0.069	0.146	0.138
Board Independence	1250	-0.860	0.069	-0.455	0.138
Board Size	1250	-0.429	0.069	2.699	0.138
CEO Duality	1250	1.417	0.069	0.007	0.138
Family Ownership	1250	0.258	0.069	-1.517	0.138
Institutional Ownership	1250	-0.594	0.069	-0.957	0.138
Foreign Ownership	1250	-0.937	0.069	-0.897	0.138
Dividend Payout	1250	-1.808	0.069	2.971	0.138
Dividend Yield	1250	-6.213	0.069	58.135	0.138

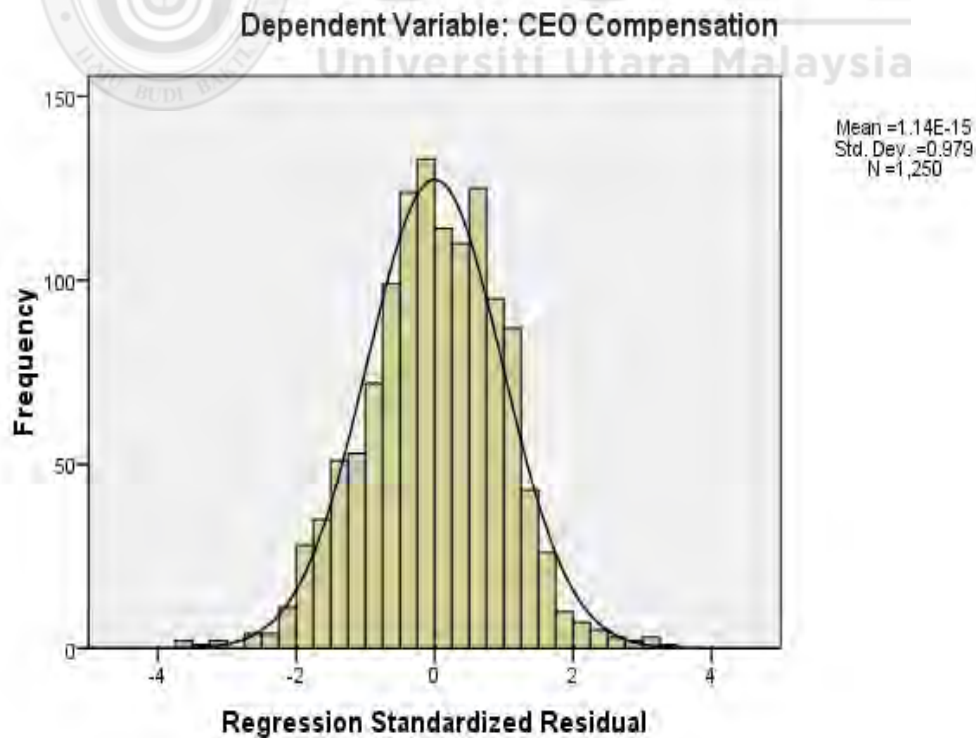


Figure 4.1  
*Histogram for CEO Compensation*

#### 4.3.4 Linearity

One more important assumption of multiple regression is the linear relationship between dependent and independent variables. In case of non-linearity, the outcomes of regression analysis will under-estimate the true relationship which could increase the Type I and Type II error. Usually, it can be purported that the linearity assumption is fulfilled if a relationship between all variables which can be graphically described by a straight-line passing through the data cloud (Tabachnick & Fidell, 2007). Researchers have described various methods to detect non-linearity (see Berry & Feldman, 1985; Cohen & Cohen, 1983; Pedhazur, 1997). Nevertheless, this study has utilized Normal P-P Plot to examine the residual plots. Figure 4.2 shows that the associations between predicted values and residuals are not clear and most of the data lies on the straight line, thus, it confirms that there is no issue of non-linearity.

**Normal P-P Plot of Regression Standardized Residual**

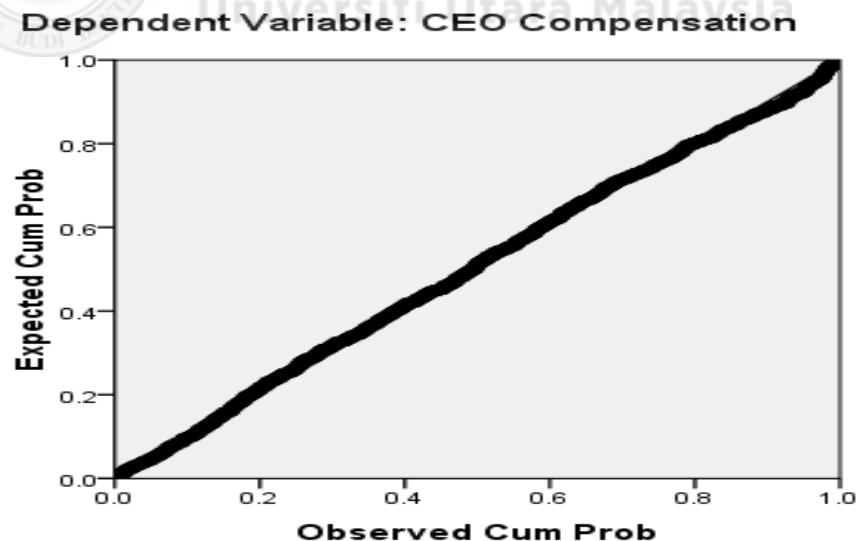


Figure 4.2  
*Normal P-P Plot for CEO Compensation*

### 4.3.5 Autocorrelation

In statistics, the autocorrelation is the cross-correlation of a signal with itself at different points in time. There are many ways to detect the issue of autocorrelation through many statistical tools, however, Durbin-Watson test has been utilized in this study to evaluate the autocorrelation in the residuals. The Durbin-Watson value can be lied between 0 and 4 though the value around 2.6 indicates strong negative series issue of autocorrelation and the value below 1.4 shows the existence of strong positive series problem of correlation (Kazmier, 1996). Table 4.8 shows the Durbin-Watson statistic for the model. The value of Durbin-Watson is very close to 2 (i.e. 1.99), therefore, it is postulated that there no issue of autocorrelation in any model.

Table 4.8  
*Durbin-Watson Statistics*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
CEO Compensation	0.773	0.598	0.58	2.7257	1.988

### 4.3.6 Heteroscedasticity

The last assumption for multiple regression is the homoscedasticity which means criterion variable should shows an equal degree of variance throughout the explanatory variables' range. It can be assumed that there is no issue of heteroscedasticity if the criterion variable does not focus on the limited range of the predictor variables. On the other hand, if there is no homoscedasticity then it could make insignificant variables seem significant by making the coefficient estimate to be underestimated (Hair et al., 2010). This study has detected the independent of errors and homoscedasticity through scatterplot. Figure 4.3 has revealed no clear association between the predicted value and the residual. The scatterplots are not inclined toward

any specific pattern. Therefore, it can be posited that there is no problem of heteroscedasticity in any model.

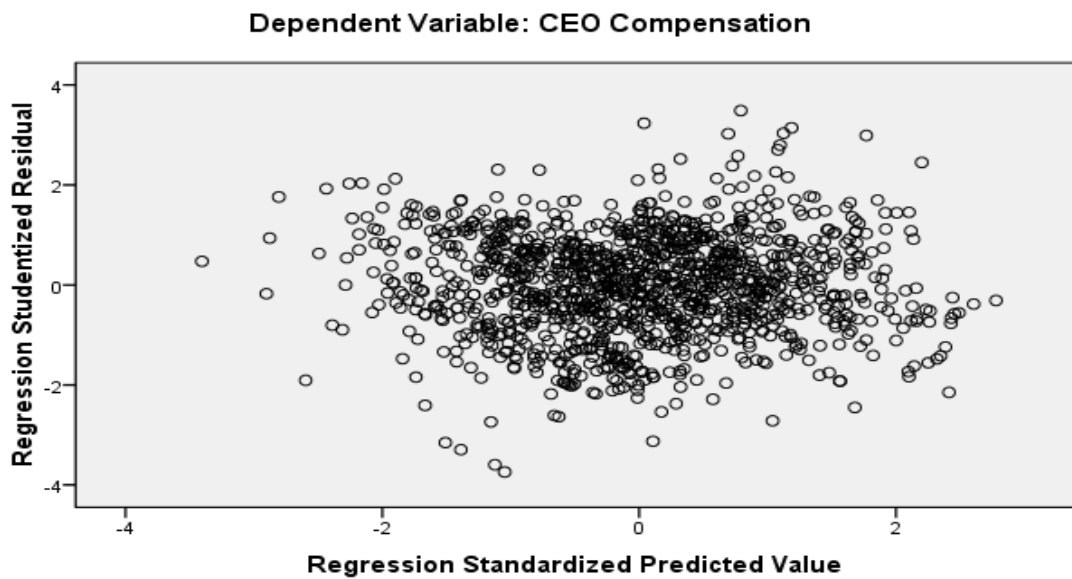


Figure 4.3  
Scatterplot for CEO Compensation

#### 4.4 Hypothesis Testing

This section has demonstrated the results of the regression analysis for the CEO compensation model. This analysis exhibits the acceptance or rejection of the hypotheses of this study. Various groups of hypothesis are explained, H1-H2- firm performance, H3- firm size, H4- growth opportunities, H5- market share, H6-H20- moderating role of board characteristics, H21-35- moderating role of ownership structure and H36-H45- moderating role of dividend policy. The results of regression analysis are accordingly elaborated in further table, nonetheless, before interpreting the results, a brief summary of model has been described in the Table 4.9.

Table 4.9  
Summary of the Regression Analysis

Details	Values
N	1250
R Square	0.598



Adjusted R Square	0.580
F Statistics	33.569
<i>p</i> (ANOVA)	0.000

Note: N= Number of observations; p-value is significant at the 0.001 level

Table 4.9 explains the observations, goodness of fit and significance of the model. The analysis demonstrates that the  $R^2$  for the CEO compensation model is 59.8 percent which means the independent and moderating variables explain almost 59.8 percent of the variance of CEO compensation. In addition, the model of CEO compensation is also significance ( $F = 33.57, p < 0.001$ ).

Table 4.10

*Regression Analysis for CEO Compensation Model (Direct Effect of Performance Measures)*

	Unstandardized Coefficients		Standardized Coefficients	t	p
	B	S.E.	Beta		
(Constant)	-91.272	17.065		-5.349	0.000**
Operating Performance	60.648	5.421	0.329	11.188	0.000**
Market Performance	0.145	0.072	0.088	2.020	0.044*
Firm Size	0.028	0.003	0.401	11.284	0.000**
Growth Opportunities	0.068	0.081	0.023	0.840	0.401
Market Share	5.227	1.062	0.156	4.92	0.000**

Note: \*  $p < .05$ ; \*\*  $p < 0.01$

#### 4.4.1 Effect of Firm Performance on CEO Compensation ( $H_1-H_2$ )

This study makes an attempt to ensure the impact of operating and market performance on CEO compensation. The results of regression analysis has validated the positive and significant effect of operating performance on CEO compensation ( $\beta = 60.65, p = 0.000$ ) as demonstrated in Table 4.10. This result illustrates that CEO compensation is positively aligned to operating performance in Pakistan so this study accepts the first hypothesis ( $H_1$ ). An increase in operating performance (operating margin) leads to increase in CEO compensation of the companies listed on Pakistan

Stock Exchange. The result implies that pay-for-performance sensitivity in term of operating performance is strong which supports the notion that high performing executives get higher compensation. Most of the previous studies investigated other accounting-based performance measures like ROA, ROE, net profit margin etc., therefore, the exact comparison cannot be made. However, a positive and significant relationship between firm performance and CEO compensation can be found in various previous studies (see Anderson & Bizjak, 2003; Brick et al., 2006; Chalmers et al., 2006; Fallatah, 2015; Ittner et al., 2003; Ozkan, 2007).

Prior studies in the perspective of Pakistan exhibited contrary results because prior to the implementation of revised Code of Corporate Governance (2012) in Pakistan, CEO compensation was not aligned with firm performance. These studies revealed no association between CEO compensation and firm performance measured by accounting-based performance indicators (Anjam, 2010; Lone et al., 2015; Shah et al., 2009). In addition, contrary to agency theory, researchers also find negative relationship between CEO compensation and firm performance (see Usman et al., 2015; Younas et al., 2012). There is only one study by Yahya and Ghazali (2015) who revealed the results consistent with this study.

The second hypothesis (H<sub>2</sub>) has also been accepted in the light of regression analysis as there is significant and positive impact of market performance on CEO compensation ( $\beta = 0.145$ ,  $p = 0.044$ ). These results are consistent with the results of Yahya and Ghazali (2015). The relationship between price-earnings ratio and CEO compensation is almost absent in previous academic literature as most of them have measured the market performance with either Tobin's Q or stock market returns to ensure their effect with CEO compensation. For instance, Yermack (1995) found

positive relationship between CEO compensation and stock market returns and Frye (2004) revealed positive association between Tobin's Q and CEO compensation. In addition, Vemala et al. (2014) also found that Tobin's Q and stock market returns were positively aligned to CEO compensation in both pre-crisis and post-crisis period. The result of this study are contrary to the study of Al-Matar, Al-Swidi and Fadzil (2014) who found insignificant relationship between Tobin's Q and CEO compensation. On the other hand, Yang, Dolar and Mo (2014) found significant but negative relationship between stock-based performance and CEO compensation. Nonetheless, the results of Duru and Iyengar (2001) are close to the outcomes of this study because they also revealed the positive association of accounting and market performance with CEO compensation. Therefore, it can be assumed that revised Code of Corporate Governance (2012) has tried to establish pay-performance link in Pakistan.

#### **4.4.2 Effect of Firm Size on CEO Compensation (H<sub>3</sub>)**

The third hypothesis is related the impact of firm size on CEO compensation. As per the expectations, firm size has a significant and positive effect on CEO compensation ( $\beta = 0.028$ ,  $p = 0.000$ ) as demonstrated in Table 4.10. The results are consistent with the argument that firm size is a major determinant of executive pay as in larger firm CEOs get more compensation (Gayle, Golan, & Miller, 2015; Tosi et al., 2000, van Essen et al., 2015). There are several previous studies who also found positive relationship between executive compensation and firm size (e.g. Chen, Cheung, Stouraitis, & Wong, 2005; Conyon, 2006; Dogan & Smyth, 2002; Doucouliagos, Haman, & Askary, 2007; Méndez, García, & Rodríguez, 2011; Vemala et al., 2014). Furthermore, throughout prior studies related to Pakistan, firm size was the only

variable which was aligned to CEO compensation (see Lone et al., 2015; Shah et al., 2009; Usman et al., 2015, Yahya & Ghazali, 2015).

However, contrary results are found by Nulla (2013) who found negative impact of firm size on CEO bonus and CEO salary. Some researchers are not in the favor of the notion that firm size should be the major determinant for CEO compensation. For instance, Murphy (1985) revealed that executives sometimes intentionally increase the firm size for their personal prestige and compensation even if it harms the shareholders' interest which could leads to agency conflicts in a firm. Therefore, the variation in CEO compensation should not be explained by firm size excessively. This argument has been satisfied by the regression analysis as the effect of firm size is not very large.

#### **4.4.3 Effect of Growth Opportunities on CEO Compensation (H<sub>4</sub>)**

It was hypothesized that growth opportunities have a significant relationship with CEO compensation in H<sub>4</sub>, however, the result for this hypothesis is insignificant ( $\beta = 0.068$ ,  $p = 0.401$ ). In contrast to the propositions of agency theory, it is revealed that CEO compensation in Pakistan is not aligned with growth opportunities. Opposite to the result of this hypothesis, there are numerous previous studies who have validated that companies with higher growth opportunities pay significantly higher compensation to their CEOs (Barnes et al., 2006; Conyon & He, 2008; Gabaix & Landier, 2008; Smith & Watts, 1992; Yahya & Ghazali, 2015). Nonetheless, the outcome of this study is close to the studies of Abrahamson and De Ridder (2010), Fallatah (2015) and Tariq (2010), who also do not revealed any significant relationship between CEO remuneration and growth opportunities measured by market-to-book ratio.

However, according to agency theory perspective, if the agent's (CEO) goals are not aligned with the objectives of principals (shareholders) then they could expropriate their resources. For instance, if the growth opportunities will not be aligned to CEO compensation then CEOs could misuse the free cash flow and could indulge themselves in value-destroying activities to enhance their personal wealth. The empirical evidence regarding the value-destructing actions of managers can be observed in previous academic literature (Chun et al. 2005; Gul, 2001).

#### **4.4.4 Effect of Market Share on CEO Compensation (H<sub>5</sub>)**

This study evaluates a positive and significant impact of market share on CEO compensation ( $\beta = 5.227$ ,  $p = 0.000$ ) as shown in Table 4.10, therefore, this study accepts the fifth hypothesis (H<sub>5</sub>). According to researcher's best knowledge, there is no previous study till date which validated the empirical relationship between CEO compensation and market share except the study of Yahya and Ghazali (2015) who also found similar results. Nonetheless, this results can be elaborated with previous theoretical contributions. For instance, Balsam (2002, p. 7) proposed that managerial compensation should be tied to managerial efforts including market share.

According to Ferreira (2015), high competition in the market may affect the managerial pay structures and Raith (2003) found a causal relationship between managerial compensation and market competition. With the increase in competition, the demand for gaining market share increase and the supply of executive talent remain limited so in that case the price of top talent may increase. Thus, if the remuneration of executives will be aligned to market share then they will work harder to gain and maintain the market share to enhance their perks in the compensation packages. Therefore, it is postulated that there is efficient market or high market

competition in Pakistan which induced firms to align their CEO's compensation with market share.

Table 4.11  
*Regression Analysis for CEO Compensation Model (Direct and Moderating Effect of Board Characteristics)*

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	S.E.	Beta		
(Constant)	-91.27	17.07		-5.35	0.000***
Board Independence	-0.229	0.061	-0.082	-3.765	0.000***
Board Size	-23.229	5.103	-0.107	-4.552	0.000***
CEO Duality	-1.206	0.22	-0.117	-5.486	0.000***
OPBI	0.192	0.1	0.043	1.925	0.055*
MPBI	0.114	0.104	0.027	1.094	0.274
SizeBI	-0.339	0.11	-0.089	-3.074	0.002***
GOBI	0.122	0.102	0.029	1.198	0.231
MSBI	0.124	0.117	0.03	1.057	0.291
OPBoard	0.277	0.099	0.061	2.794	0.005***
MPBoard	-0.099	0.118	-0.02	-0.833	0.405
SizeBoard	0.13	0.119	0.039	1.091	0.276
GOBoard	-0.149	0.109	-0.035	-1.365	0.172
MSBoard	0.1	0.123	0.028	0.814	0.416
OPCEOD	-0.353	0.106	-0.078	-3.325	0.001***
MPCEOD	0.037	0.108	0.009	0.347	0.728
SizeCEOD	-0.367	0.155	-0.079	-2.359	0.018**
GOCEOD	-0.354	0.107	-0.081	-3.304	0.001***
MSCEOD	0.063	0.14	0.015	0.453	0.651

Note: OPBI= Interaction of operating performance with board independence, MPBI= Interaction of market performance with board independence, SizeBI= Interaction of firm size with board independence, GOBI= Interaction of growth opportunities with board independence, MSBI= Interaction of market share with board independence, OPBoard= Interaction of operating performance with board size, MPBoard= Interaction of market performance with board size, SizeBoard= Interaction of firm size with board size, GOBoard= Interaction of growth opportunities with board size, MSBoard= Interaction of market share with board size, OPCEOD= Interaction of operating performance with CEO duality, MPCEOD= Interaction of market performance with CEO duality, SizeCEOD= Interaction of firm size with CEO duality, GOCEOD= Interaction of growth opportunities with CEO

duality, MSCEOD= Interaction of market share with CEO duality; \*  $p < .1$ ; \*\*  $p < .05$ ; \*\*\*  $p < .01$

#### **4.4.5 Moderating Role of Board Independence (H<sub>6</sub>-H<sub>10</sub>)**

Agency theorists argued that the board should be comprised of independent directors to ensure superior control and monitoring over agents (Fama & Jensen, 1983). Furthermore, Hermalin and Weisbach (1998) independent board of directors could weaken the CEO's bargaining power. These director abstain the CEOs from rent extracting in the form of remuneration. There are various studies who have ensured the effect of independent directors on CEO compensation empirically. For instance, Core et al. (1999) found that independent director desist CEOs to withdraw a high level of compensation. Consistent with this argument, this study also assesses the significantly negative impact of board independence (percentage of independent directors) on CEO compensation ( $\beta = -0.229$ ,  $p = 0.000$ ). Similar results were found by Fallatah (2015). Nonetheless, studies posited that the percentage of independent directors on the board should be at least 60 percent to efficiently monitor the CEOs or to fire them in case of their poor performance (Weisbach, 1988).

Despite of only 10 percent (on average) representation of independent directors on the board in Pakistan Stock Exchange (as discussed in Table 4.2), they are capable of aligning CEO's compensation with operating performance ( $\beta = 0.192$ ,  $p = 0.055$ ). Although the p-value is weak significant but H<sub>6</sub> can be accepted. This result is consistent with the argument of van Essen et al. (2015) who also anticipated that the board independence positively moderate the pay-performance link. Nevertheless, the role of independent directors in Pakistan are ineffective as an alignment mechanism to market performance and CEO compensation ( $\beta = 0.114$ ,  $p = 0.274$ ), resulting in rejection of H<sub>7</sub>. There is a possibility that the discretion and empowerment of

independent directors could be enhanced with their greater representation on board as a previous study by Chee-Wooi and Chwee-Ming (2010) purported that pay-performance link can be reinforced by independent director if they are more than 50 percent.

In the light of regression results, H8 has also been rejected. Board independence has significant but negative moderating effect on the relationship between firm size and CEO compensation ( $\beta = -0.339$ ,  $p = 0.002$ ). It could be due to the substantial control over CEOs to extract their remuneration by increasing the firm size to enhance their personal wealth (Murphy, 1985). Thus, it is suggested that independent directors may weaken the pay-size link to refrain the CEOs from rent extraction. The ninth hypothesis (H9) is also rejected because there is insignificant moderating effect of board independence between growth opportunities and CEO compensation ( $\beta = 0.122$ ,  $p = 0.231$ ). Owing to the limited number of independent directors their influence on linking growth opportunities with CEO compensation is also ineffective. The regression analysis also provides evidence regarding the insignificance of H10. The results show that there is insignificant moderating effect of board independence on the association between market share and CEO compensation ( $\beta = 0.124$ ,  $p = 0.291$ ). In general, the results suggested that the representation and participation of independent directors in Pakistani stock market should be enhanced so they would be able to align the interest of principals and agents.

#### **4.4.6 Moderating Role of Board Size (H<sub>11</sub>-H<sub>15</sub>)**

There are several previous studies who considered board size as one of the crucial determinant of corporate governance mechanism as well as CEO compensation (Abed et al., 2014; Coughlan & Schmidt, 1985; Fallatah, 2015; Jensen, 1993). Studies also



revealed that monitoring ability of the board of directors become susceptible and weak with the increase in board size (Core et al., 1999; Lee & Chen, 2011). Moreover, it becomes a challenging situation to control the action of CEOs if there is larger board size (Cahan, Chua, & Nyamori, 2005). Nonetheless, opposite to these arguments, this study found a negative and significance impact of board size on CEO compensation ( $\beta = -23.229$ ,  $p = 0.000$ ). This result is consistent with the study of Rashid (2013) who also found similar relationship in Pakistan. Nonetheless, the result is contrary to the previous numerous studies who found positive relationship between CEO compensation and board size (Ali & Teulon, 2014; Core et al., 1999; Fahlenbrach, 2009; Guest, 2008; Lee & Chen, 2011; Ozkan, 2007, van Essen et al., 2015).

However, there is another point of view present in the previous academic literature which is consistent with outcome of this study. For instance, according to Ezzamel and Watson (1998), board of directors can monitor the action of the top management effectively. It is also argued that larger board size is associated with the quality of internal governance mechanism and due to more experience and time as compared to small board, they can monitor the actions of managers more effectively (Lipton & Lorsch, 1992). Larger board can also effectively protect shareholders' interests (Zahra & Pearce, 1989). Thus, it is purported that board of directors in Pakistan restrict CEOs to extract high level of remuneration.

Jensen (1993) asserted that board size comprise of up to seven or eight members could control the CEO and function more adequately. As documented in Table 4.2, the average number of board members in KSE are not too large ( $M = 8$ ). Therefore, the result for H11 shows positive and significant moderating effect of board size on

the relationship between operating performance and CEO compensation ( $\beta = 0.277$ ,  $p = 0.005$ ). Nonetheless, these results are consistent with resource dependence theory rather than agency theory, therefore, this study rejects H11. This result is consistent with the outcome of van Essen et al. (2015) who also found positive impact of board size on pay-performance link in their meta-analysis.

Nonetheless, Fahlenbrach (2009) and Ozkan (2007) documented that board size has negative effect on pay-performance sensitivity. In Pakistan, board of directors can strengthen the link between operating performance and CEO compensation. Nevertheless, they are not effective as alignment mechanism in case of market performance ( $\beta = -0.099$ ,  $p = 0.405$ ), firm size ( $\beta = 0.13$ ,  $p = 0.276$ ), growth opportunities ( $\beta = -0.149$ ,  $p = 0.172$ ), and market share ( $\beta = 0.1$ ,  $p = 0.416$ ). Taking into consideration of regression results, H12, H13, H14 and H15 have been rejected.

#### **4.4.7 Moderating Role of CEO Duality (H<sub>16</sub>-H<sub>20</sub>)**

This study shows a significant negative impact of CEO duality on CEO compensation ( $\beta = -1.206$ ,  $p = 0.000$ ). Most the previous studies found the results opposite to the outcome of this study. These studies found positive relationship between CEO duality and CEO compensation (Nulla, 2013; Vemala et al., 2014; Ya'acob, 2016). Agency theorists proposed that duality of positions represent ineffective board monitoring over managers and eventually leads to CEO entrenchment (Kim, Al-Shammari, Kim, & Lee, 2009) and higher inherent risk (Dickins, 2010).

On the other hand, the supporters of the CEO duality argued that they provide single focal point for company leadership. Moreover, CEOs with duality of positions have clear focus for operations and objectives (Anderson & Anthony, 1986; Stoeberl &

Sherony, 1985). Furthermore, Finkelstein and Hambrick (1996) argued that CEO duality can be beneficial if firm require strong leaderships and its operations need quick decisions. Contrary to agency theory, stewardship theory is the advocate of CEO duality. According to Ghazal (2015), many researchers have been quick to disapprove the advantages of CEO duality. When CEOs are given higher level of responsibility, they act as stewards on behalf of their respective shareholders and firms. Therefore, it is purported that CEOs with duality of positions in Pakistan are either stewards who withdraw less remuneration and distribute more to their shareholders or due to the lower profitability in the firms with CEO duality, they have no option other than extracting lower compensation.

The results for the moderating role of CEO duality is consistent with agency theory perspective that it adversely affect the pay-performance link. For instance, the regression analysis shows that there is significant negative moderating effect of CEO duality between operating performance and CEO compensation ( $\beta = -0.353$ ,  $p = 0.001$ ) which leads to acceptance of H16. It is purported that CEO duality weakens the pay-performance link which could leads to agency conflicts in an organization. Fahlenbrach (2009) also found that CEO duality is an indicator of high CEO power and weak corporate governance so it adversely affect the pay-performance sensitivity. However, contrary results were found by Dorata and Petra (2008) and Dey, Engel and Liu (2011). Dorata and Petra (2008) found positive moderating role of CEO duality on the association between CEO compensation and firm performance. Similarly, Dey et al. (2011) revealed that pay-performance sensitivity are higher in the firms with CEO duality.

Nonetheless, the result for the moderating effect of CEO duality between CEO compensation and market performance is insignificant ( $\beta = 0.037$ ,  $p = 0.728$ ). Previously, van Essen et al. (2015) also asserted same results that CEO duality has no moderating effect on the pay-performance link. The results also accept the H18 by validating that CEO duality significantly and negatively moderate the relationship between firm size and CEO compensation ( $\beta = -0.367$ ,  $p = 0.018$ ). These results are supported by managerial power theory that CEOs with duality of position gain power and distort the pay-setting process by weakening the pay-performance relationship. In addition, although there is no direct relationship between growth opportunities and CEO compensation but CEO duality can further weaken the relationship between growth opportunities and CEO compensation ( $\beta = -0.354$ ,  $p = 0.001$ ). CEO duality restrict the firms to align the CEO compensation with growth opportunities so the study also accepts H19. The last hypothesis for the moderating role of CEO duality (H20) is also rejected because it does not significantly moderates the relationship between market share and CEO compensation ( $\beta = 0.063$ ,  $p = 0.651$ ). The overall results suggested that CEO duality is either ineffective or adversely affect the pay-performance link.

Table 4.12

*Regression Analysis for CEO Compensation Model (Direct and Moderating Effect of Ownership Structure)*

	Unstandardized		Standardized	t	Sig.
	Coefficients		Coefficients		
	B	S.E.	Beta		
(Constant)	-91.27	17.07		-5.35	0.000***
Family Ownership	-0.102	0.144	-0.021	-0.711	0.477
Institutional Ownership	0.34	0.102	0.097	3.325	0.001***
Foreign Ownership	-0.223	0.08	-0.067	-2.779	0.006***
OPFamO	0.522	0.155	0.111	3.362	0.001***
MPFamO	0.085	0.152	0.019	0.556	0.578
SizeFamO	0.195	0.193	0.045	1.012	0.312
GOFamO	0.01	0.141	-0.002	0.068	0.946
MSFamO	-0.19	0.189	-0.042	-1.006	0.314
OPInstO	0.133	0.159	0.028	0.84	0.401
MPInstO	0.39	0.144	0.093	2.706	0.007***
SizeInstO	0.396	0.208	0.089	1.904	0.057*
GOInstO	0.106	0.139	0.025	0.764	0.445
MSInstO	-0.352	0.205	-0.075	-1.721	0.085*
OPForO	-0.111	0.11	-0.024	-1.008	0.313
MPForO	-0.283	0.122	-0.057	-2.319	0.021**
SizeForO	-0.086	0.123	-0.022	-0.698	0.485
GOFForO	-0.205	0.103	-0.049	-1.992	0.047**
MSForO	0.443	0.128	0.109	3.46	0.001***

Note: OPFamO= Interaction of operating performance with family ownership, MPFamO= Interaction of market performance with family ownership, SizeFamO= Interaction of firm size with family ownership, GOFamO= Interaction of growth opportunities with family ownership, MSFamO= Interaction of market share with family ownership, OPInstO= Interaction of operating performance with institutional ownership, MPInstO= Interaction of market performance with institutional ownership, SizeInstO= Interaction of firm size with institutional ownership, GOInstO= Interaction of growth opportunities with institutional ownership, MSInstO= Interaction of market share with institutional ownership, OPForO= Interaction of operating performance with foreign ownership, MPForO= Interaction of market performance with foreign ownership, SizeForO= Interaction of firm size with foreign

ownership, GOfOrO= Interaction of growth opportunities with foreign ownership, MSForO= Interaction of market share with foreign ownership; \*  $p < .1$ ; \*\*  $p < .05$ ; \*\*\*  $p < .01$

#### **4.4.8 Moderating Role of Family Ownership (H<sub>21</sub>-H<sub>25</sub>)**

This study asserted that there is no significant impact of family ownership on CEO compensation ( $\beta = -0.102$ ,  $p = 0.477$ ). Family ownership does not predict any variation in the CEO compensation in Pakistan. This result is consistent with the study of Gabaix and Landier (2008) and Orelan (2008). In contrast, some studies posited that family ownership and control reduce the CEO compensation (Block, 2008; Croci et al., 2012; Gomez-Mejia et al., 2003; McConaughy, 2000; Palmberg, 2009). This view has been supported by alignment effect in optimal contracting theory that family owners monitor the CEO compensation packages more effectively. Moreover, the CEOs in family firms are usually risk-averse who take less risk and accept lower remuneration in exchange of job security (Gomez-Mejia et al., 2003).

On the other hand, some studies who found positive relationship between CEO compensation and family ownership support managerial power theory (Chen et al., 2005; Haid & Yurtoglu, 2006). However, this study does not support managerial power theory or optimal contracting theory with regard to the association between family ownership and CEO compensation. Owing to the dominance of institutional investors and the reduction of family ownership in Pakistan, family owners do not actively participate in the pay-setting process of CEO remuneration.

Previous theorists and researchers assumed that pay-performance link is not relevant in family firms due to the nonexistence of separation between control and ownership. Therefore, there are no agency costs involved in these firms, however, some studies revealed the existence of agency conflicts in these organizations due to self-control

and lack of minority shareholder protection issues (Lubatkin, Schulze, Ling, & Dino, 2005; Schulze, Lubatkin, & Dino, 2003). Chrisman et al. (2007) stated that in practice, many family firms tried to align the pay of managers with their performance. Thus, this study also make an attempt to test the moderating role of family ownership between operating performance and CEO compensation in H21. As the result of this hypothesis is significant ( $\beta = 0.522$ ,  $p = 0.001$ ), so it is purported that family ownership strengthen the link between operating performance and CEO compensation.

Consistent to this outcome, previously, Michiels et al. (2013) also found that there is a moderating effect of family ownership on pay-for-performance relationship. Family owners usually align the pay of their managers with performance to resolve the agency issues regarding self-control and parental altruism (Michiels et al., 2013). However, the regression results also revealed that family ownership is effective in aligning only the operating performance with their CEO's remuneration. Table 4.12 shows insignificant results for the moderating effect of family ownership between market performance and CEO compensation ( $\beta = 0.085$ ,  $p = 0.578$ ). Similarly, family ownership also does not moderate the relationship between firm size and CEO compensation ( $\beta = 0.195$ ,  $p = 0.312$ ). In the same lines, family owners in Pakistan are also incapable of aligning the CEO's compensation with growth opportunities ( $\beta = 0.01$ ,  $p = 0.946$ ) and market share ( $\beta = -0.19$ ,  $p = 0.314$ ). Consequently, the results of this study rejected H22, H23, H24 and H25.

#### 4.4.9 Moderating Role of Institutional Ownership (H<sub>26</sub>-H<sub>30</sub>)

The result exhibited in Table 4.12 for the impact of institutional ownership on CEO compensation is positive and significant ( $\beta = 0.34$ ,  $p = 0.001$ ). This outcome is consistent with previous studies, such as studies by Croci et al. (2012), Fernandes, Ferreira, Matos and Murphy (2012), Khan, Dharwadkar and Brandes (2005), Kiamehr, Asa'di Moghaddam, Alipour and Hajeb (2015), Lee and Chen (2011), Victoravich, Xu and Gan (2013). The findings of their studies suggested that institutional investors are willing to pay a higher compensation to the CEOs for their efforts. However, it is not supported by the argument that institutional investors in Pakistan are efficient in constraining managerial power (Chen & Firth, 2005; Hartzell & Starks, 2003; Khalatyan & Jouri, 2010; Ozkan, 2007; van Essen et al., 2015).

Researchers also found that institutional investors can effectively monitor the executives and mitigate the agency conflicts by influencing positively on pay-performance relationship. However, this study does not discovered any significant moderating role of institutional ownership in aligning operating performance with CEO compensation ( $\beta = 0.133$ ,  $p = 0.401$ ) resulting in the rejection of H<sub>26</sub>. These results are contrary to the studies of Dharwadkar et al. (2008), Feng et al. (2010), Hartzell and Starks (2003), Ozkan (2011) and van Essen et al. (2015) that find negative influence of institutional ownership on CEO compensation and positive influence on pay-performance relationship.

The results of this study are consistent with Gallagher, Smith and Swan (2006) who found that institutional investors pay higher level of remuneration to their CEOs which leads to lower level of pay-performance sensitivity. On the other hand, this



study found positive and significant moderating effect of institutional ownership on the association between market performance and CEO compensation ( $\beta = 0.39$ ,  $p = 0.007$ ) leading to acceptance of H27. It is purported that institutional investors in Pakistan are more concerned about aligning their CEO's compensation with market performance rather than operating performance. This outcome can be justified with the studies of Ozkan (2011) and van Essen et al. (2015). Institutional investors in Pakistan are also effective in aligning their CEO's compensation with firm size ( $\beta = 0.396$ ,  $p = 0.057$ ) resulting in the acceptance of H28. Nevertheless, their monitoring role as an alignment mechanism to growth opportunities and CEO compensation is ineffectual ( $\beta = 0.106$ ,  $p = 0.445$ ) due to which this study rejects H29. Contrary to the supposition of this study, institutional investors distort the link between market share and CEO compensation ( $\beta = -0.352$ ,  $p = 0.085$ ), therefore, the study rejects H30.

There is a possibility that the focus of these investors is to increase shareholder value (WorldatWork, 2007) despite of cost effectiveness or competitive advantage (Ross et al., 2008). Nonetheless, executives' talent can be assessed by their ability to enhance market share, thus, aligning CEO's compensation with market share could help an organization to survive in a competitive market environment (Jung & Subramanian, 2017). Overall, the results suggested that institutional investors in Pakistan are concentrating only on market performance and firm size, they should coordinate their monitoring efforts by effectively align their CEO's compensation also with other performance indicators to mitigate agency conflicts. It is possible that institutional investors are not very effective in Pakistan due to their political connections (Wahab & Rahman, 2009) or concentrated passive institutional investors (Almazan, Hartzell, & Starks, 2005).

#### 4.4.10 Moderating Role of Foreign Ownership (H<sub>31</sub>-H<sub>35</sub>)

The results from Table 4.12 demonstrated that the impact of foreign ownership on CEO compensation is significantly negative ( $\beta = -0.223$ ,  $p = 0.006$ ) which validated the postulation that the main objective of foreign investors is to decrease excessive CEO compensation (Brav, Jiang, Partnoy, & Thomas, 2008). It is also purported that foreign investors actively monitor CEO's actions and constrain them from expropriating shareholder wealth. Result of this study is also in tandem to the study of Lee and Kim (2009) who revealed that foreign ownership and stockholding is associated with lower agency costs. On the other side of story, Pakistan is thriving to attract foreign investment as there are least restrictions on foreign ownership as compared to other emerging markets (Akram, 2015), thus, it is possible that firms may decrease excessive CEO compensation in order to attract foreign investors. Nonetheless, this result is not consistent with the argument that foreign investors pay high compensation in order to retain CEOs with exclusive knowledge and experience (Cao, Pan, & Tian, 2011; Huang, 2010; La Porta et al, 1999; Mäkinen, 2007; Pan et al., 2009; Randøy & Nielsen, 2002).

There are some studies which also revealed that foreign investors influence domestic firms to align their CEO's compensation with firm performance (Firth et al., 2007). Colpan and Yoshikawa (2012) also found that foreign investors moderate the relationship between firm profitability and CEO's bonus pay. Nonetheless, the regression results in Table 4.12 are in line with these prior studies. There is no significant moderating effect of foreign ownership on the relation between operating performance and CEO compensation ( $\beta = -0.111$ ,  $p = 0.313$ ) leading to rejection of H<sub>31</sub>. It is possible that foreign investors are ineffective in aligning operating

performance with CEO compensation due to their marginal representation on average in Pakistan (only 5.4 percent).

Surprisingly, a contradictory results has been revealed for H32. Therefore, the results suggested that there is significant but negative moderating role of market performance and CEO compensation ( $\beta = -0.283$ ,  $p = 0.021$ ). It posits that foreign stockholders in Pakistan could weaken the link between market performance and CEO compensation. Probably, foreign investors in Pakistan cannot mitigate potential agency conflicts as they could only be interested in short-term returns as suggested by Sarkissian and Schill (2009) and Gozzi, Levine and Schmukler (2006). Although previous studies have not clearly indicated the negative impact of foreign ownership on pay-performance relationship but the study by Balasubramanian, Barua and Karthik (2015) also suggested that foreign owners are ineffective in setting CEO's pay adequately. The results in Table 4.12 also show that there is no significant effect of foreign ownership between firm size and CEO compensation ( $\beta = -0.086$ ,  $p = 0.485$ ).

Foreign ownership can also distort and weaken the link between growth opportunities and CEO compensation as the result for H34 is significant but negative ( $\beta = -0.205$ ,  $p = 0.047$ ). In Pakistan, CEO compensation is not aligned to growth opportunities yet so it is conceivable that foreign investors are the barriers in this context. However, the regression results are in the favor of the assumption that foreign ownership positively and significantly moderate the relationship between market share and CEO compensation ( $\beta = 0.443$ ,  $p = 0.001$ ). It is suggested that CEOs need to enhance the market share of the firm in order to get good compensation from foreign investors in Pakistan.

Overall, the results revealed that foreign investors in Pakistan are concerned more about aligning their CEO compensation with market share even at the cost of reduced shareholder value (WorldatWork, 2007, p. 298) as they want their CEOs to work on cost effective strategies (Ross et al., 2008).

Table 4.13  
*Regression Analysis for CEO Compensation Model (Direct and Moderating Effect of Dividend Policy)*

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	S.E.	Beta		
(Constant)	-91.27	17.07		-5.35	0.000***
Dividend Payout	-0.214	0.103	-0.101	-2.07	0.039**
Dividend Yield	4.159	1.449	0.154	2.87	0.004***
OPDPR	-0.193	0.144	-0.037	-1.339	0.181
MPDPR	0.265	0.174	0.056	1.527	0.127
SizeDPR	-0.044	0.16	-0.01	-0.277	0.782
GODPR	-0.147	0.133	-0.033	-1.105	0.269
MSDPR	-0.342	0.144	-0.08	-2.375	0.018**
OPDY	-1.956	0.54	-0.146	-3.626	0.000***
MPDY	-1.041	0.536	-0.099	-1.942	0.052*
SizeDY	-1.287	0.48	-0.113	-2.683	0.007***
GODY	-0.757	0.477	-0.082	-1.586	0.113
MSDY	1.638	0.436	0.128	3.757	0.000***

*Note:* OPDPR= Interaction of operating performance with dividend payout, MPDPR= Interaction of market performance with dividend payout, SizeDPR= Interaction of firm size with dividend payout, GODPR= Interaction of growth opportunities with dividend payout, MSDPR= Interaction of market share with dividend payout, OPDY= Interaction of operating performance with dividend yield, MPDY= Interaction of market performance with dividend

yield, SizeDY= Interaction of firm size with dividend yield, GODY= Interaction of growth opportunities with dividend yield, MSDY= Interaction of market share with dividend yield.  
\*  $p < .1$ ; \*\*  $p < .05$ ; \*\*\*  $p < .01$

#### 4.4.11 Moderating Role of Dividend Policy (H<sub>36</sub>-H<sub>45</sub>)

This study ensured the impact of dividend payout and dividend yield on CEO compensation. Table 4.13 shows that there is significant negative impact of dividend payout on CEO compensation ( $\beta = -0.214$ ,  $p = 0.039$ ) and significant positive impact of dividend yield on CEO compensation ( $\beta = 4.159$ ,  $p = 0.004$ ). In case of dividend payout, the result in this study is consistent with the Bhattacharyya et al. (2008) and Gaver and Gaver (1993) who also found negative association between dividend payout and CEO compensation. They suggested that managers with high productivity may retain earnings and rather distributing dividends to shareholders, they invest in positive NPV projects. Consequently, these high skilled CEOs demand more compensation.

The result can also be interpreted by considering the postulation of DeAngelo, DeAngelo and Stulz (2004) that firms pay dividend to mitigate agency costs. The notion is also close to free cash flow hypothesis that firms pay dividend to diminish free cash flow so that executives would be unable to expropriate shareholder wealth through overinvestment or investment in impractical projects (Easterbrook, 1984; La Porta et al., 2000). It is also suggested that dividend payout can also constrain majority shareholders to exploit minority shareholders by withdrawing profits in terms of compensation (Hauser, Salomon, Shohet, & Tanhuma, 1996).

Nonetheless, this study explores positive impact of dividend yield on CEO compensation. It is because dividend yield is less affected by managerial control and

more affected by vagaries of the stock market (Bhattacharyya et al., 2008). It can also be documented that firms who enjoy positive returns over the time pay their CEOs a higher compensation. Paying dividend for companies become mandatory if they want to maintain their share price (Milai, 2014). Moreover, some managers need to maintain their reputation by paying dividends or else they are less likely to be hired by other companies as outside directors (Kaplan & Reishus, 1990).

Previous studies also proposed that dividend can be utilized as a substitute control when corporate governance provisions are not favorable for shareholders (Haye, 2014). However, the results for the moderating role of dividend payout are insignificant for most of the performance indicators. For instance, the results revealed that there is insignificant moderating effect of dividend payout on the relationship between operating performance and CEO compensation ( $\beta = -0.193$ ,  $p = 0.181$ ), therefore, H36 is rejected. Similarly, dividend payout is also ineffective in aligning CEO's compensation with market performance ( $\beta = 0.265$ ,  $p = 0.127$ ), firm size ( $\beta = 0.044$ ,  $p = 0.782$ ) and growth opportunities ( $\beta = -0.147$ ,  $p = 0.269$ ). Thus, this study also rejects H37, H38 and H39. Probably, the result from this study suggest that in Pakistan, the dividend policy is inefficient as it cannot be utilized as a substitute control when corporate governance mechanisms are weak (Haye, 2014). It is also possible that need of dividends as a means of reducing agency costs is decreased because most of the performance indicators are already aligned with CEO compensation (Lippert, Nixon, & Pilotte, 2000).

Although, the results suggest significant moderating effect of dividend payout on the relationship between market share and CEO compensation but H40 is rejected due to negative sign. It is suggested that dividend payout in Pakistan can distort the link

between market share and CEO compensation. Although similar study is not available in prior academic literature, the results can be compared with the study of Emerenciana (2012) who found that dividend paying firms have lower pay-performance sensitivity. It is also postulated that the dividend could not mitigate the agency conflicts and the effects of a weak governance structure. By the same token, it is purported that dividend yield is also ineffective pay alignment mechanism as there is significant but negative moderating effect of dividend yield on the relationship between operating performance and CEO compensation ( $\beta = -1.956$ ,  $p = 0.000$ ) resulting in the rejection of H41.

This study also rejects H42 as the result is contrary to the study's hypothesis that dividend yield positively moderates the relationship between market performance and CEO compensation ( $\beta = -1.041$ ,  $p = 0.052$ ). Through regression results, H43 is also rejected as it indicates that there is significant negative moderating effect of dividend yield on the relationship between firm size and CEO compensation ( $\beta = -1.287$ ,  $p = 0.007$ ). Dividend yield is also ineffectual in aligning the growth opportunities with CEO compensation ( $\beta = -0.757$ ,  $p = 0.113$ ). On the other hand, the result for H45 are surprisingly different as compared to other interaction effects of dividend policy. It is revealed that there is significant positive moderating effect of dividend yield between market share and CEO compensation ( $\beta = -0.757$ ,  $p = 0.113$ ). It is suggested that firms with high market share and high dividend yield pay their CEOs a higher compensation.

#### 4.5 Summary of Hypotheses Testing Results

In Table 4.14, hypotheses testing results for the pay-performance relationship are summarized. It is evaluated that CEO compensation in Pakistan is aligned with operating performance, market performance, firm size and market. However, the compensation of CEOs are not aligned with growth opportunities in the capital market of Pakistan. Thus, this study has accepted H1, H2, H3 and H5 but H4 is rejected.

Table 4.14

*Summary of Hypotheses Testing Results (Direct Effect of Performance Measures on CEO Compensation)*

Hypothesis	Hypothesis Statement	Directions	Findings
H1	Operating performance has a significant relationship with CEO Compensation	+	Supported
H2	Market Performance has a significant relationship with CEO Compensation	+	Supported
H3	Firm Size has a significant relationship with CEO Compensation	+	Supported
H4	Growth opportunities have a significant relationship with CEO compensation	Not Sig.	Not Supported
H5	Market share has a significant relationship with CEO compensation	+	Supported

Table 4.15 summarize the results for the moderating effect of board characteristics on pay-performance relationship. In Pakistan Stock Exchange, board composed of independent directors are only efficient in aligning the compensation of CEO with operating performance. In fact, their presence could weaken the positive association between firm size and CEO compensation. Accordingly, this study accepts H6 but rejects H7, H8, H9, and H10. On the other hand, board size is capable of aligning the CEO compensation with operating performance in the capital market of Pakistan. Nonetheless, this result is not consistent with agency perspective. Results also show that they also incapable of strengthening the link between other performance measures and CEO compensation.



Therefore, the study rejects H11, H12, H13, H14 and H15. The study also examined that CEO duality distort pay-performance link. For instance, CEO duality can weaken the relationship of operating performance, firm size and growth opportunities with CEO compensation. Thus, the study accepts H16, H18 and H19 but as CEO duality is ineffective in developing or distorting link of CEO compensation with market performance and market share, so H17 and H20 are rejected.

Table 4.15  
*Summary of Hypotheses Testing Results (Moderating Effect of Board Characteristics)*

<b>Hypothesis</b>	<b>Hypothesis Statement</b>	<b>Directions</b>	<b>Findings</b>
H6	Board independence positively moderates the relationship between operating performance and CEO compensation	+	Supported
H7	Board independence positively moderates the relationship between market performance and CEO compensation	Not Sig.	Not Supported
H8	Board independence positively moderates the relationship between firm size and CEO compensation	-	Not Supported
H9	Board independence positively moderates the relationship between growth opportunities and CEO compensation	Not Sig.	Not Supported
H10	Board independence positively moderates the relationship between market share and CEO compensation	Not Sig.	Not Supported
H11	Board size negatively moderates the relationship between operating performance and CEO compensation	+	Not Supported
H12	Board size negatively moderates the relationship between market performance and CEO compensation	Not Sig.	Not Supported
H13	Board size negatively moderates the relationship between firm size and CEO compensation	Not Sig.	Not Supported
H14	Board size negatively moderates the relationship between growth opportunities and CEO compensation	Not Sig.	Not Supported
H15	Board size negatively moderates the relationship between market share and CEO compensation	Not Sig.	Not Supported
H16	CEO duality negatively moderates the relationship between operating performance and CEO compensation	-	Supported

H17	CEO duality negatively moderates the relationship between market performance and CEO compensation	Not Sig.	Not Supported
H18	CEO Duality negatively moderates the relationship between firm size and CEO compensation	-	Supported
H19	CEO duality negatively moderates the relationship between growth opportunities and CEO compensation	-	Supported
H20	CEO duality negatively moderates the relationship between market share and CEO compensation	Not Sig.	Not Supported

Table 4.16 summarize the hypotheses results for the moderating effect of ownership structure. It is explored that family owners align their CEO's compensation with operating performance and institutional owners are capable of aligning the CEO compensation with market performance and firm size but both of these owners are not capable of aligning CEO compensation with other performance measures in Pakistan. Thus, H21, H27 and H28 are accepted but H22, H23, H24, H25, H26, H28, H29 and H30 are rejected.

On the other hand, foreign investors could weaken the link of market performance and growth opportunities with CEO compensation. Moreover, they are ineffective in generating any association of operating performance and firm size with CEO compensation. In Pakistan, foreign investor pay their CEOs a high compensation only when they enhance the market share. Thus, only H35 is accepted and rest of the hypotheses (H31, H32, H33 and H34) are rejected.

Table 4.16  
*Summary of Hypotheses Testing Results (Moderating Effect of Ownership Structure)*

Hypothesis	Hypothesis Statement	Directions	Findings
H21	Family ownership positively moderates the relationship between operating performance and CEO compensation	+	Supported
H22	Family ownership positively moderates the relationship between market	Not Sig.	Not Supported

H23	performance and CEO compensation Family ownership positively moderates the relationship between firm size and CEO compensation	Not Sig.	Not Supported
H24	Family ownership positively moderates the relationship between growth opportunities and CEO compensation	Not Sig.	Not Supported
H25	Family ownership positively moderates the relationship between market share and CEO compensation	Not Sig.	Not Supported
H26	Institutional ownership positively moderates the relationship between operating performance and CEO compensation	Not Sig.	Not Supported
H27	Institutional ownership positively moderates the relationship between market performance and CEO compensation	+	Supported
H28	Institutional ownership positively moderates the relationship between firm size and CEO compensation	+	Supported
H29	Institutional ownership positively moderates the relationship between growth opportunities and CEO compensation	Not Sig.	Not Supported
H30	Institutional ownership positively moderates the relationship between market share and CEO compensation	-	Not Supported
H31	Foreign ownership positively moderates the relationship between operating performance and CEO compensation	Not Sig.	Not Supported
H32	Foreign ownership positively moderates the relationship between market performance and CEO compensation	-	Not Supported
H33	Foreign ownership positively moderates the relationship between firm size and CEO compensation	Not Sig.	Not Supported
H34	Foreign ownership positively moderates the relationship between growth opportunities and CEO compensation	-	Not Supported
H35	Foreign ownership positively moderates the relationship between market share and CEO compensation	+	Supported

Table 4.17 exhibits the summary for the moderating effect of dividend policy on pay-performance relationship. At large, this study argues that dividend policy in Pakistan is inefficient and cannot act as the substitute control device in the absence of strong corporate governance as it distorts the pay-performance link. Dividend payout

weakens the link between market share and CEO compensation in the capital market of Pakistan, however, it is ineffective in reinforcing or debilitating other performance measures link with CEO compensation. Thus, H36-40 are rejected. On the other hand, dividend yield can strengthen the link between market share and CEO compensation but it distorts the association of operating performance, market performance and firm size with CEO compensation. Thus, the study also rejects H41-H45.

Table 4.17  
*Summary of Hypotheses Testing Results (Moderating Effect of Dividend Policy)*

<b>Hypothesis</b>	<b>Hypothesis Statement</b>	<b>Directions</b>	<b>Findings</b>
H36	Dividend payout ratio moderates the relationship between operating performance and CEO compensation	Not Sig.	Not Supported
H37	Dividend payout ratio moderates the relationship between market performance and CEO compensation	Not Sig.	Not Supported
H38	Dividend payout ratio moderates the relationship between firm size and CEO compensation	Not Sig.	Not Supported
H39	Dividend payout ratio moderates the relationship between growth opportunities and CEO compensation	Not Sig.	Not Supported
H40	Dividend payout ratio moderates the relationship between market share and CEO compensation	-	Not Supported
H41	Dividend yield moderates the relationship between operating performance and CEO compensation	-	Not Supported
H42	Dividend yield moderates the relationship between market performance and CEO compensation	-	Not Supported
H43	Dividend yield moderates the relationship between firm size and CEO compensation	-	Not Supported
H44	Dividend yield moderates the relationship between growth opportunities and CEO compensation	Not Sig.	Not Supported
H45	Dividend yield moderates the relationship between market share and CEO compensation	+	Supported

H41	Dividend yield moderates the relationship between operating performance and CEO compensation	-	Not Supported
H42	Dividend yield moderates the relationship between market performance and CEO compensation	-	Not Supported
H43	Dividend yield moderates the relationship between firm size and CEO compensation	-	Not Supported
H44	Dividend yield moderates the relationship between growth opportunities and CEO compensation	Not Sig.	Not Supported
H45	Dividend yield moderates the relationship between market share and CEO compensation	+	Supported

#### 4.6 Summary of the Chapter

This chapter revolves around the results of the study. The data was collected for the companies listed in Pakistan Stock Exchange who have given complete and adequate data. In addition, prior to analyzing data through regression, data screening and validity was ensured. The chapter highlighted the satisfaction of various assumptions, i.e. identification of outliers, identification of Multicollinearity, normality, linearity, no autocorrelation and no heteroscedasticity. Furthermore, through regression analysis, hypotheses have been tested. It is evaluated that out of 45 hypotheses, only 13 hypothesis are significant. Results are presented in the cultural context of Pakistan. CEO compensation in Pakistan is aligned to all performance indicators except growth opportunities. Moreover, it is purported that the corporate governance structures in Pakistan are still weak and need to be improved. Additionally, dividend policy cannot work as the substitute control device or alignment mechanism in the capital market of Pakistan.

## **CHAPTER FIVE**

### **DISCUSSION AND CONCLUSION**

#### **5.0 Introduction**

The main purpose of this chapter is to discuss and summarize the main results of the study. This chapter provides additional insights and debate on the effect of firm performance and firm characteristics on CEO Compensation along with the role of different moderators in Pakistan Stock Exchange. This chapter is also divided into various sections. Section 5.1 describes an overview of the research. Section 5.2 concisely discusses the main results of the study. Section 5.3 describes the outcomes of the moderating role of corporate governance and dividend policy. Section 5.4 provides the implication and Section 5.5 discusses the limitation of the study. Suggestions for the further research in this domain is provided in Section 5.6 and lastly, in Section 5.8, conclusion is concisely presented.

#### **5.1 Overview of the Study**

CEO compensation has become a controversial issue due to excessive increase in compensation of CEOs in term of cash and stock bonuses. Consequently, the perception of public regarding CEO remuneration is evidently unfair which further leads to agency conflicts. Therefore, this study has tested the propositions of agency theory and examined this issue to ensure if the opinion of public is factual or the CEO compensation in Pakistan is aligned to the performance measures indicators. In addition, various factors has also incorporated as moderators to identify either they strengthen or distort the pay-performance link. The academic literature with regard to this issue in Pakistan is very scarce and these study has not specified any precise

explanation regarding the matter of CEO compensation. Hence, the need to examine this issue is motivated by the current status of CEO compensation in Pakistani firms that are still at an emergent level.

The main objective of this study is to examine if CEO compensation is aligned to firm performance and firm characteristics in the companies listed on Pakistan Stock Exchange. This research tries to identify and mitigate agency conflicts that arise from CEO compensation which could further affect the firm performance. In addition, different moderating variables are considered in the study which either promote agency conflicts or mitigate them. This study investigated the effect of operating performance, market performance, firm size, growth opportunities and market share on CEO compensation. Additionally, moderating role of corporate governance mechanisms (board independence, board size, CEO duality, family ownership, institutional ownership and foreign ownership) and dividend policy are assessed.

This study statistically test the hypotheses with Statistical Package for Social Sciences (SPSS) software. Initially, all companies listed on Pakistan Stock Exchange were designated, however, after data cleaning, 284 companies over the period of 2010-2014 were selected. Although previous studies in the context of Pakistan tried to link firm performance and firm size with CEO compensation but they omitted other crucial performance measure indicators. Furthermore, this study made an attempt to fill the gap in academic literature by considering the moderating effect of board independence, board size, CEO duality, family ownership, institutional ownership, foreign ownership and dividend policy. This study has also validated the effectiveness and inefficiency of corporate governance mechanisms and dividend policy in the context of Pakistan. Moreover, the study also proposed different solutions for the mitigation of agency

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## 5.2 Discussion of Hypotheses

### 5.2.1 Firm Performance

Consistent with agency theory, the results revealed that CEO compensation is aligned to both operating and market performance in Pakistan. The orthodox economic theorists argued that managers are hired in order to act in the best interest of shareholders but usually these managers work in their self-interest if their interests are not aligned with the interests of shareholders (Holmstrom & Milgrom, 1991; Jensen & Meckling, 1976; Shleifer & Vishny, 1997). In accordance with the results, it is purported that companies listed on Pakistan stock exchange have tried to align the CEO's interest with those of shareholders by strengthening the pay-performance link. The improved corporate governance regulations of SECP also play a vital role in mitigating principal-agent problem. Although there is a wide range of academic literature on the relationship between firm performance and CEO compensation, nonetheless, researchers have not yet reached to an absolute conclusion (see Cohen, Hall, & Viceira, 2000; Cooper et al., 2010; Crumley, 2008; Gu & Kim, 2009).

According to researcher's best knowledge, previous studies in the context of Pakistan have measured firm performance with accounting-based measures and did not find its positive alignment with CEO compensation (e.g. Anjam, 2010; Lone et al., 2015; Shah et al., 2009; Usman et al., 2015; Younas et al., 2012). Nonetheless, researchers argued that aligning CEO compensation with operating performance or accounting-based measures is not enough because CEOs more likely to have direct influence over operating performance (Donatiello, Larcker, & Tayan, 2016). Therefore, directors or principals should also pay their CEOs according to fluctuation in market performance of the firm. Nonetheless, previous studies in the perspective of Pakistan have not

tested the relationship between market-based measure and CEO compensation. There is only one study by Yahya and Ghazali (2015) who ensured positive and significant effect of operating and market performance on CEO compensation.

Overall, the results are supporting the agency theory that CEO compensation should be aligned to firm performance. However, still the regulatory bodies need to improve the compensation policies because the effect size of market performance is very little as compared to operating performance. For instance, a considerable amount of compensation will be increased with the increase in market performance but a little increase in operating performance leads to very high level of remuneration and vice versa.

### **5.2.2 Firm Characteristics**

Matolcsy and Wright (2011) argued that companies who pay their CEOs consistent with firm characteristics may perform better as compared to those who do not. A set of researches and theories postulated that optimal level of pay and incentives has maintained by many corporations due to changes in firm characteristics. Owing to these changes, CEOs induce more talent and effort to enhance the firm value. For instance, researchers proposed that an increase in the size of firm enhance the optimal level of CEO effort and thereby increase the CEO incentives (Baker & Hall 2004; Himmelberg & Hubbard 2000). According to Gayle and Miller (2009), the firms should increase the incentives and pay of CEOs with the growth of firm size or else they will face the issue of moral hazard.

Consistent with this argument, this study also found significant and positive effect of firm size on CEO compensation. Similar results were evaluated by most of the former

and recent studies (see Gayle, Golan, & Miller, 2015; Lone et al., 2015; Mendez et al., 2011; Usman et al., 2015, van Essen et al., 2015; Vemala et al., 2014; Yahya & Ghazali, 2015). Nonetheless, some theorists argued that firm size should not be a major determinant of CEO compensation because CEOs might involve themselves in rent extraction which leads to principal-agent problem (Murphy, 1985). Thus, this study did not find any evidence that CEO compensation in Pakistan is disproportionately explained by firm size.

Contrary to the agency theory assumptions, this study found that CEO compensation in Pakistan is not explained by growth opportunities. This result is similar to the study of Abrahamson and De Ridder (2010) but comparatively different from other previous academic literature (Barnes et al., 2006; Conyon & He, 2008; Gabaix & Landier, 2008; Yahya & Ghazali, 2015). From the agency theory point of view, CEO compensation should also be aligned to growth opportunities or else they will exploit free cash flow in value-destroying activities (Chung et al., 2005). Thus, efficient compensation structure can be achieved if companies in Pakistan also align their CEO's compensation with growth or investment opportunities. Furthermore, compensating CEOs higher with the increase in market share could mitigate agency conflicts. Owing to the higher level of volatility in business market, development in communication technologies and powerful competition by foreign corporations, the productivity of managerial talent and effort may have elevated (Cuñat & Guadalupe 2009; Frydman, & Jenter, 2010; Hubbard & Palia, 1995).

Therefore, compensation of CEOs should also be aligned to market share and they should incentivized highly if they have the capability to increase market share. Consistent with the argument of efficient labor market, if companies will not pay

these CEOs a high compensation, they may move to another organization. In the relevance of current study, there is a significant and positive effect of market share on CEO compensation. Previously, this relationship with same results was tested by Yahya and Ghazali (2015). It is a good indicator that CEO compensation in Pakistan is aligned to market share.

### **5.2.3 Corporate Governance**

Agency theory argued that CEOs may receive lower or higher remuneration on the basis of the effectiveness of corporate governance mechanisms (Malmendier & Tate, 2009). In addition, high discretion and power of CEOs can be counteracted by high monitoring or else they may acquire additional awards and recognition in case of weak corporate governance systems which eventually degrade the firm performance and shareholder value (Bebchuk et al., 2002). Through the reduction of agency costs and adoption of shareholder-friendly policies, strong corporate governance mechanisms enhance shareholder wealth as well as financial performance of the firm (Gompers, Ishii, & Metrick, 2010).

Additionally, good corporate governance structures can align the interests of managers with that of shareholders (Holmstrom, 1979; Murphy, 1986). Therefore, van Essen et al. (2015) proposed various corporate governance mechanisms that can align the CEO compensation with firm performance. This study tested these propositions and mechanisms in the context of Pakistan's capital market. First of all, the monitoring and supervising role of independent directors was ensured. The results ratified the postulation that independent directors restrict CEOs to extract high level of remuneration (Core et al., 1999; Fallatah, 2015; Fama & Jensen, 1983; Hermalin & Weisbach, 1998) as there is negative effect of board independence on CEO

compensation. However, the role of independent directors in Pakistan is partially consistent with agency perspective.

Independent directors are capable of aligning CEO's compensation with operating performance but ineffective as an alignment mechanism to market performance and CEO compensation. This result is partially supported by the postulations of van Essen et al. (2015). The results also did not support the evidence that independent directors moderate the relationship between growth opportunities and CEO compensation or market share and CEO compensation. Prior studies purported that the percentage of independent directors less than 50 percent could be ineffective in aligning the interests of managers with shareholders' interests (Weisbach, 1988; Chee-Wooi & Chwee-Ming, 2010). Nonetheless, negative moderating role of independent directors between firm size and CEO compensation has revealed. CEOs may manipulate firm size indicators and could increase their compensation accordingly (Murphy, 1985). Therefore, independent directors resist these CEOs from attaining excessive compensation through elevation of firm size.

The second dimension of corporate governance which was taken under investigation was board size due to its prominence in CEO compensation academic literature (Abed et al., 2014; Cahan et al., 2005; Core et al., 1999; Coughlan & Schmidt, 1985; Fallatah, 2015; Jensen, 1993; Lee & Chen, 2011). Agency theorists argued that large board size could become inefficient in monitoring or controlling CEO's apprehensive activities. Nonetheless, the results of this study posited negative effect of board size on CEO compensation as the average board size in Pakistan is not outsized, therefore, it is contended that board of directors could also constrain excess compensation.

However, there is also another justification for this outcome. Companies with larger board size may distribute imbursements to all board members, leaving lesser compensation for CEOs. Prior studies have also given very less attention to board size as an alignment mechanism. Nevertheless, this study revealed significant and positive moderating effect of board size on the relationship between operating performance and CEO compensation supporting the proposition of van Essen et al. (2015) but contrary to the results of Ozkan (2007) and Fahlenbrach (2009). It is also evaluated that board size is ineffective in aligning any other performance indicator with CEO compensation.

CEO duality is the third board attribute considered in this study as it is one of the important corporate governance mechanism. Agency theory condemn the existence of CEO duality in corporate governance structures. Owing to the higher inherent risk and CEO entrenchment, CEO duality is considered as ineffective governance mechanism (Dickins, 2010; Kim et al., 2009). In contrast with the perspective of agency theory, this study evaluates negative effect of CEO duality on CEO compensation. There could be two reasons for this outcome, 1) CEOs with duality of positions in Pakistan are stewards who act in the best of shareholders rather than extracting excessive compensation, 2) the companies with CEO duality have lower profitability as there is negative relationship of CEO duality with operating performance, market performance, firm size and market share.

Through moderating effect of CEO duality, it is analyzed that CEO duality has either negative or no effect on pay-performance link. These results are aligned to the perspectives of agency theory that CEO duality is incapable of sustaining pay-performance link. This study evaluated negative moderating effect of CEO duality

between operating performance and CEO compensation. The results also demonstrated negative impact on size-pay and growth-pay link. Nonetheless, no statistically significant moderating effect of CEO duality between market performance and CEO compensation was found. Similar results were purported for market share and compensation link.

In a previous study by Fahlenbrach (2009), adverse effect of CEO duality on pay-performance link was found but contrary results were postulated by Aiysha et al. (2011) and Dorata and Petra (2008). The meta-analysis by van Essen et al. (2015) is also in the favor of notion that CEO duality does not moderate the relationship between firm performance and CEO compensation. In general, it is assessed that CEO duality is not efficient alignment mechanism of corporate governance. Consistent with managerial power theory, this study also argued that CEO duality induce power and mandate which eventually leads to influence over the pay setting process (Ungson & Steers, 1984). It can also be posited that CEOs with duality of position in Pakistan resist performance related pay or pay-performance sensitivity.

Ownership structure is also one of the crucial part of corporate governance mechanisms. Three types of ownerships were taken to investigate in this study including family, institutional and foreign ownership. Previous studies found inconsistent results regarding the role of family owners in setting CEO's remuneration. Some revealed positive (Cheung et al., 2005; Haid & Yurtoglu, 2008) while some assessed negative impact of family ownership on CEO compensation (Block, 2008; Croci et al., 2012; Gomez-Mejia et al., 2003; McConaughy, 2000; Palmberg, 2009). However, due to dominance of institutional ownership in the capital market of Pakistan, this study did not find any significant effect of family ownership

on CEO compensation. The results are similar to the studies of Gabaix and Landier (2008) and Orelan (2008) who also did not evaluate any association between CEO compensation and family ownership. Despite of inactive participation of family owners in setting CEO's pay, the study found significant and positive moderating role of family ownership on the relationship between operating performance and CEO compensation.

Although agency theorists argued that pay-performance sensitivity is not relevant in family firms but Michiels et al. (2013) also asserted positive moderating effect of family ownership on pay-performance link. Family owners align the CEO's remuneration with performance to eradicate self-control or parental altruism issue (Lubatkin et al., 2005; Schulze et al., 2003). Nonetheless, the study did not evaluated any significant moderating effect of family ownership for other performance indicators.

This study also examined the direct and moderating effect of institutional ownership on CEO compensation. The regression results found positive and significant effect of institutional ownership on CEO compensation suggested that institutional investors promote talent and pay their CEOs according to their efforts. These results are consistent with the recent studies by Croci et al. (2012), Fernandes et al. (2012); Khan et al. (2015) and Victoravich, Xu and Gan (2013). On the other hand, some studies assessed negative impact of instructional ownership on CEO compensation and argued that institutional investor may restrict CEOs to extract excessive compensation (see Chen & Firth, 2005; Khalatyan & Jouri, 2010; van Essen et al., 2015). Previous studies also purported that institutional investors play efficient monitoring role in an organization as they positively affect the pay-performance sensitivity. Nonetheless,



this study asserted that institutional investors in Pakistan are not actively contributing in aligning CEOs remuneration with operating performance, growth opportunities and market share. Indeed, they weaken the link between market share and CEO compensation. They are emphasizing only on aligning market performance and firm size with CEO compensation. The monitoring role of institutional investors could become ineffective if most of them are passive institutional investors (Almazan et al., 2005) or if they have political connections (Wahab & Rahman, 2009).

Last but not the least, this study also investigated the empirical relationship of foreign ownership with CEO compensation. Most of the previous studies argued that foreign investors are more concerned about enhancing their profitability and thereby, hire talented individual who could fulfil their monetary objectives. CEOs who possess efficient skills, knowledge and experience may demand higher compensation. Therefore, studies found positive association between foreign shareholding and CEO compensation (Cao et al., 2011; Huang, 2010; Lipsey, Mäkinen, 2007; Pan et al., 2009). Nevertheless, the results of this study are not similar to these researches. It is postulated that foreign investors in Pakistan are not in the favor of paying a higher remuneration to CEOs, therefore, negative effect of foreign ownership on CEO compensation is observed. Furthermore, they are actively participating in pay-setting process of the CEOs despite of their least representation in capital market of Pakistan.

Nevertheless, foreign investor did not exhibit any concern in aligning the CEO's remuneration with accounting-based measures (operating performance and firm size). They also discourage the alignment of CEO's compensation with market performance and growth opportunities. Foreign investors in Pakistan are only interested in aligning their CEO's compensation with market share. In Pakistan, foreign investors want their

CEO's to work on cost effective strategies (Ross et al., 2008) to increase market share in order to receive substantial raise in the compensation package.

#### **5.2.4 Dividend Policy**

Agency theory argued that free cash flows are also one the main cause of principal-agent problem (Jensen, 1986). Managers seek rent extraction from these cash flows, while the shareholders want to get benefit of these free cash flows in terms of dividends. Furthermore, according to optimal contracting theory, directors utilize executive compensation along with dividends to mitigate agency conflicts (DeAngelo, DeAngelo, & Stulz, 2004; Minnick & Rosenthal, 2014). Furthermore, dividend can also be utilized as a substitute control when corporate governance provisions are not favorable for shareholders (Haye, 2014). Therefore, dividend policy is also examined with CEO compensation in this study. The results revealed that there is negative effect of dividend pay-out and positive effect of dividend yield on CEO compensation.

A coherent theoretical explanation for the association between dividend pay-out and CEO's compensation was purported by Bhattacharyya et al. (2008) and Gaver and Gaver (1993). They also found negative relationship between dividend pay-out and CEO compensation and argued that managers with higher skills and productivity retain earnings rather distributing it to shareholders in terms of dividends. They demand high compensation because of their ability to find and invest in positive NPV projects.

On the other hand, the positive effect of dividend yield on CEO compensation is perceived. According to Bhattacharyya et al. (2008), dividend yields are more influenced by the stock market fluctuation and less in control by managers.

Furthermore, dividend yield is positively associated to firm size and thereby, large firms pay higher compensation to their CEOs. There are also some other reasons of paying dividend by company such as sustaining share price (Milai, 2014) and maintaining reputation (Kaplan & Reishus, 1990).

In the absence of efficient corporate governance mechanisms, dividend can be utilized as a substitute control device (Haye, 2014). However, this proposition is not applicable in the capital market of Pakistan as results show ineffective moderating role of dividend pay-out in aligning the interest of shareholders with that of CEOs. For instance, dividend pay-out is not an effective mechanism in aligning CEO compensation with operating performance, market performance, firm size and growth opportunities. Additionally, dividend payout can weaken the positive relationship between market share and CEO compensation.

Previously, Emerenciana (2012) also argued that there are higher agency conflicts and lower pay-performance sensitivity in dividend paying firms. Similarly, the results for dividend yield are also contrary to its role as pay alignment mechanism. Dividend yield in Pakistan distort and weaken the link of firm performance and size with CEO compensation. Additionally, it is incapable of aligning growth opportunities with CEO compensation. However, the results revealed the positive and significant moderating effect of dividend yield on the relationship between market share and CEO compensation. Companies with market share also possess higher dividend yield and eventually they pay higher to their CEOs. Overall, it is posited that capital market of Pakistan need to strengthen its dividend policy.

### **5.3 Implications of the Study**

There several crucial implications of the study especially for policy makers, regulatory bodies, academia, theorists and researchers. Therefore, this study has divided this part into two sections, i.e. theoretical implications and practical implications.

#### **5.3.1 Theoretical Implications**

Several previous studies who investigate agency issues usually utilized various corporate governance mechanisms including ownership structure, board attributes, audit committee characteristics and compensation packages to overcome these conflicts within organizations. The general contribution of this study can be perceived from both empirical and theoretical viewpoint. This research incorporates an extensive range of studies from the field of corporate governance, dividend policy, CEO compensation and pay-performance sensitivity. Furthermore, the research has enlarged the usual concept of agency theory in the context of Pakistan by utilizing contemporary performance measures, moderating role of corporate governance and dividend policy. The study partially support agency theory as some of the results are consistent with the agency theory and some of them are aligned to stewardship theory and managerial power perspective. This study extend the pay-performance notion especially in the capital market of Pakistan. The results of the study provide several empirical evidences that will assist academic researchers to conduct further studies relating to agency conflicts especially in a developing country like Pakistan.

Owing to the weak corporate governance structures and inefficient dividend policy in Pakistan, some results are not consistent with agency theory. Although agency theory

suggested that performance indicators should be aligned to executive compensation but it did not propose any specific measures. Previous studies have examined the effect of firm performance, firm size and growth opportunities on CEO compensation but there is no empirical study in the past which tested the effect of market share on CEO compensation. Consistent with agency theory, the results show that the revised Code of Corporate Governance (2012) has tried to align the CEO compensation with various performance indicators except growth opportunities. Nonetheless, there is enough room for improvement in corporate governance mechanisms. For instance, monitoring role of independent directors is not very effective in aligning the interest of CEO's with that of shareholders.

Regulatory bodies need to enhance the representation of independent directors so that they will be able to actively participate in setting performance related pay. Agency theory partially holds in the context of independent directors in Pakistan as they have the capability to align their CEO's compensation with operating performance and to restrain the CEOs to extract excessive compensation. Nonetheless, they have no influence over other accounting and market based performance measures. There is a possibility that either independent directors lack essential monitoring skills or they have less power to influence over corporate management decisions. In case of board size, the study also presented some results contradictory to agency theory. The results demonstrate negative impact of board size on CEO compensation and its positive moderating effect on the relationship between operating performance and CEO compensation. Agency theory argued that larger board can distort the pay-performance link and managers can manipulate larger board size in order to extract excessive compensation. However, agency theory is aligned to the rest of results that

larger board size is ineffective in linking CEO's pay with other performance measures.

In the context of CEO duality, results are not consistent with agency theory regarding the direct relationship of CEO duality with CEO compensation but the outcomes for pay-performance hypotheses are supported by agency theory. The study also contribute significantly by employing family ownership in agency perspective. Agency theory did not explain much regarding family ownership but this study argued that family ownership can strengthen the link between operating performance and CEO compensation, however, rest of the related hypotheses are consistent with agency viewpoint. Additionally, the study reveals that institutional owners are capable of aligning market performance and firm size with CEO compensation and foreign investors can align market share with compensation. This is a vital theoretical contribution of the study that all types of investors in an ownership structures play important role in setting performance-related pay. Lastly, this study contradicts the previous theoretical arguments that dividend policy can be utilized as substitute control device in the absence of strong corporate governance structures.

### **5.3.2 Practical Implications**

The revised Code of Corporate Governance (2012) in Pakistan was designed and implemented by Security and Exchange Commission of Pakistan (SECP) to develop the governance structures in companies for the accountability and improvement of capital market. This code tried to improve the corporate governance mechanisms up to the standards of developed economies. However, this study observed some deficiencies in the Code which need to be improved. It is evident that corporate structure, business culture and legal systems of developing countries are different

from developed countries and the improvement in capital market cannot be made suddenly, however, refinement of the corporate mechanisms gradually is mandatory.

This study identified that the regulatory bodies have tried to align the performance indicators with CEO compensation except growth opportunities. Companies should also be advised to align their CEO's compensation with growth opportunities. Moreover, there is only 10 percent representation of independent directors in capital market of Pakistan, therefore, their role in setting performance related pay is not very effective. Previous studies and theorists suggested that there should be at least 50 percent independent directors on the board to enhance their monitoring capability. Thus, regulatory bodies should enforce the corporations to include at least 50 percent independent directors on their board.

Furthermore, the results for the moderating role of board size can also help practitioners and policy makers to make any amendments in the board size to decrease agency conflicts. It is also indicated that some CEO duality have destructive role in aligning CEO's pay with performance. Although the revised Code of Corporate Governance (2012) has bound all companies to eliminate CEO duality from their governance structure but still some companies are practicing it illegally in Pakistan. SECP should take any action against these companies to completely remove duality of positions from capital market of Pakistan.

The diversification of ownership structures are also very important for strong corporate governance as elaborated by the results of this study. A single or concentrated ownership cannot resolve the agency conflict, therefore, it is suggested that regulatory bodies should compel the organizations to include well-diversified

ownership structures. The investors who are spoiling the long-term performance of the company for their short-term gains should be monitored prudently. The study also identified that the dividend policy of Pakistan cannot be utilized as substitute control device in case of weak corporate governance structures. Therefore, the dividend policy should also be improved so that in the absence of strong corporate governance, it could mitigate agency conflicts. Additionally, this study provides understanding and awareness among the regulatory bodies, policy makers, practitioners, managers, shareholders and general public regarding the expected outcome produce by the current practices of corporate governance in capital market of Pakistan. This study also serves as an approach to regulators and policy makers in formulating strategies and policies with regard to compensation packages and agency conflicts.

#### **5.4 Limitations of the Study**

This research tried to provide a coherent view of the determinants of CEO compensation, how corporate governance and dividend policy influence pay-performance link. Nonetheless, every study has its limitations and to fulfil the ethical considerations, these limitations should be stated in order to reveal a rational explanation of the outcomes.

1. Owing to the lack of disclosure and transparency in the capital market of Pakistan, this study was not able to include all types of ownership structures, CEO's socio-psychological characteristics and board attributes (e.g. CEO tenure, CEO age, CEO education, board financial expertise, board activity, institutional owners' activism etc.). Acquiring this data is very difficult because it is not available publicly as a secondary source. Therefore, this study



examined relationships for which data was publically available in annual reports of the companies.

2. This study examines the determinants of CEO compensation and moderating role of corporate governance and dividend policy among Pakistani listed firms for all sectors over the period of 2010 to 2014. Therefore, the study is not capable of generalizing the results for any specific sector to identify the dominance of agency conflicts in any particular sector.

### **5.5 Future Recommendations**

This study provide crucial thoughts on the present phase of this academic literature and offer comprehensible propositions to guide future research.

1. Future research is required to offer further in-depth body of knowledge into the determinants of CEO compensation along with various other moderators in the context of Pakistan. In addition, the study can be further explored to other Asian countries to reveal the applicability of the current model on other capital markets. Furthermore, sector-wise analysis is also possible within the reference of Pakistan.
2. The current study investigate only specific performance measures with CEO compensation. The study could become more valuable if researchers will test the model with some other accounting and marketing-based performance measures (especially Economic Value Added (EVA) and Tobin's Q). In addition, some other moderators should also be tested in this context to ensure their role in aligning pay-performance link. Although this study has investigated important types of ownerships but future researchers should also incorporate managerial ownership, governmental ownership and ownership

concentration. Furthermore, as soon as SECP will improve the disclosure and transparency policy among companies then other corporate governance mechanisms should be tested with the model.

3. This study has not considered some other crucial corporate governance mechanisms as the pay-performance model was already extensive. Therefore, it is recommended that future studies should also test the moderating role of audit committee characteristics and audit quality to provide deeper understanding of pay-performance link especially in the perspective of the capital market of Pakistan.
4. The present study has not analyzed the CEO's basic pay, bonuses and stock options separately because this data was available for only few companies in Pakistan. Nonetheless, pay-performance link can also be tested by considering these remuneration packages separately.
5. The study has not considered the segmented market capitalization group of large cap, medium cap and small cap companies. Therefore, future researchers should continue research in this area by analyzing these groups distinctly.
6. This study have used OLS model to test the hypotheses of the study. Nonetheless, panel data analysis could provide more realistic behavioral models by incorporating both cross-sectional and time series observations. This technique also control firm's heterogeneity, increase the degree of freedom and decrease the multicollinearity and endogeneity issue. Therefore, future studies should test the model of this study with wide range of panel data techniques in order to remove potential biases.

## 5.6 Conclusion

There are several parts of this thesis. Firstly, this study examined the effect of firm performance and characteristics on CEO compensation. Secondly, this study employed the moderating effect of corporate governance and dividend policy to ensure their role in aligning pay with performance. The results purported that all firm performance (operating and market) and firm characteristics (firm size and market share) are aligned with CEO compensation in Pakistan except growth opportunities. These results indicated the presence of agency theory propositions in the capital market of Pakistan. Corporate governance and dividend policy are incorporated in the pay-performance model as moderators to validate their role in resolving agency problems. The role of independent directors as an alignment mechanism to operating performance and CEO compensation is evident but due to their lower level of representation on the board, they have no influence over other accounting and market based performance metrics.

Independent directors may also weaken the size-pay link because CEOs may involve themselves in rent-extraction by increasing the firm size for a short tenure. In case of board size, they may align and strengthen the link between operating performance and CEO compensation, however, they are not capable of aligning any other performance indicator with CEO compensation. The study also contributes to the existing literature by providing a comprehensive understanding regarding the role of CEO duality in setting performance related pay. The results asserted that CEO duality could distort

the pay-performance link. This outcome is consistent with the assumptions of agency theory.

The results for the moderating role of ownership structure also provide interesting in-depth knowledge. The study concludes the results of three types of ownerships, i.e. family ownership, institutional ownership and foreign ownership. Although theorists argued that pay-performance or agency conflicts are not relevant for family ownership but this study find positive moderating role of family ownership between operating performance and firm performance. However, they are ineffective in aligning other performance measures with CEO compensation. On the other hand, institutional investors align CEO's compensation with market performance and firm size but foreign investors align the pay with market share. Therefore, diversification of ownership in a firm is important as every type of ownership has separate criteria and goals for setting CEO's remuneration. The study also revealed that dividend policy in Pakistan is inefficient in aligning pay-performance link. The results are contrary to the previous theoretical argument that dividend policy can act as substitute control device in the absence of strong corporate governance structures.

Overall, the study has contributed in the field of CEO compensation, especially regarding the determinants of CEO compensation and the role of corporate governance and dividend policy in aligning performance related pay. The study opens doors for researchers to continue further research in this perspective. Furthermore, the study also highlighted issues and the current position of corporate governance in Pakistan which can help Securities and Exchange Commission of Pakistan (SECP) to fortify the governance systems within capital market of Pakistan.

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