

**THE IMPACT ON CHIEF EXECUTIVE COMPENSATION PAY  
GAP OF INDEPENDENCE, EXPERTISE, AND ACTIVITY OF  
REMUNERATION AND AUDIT COMMITTEES: THE CASE OF  
PAKISTAN.**

**By**

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## Abstract

Agency theorists suggest that top executives are naturally interested in protecting their self-interest at the expense of shareholders through higher compensation and perquisites. To minimize the financial consequences of the implied principal-agent problem, companies use corporate governance mechanisms to redirect agents' behaviour to realign these interests with the shareholder's concerns. This study examines the impact on executive compensation of the independence, expertise, and activity of remuneration and audit committees for the companies which are continuously listed on the Pakistan Stock Exchange from 2016 to 2019. Using ordinary least squares regressions, this study reveals several noteworthy findings. *Firstly*, regarding the remuneration committees, the results of regression show that, in line with the agency theory perspective, the level of independence exerts a statistically significant negative impact on the relative CEO compensation. *Secondly*, the expertise of the remuneration committee members demonstrates a significant negative influence on relative executive compensation. *Thirdly*, with respect to the audit committees, the results indicate that contrary to expectation, independence is significantly positively correlated with relative chief executive compensation. Thus, we may surmise that audit committee members may be pressured by autocratic CEOs to raise their remuneration package. These findings hold true even after conducting various additional analyses and robustness tests, ensuring their validity and reliability.

The study makes three important contributions. *Firstly*, it uncovers the trends in chief executive compensation across different industrial sectors in Pakistan. *Secondly*, the current study reveals the considerable pay gap between a CEO and other executives in Pakistan. *Lastly*, the study is one of the few studies to investigate the role of remuneration and audit committees in moderating the pay gap between the CEO and other executives in context of Pakistan. These findings have implications for the board of directors, executive head-hunters, and remuneration

consultants to help them understand the sector-wise trends in CEO compensation in Pakistan. Further, these have policy implications for the regulators and policymakers as these findings can be operationalized by enacting regulations that promote the independence and expertise of the remuneration committees of the board.

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## **Abbreviations**

AC	Audit Committee
AC_INDEP_RELATIVE	Independence of Audit Committee
ACM_MEETING	Activity of the Audit Committee
AC_EXPERTISE	Expertise of Audit Committee
BM_MEETING	Meetings of the Board
BS_SIZE	Size of the Board
CEO	Chief Executive Officer
FIRMSIZE_LN_TA	Firm Size Log of Total Assets
GMM	Generalized Method of Moments
LN_B_ID	Independence of Board
LIQUIDITY_CR	Liquidity measured by Current Ratio
MARKET_MKT_BK	Market to Book Ratio
OLS	Ordinary Least Squares
PSX	Pakistan Stock Exchange
RC	Remuneration Committee
RC_INDEP_RELATIVE	Independence of Remuneration Committee
RC_EXPERTISE	Expertise of Remuneration Committee
RCM_MEETING	Activity of the Remuneration Committee
SOX	Sarbanes Oxley Act

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# **Chapter 1: Introduction**

## **1.1 Introduction**

The main aim of this study is to examine the impact on executive compensation of the independence, expertise, and activities of remuneration and audit committees for the companies listed on the Pakistan Stock Exchange i.e., PSX-100. This chapter is organised as follows: Section 1.2 presents the research background and motivation. Section 1.3 outlines the objectives of the study. Section 1.4 provides the research contribution and lastly, Section 1.5 summarises the structure of the thesis.

## **1.2 Research Background and Motivation**

Corporate governance has recently gained considerable attention and limelight, especially after the corporate scandals of once well-known firms like Enron, Parmalat, Satyam Computers, Xerox Corporation, and WorldCom (Abdou et al., 2021; Hussainey & Al-Najjar, 2012; Gerged & Agwili, 2019; Ntim et al., 2012; Usman et al., 2022). Corporate governance has been defined in the Cadbury Report by Sir Adrian Cadbury as "the system by which companies are directed and controlled" (Cadbury, 1992). Such implies that internal direction and control arrangements are important foundations of an effective corporate governance system (Cadbury, 1992). Most of the recent corporate fraud cases were usually due to the conflict of interest between shareholders (principals) and opportunistic managers (agents). These scandals raised concerns regarding the independence, expertise, and activity of the board of directors and its standing committees in disciplining fraudulent executives (Janakiraman et al., 2010).

According to the agency theory, the shareholders and top executives have different aims and interests. The top executives usually want higher remuneration, bonuses, and perquisites for themselves. This is evidenced by the skyrocketing increase in the compensation of chief executives, which has attracted significant attention of both practitioners and researchers around the globe (Al-Najjar, 2017; Bebchuk et al., 2010; Sun et al., 2009; Jensen & Murphy, 1990). This escalating trend in executive compensation has sparked a heated debate about the appropriateness of such high levels of CEO pay, as well as the widening pay gap between the CEO and other executives of the company.

According to a BBC report by Yeung (2021), the UK - FTSE 100 chief executives usually earn over 100 times the amount of an average employee of the company. For example, this report observed that the highest-paid CEO, Mr. Tim Steiner of supermarket Ocado earned millions in 2019, equivalent to 2605 times his company's average staff pay. Similarly, a report in the UK Independent Newspaper by O'Connell (2021) noted that while CEO pay has risen by 1,322 per cent since 1978, the pay for an average worker in the UK rose by 18 per cent rise during the same period.

**Figure 1.1:** Protests regarding high CEO pay.



*Source: BBC report by Yeung (2021).*

*Description: Employees of large companies in which CEOs earn huge compensation are becoming more agitated at the pay gap.*

Figure 1.1 shows a picture from the BBC report by Yeung (2021) of protesting workers of large companies in which CEOs earn huge compensation packages relative to other employees of the company. Likewise, according to a report by CNBC-Hess (2021), the CEO pay gap in the US increased rapidly over the past decade. The report also cites a study by the Economic Policy Institute which found that, in 2020, the total compensation received by CEOs of the largest 350 firms in the US was almost 351 times the remuneration for an average paid staff. This pay gap was up from just 20 times in 1965. While high levels of CEO pay may be justified on grounds of their unique skills and expertise, it could also be argued that such excessively high pay gaps may be a reflection of the extent of the conflicts of interest between the board of directors and their standing committees, including compensation and auditing. Similarly, the Institute for Policy Studies (2019) reported that around 80 per cent of the US - S&P 500 companies pay their CEOs more than 100 times their average workers.

The implication of such excessive inequality in pay is a high level of anxiety among employees, families, and communities across the country. Moreover, a survey by Price Water Coopers - PWC (2017) found that lavished executive remuneration packages aggravated existing income inequality in societies. Hence, it concluded that a reduction in the executive pay gap should eliminate poverty to help developing countries achieve UN Sustainable Development Goals. Most specifically SDG Goal # 10 focuses on reducing inequalities within and among economies.

In a similar vein, to enhance the transparency of the widening pay gap in the USA, the SEC introduced a disclosure requirement for companies to divulge their executive remuneration ratios. Unfortunately, there is no such mandatory requirement to disclose executive pay ratios in Pakistan. Consequently, most companies do not reveal the amounts of bonuses and perquisites awarded to their top executives in their annual reports. The widening executive pay inequality has been met with anger from the public policymakers and academic researchers; with many calling for effective monitoring by the board and its standing committees to ensure greater transparency and accountability in chief executive compensation schemes.

Hence, the motivation for conducting this study is primarily rooted in the curiosity to understand the nature of the executive pay gap in Pakistan with particular emphasis on the influence of remuneration and audit committee characteristics. This research is an effort to examine the extent of this problem in large, listed firms on the national stock exchange of Pakistan (i.e., PSX) by using a quantitative method to demonstrate how policy initiatives to improve the independence, expertise, and level of activity of board standing committees help to narrow the executive pay gap.

The pay gap between the CEOs and other executives has increased steadily over the past few years, with CEOs typically earning significantly more than other executives of the company. Such widening pay inequality signals a violation of the rights of the shareholders of the company (Słomka-Gołębiowska, 2016). The responsibility of establishing robust monitoring systems to control this pay gap is entrusted to the board of directors and its sub-committees. According to DeZoort et al. (2002, p.40), “the board assumes an oversight role that typically

involves monitoring the CEO and other top executives and scrutinising the control system”. Ezeani et al. (2023) suggest that the composition of the governing board can mitigate agency conflict. Given its extensive responsibilities, the board delegates some of its supervisory duties to its sub-committees, including remuneration and audit committees.

According to Laux and Laux (2009), among the most important functions of the board, two of them are setting the top executives’ compensation, and overseeing the financial reporting process. It is expected that both these functions are interdependent as the compensation schemes motivate the CEOs to manipulate earnings. Hence, to enhance the quality of its decision, these two important functions are normally delegated to remuneration and audit committees. They further suggested that “when the board functions are separated through the formation of sub-committees, the compensation committee is more likely to recommend higher pay levels as the increased cost of oversight is borne by the audit committee.” (Laux & Laux, 2009, p.2). Therefore, given that part of the CEO compensation comes from performance bonuses, which are based on the reported earnings of the company, it is essential that the responsibilities of the compensation and audit committees are integrated. Such should ensure that accurate earning figures are used by the remuneration committee to set acceptable executive compensation. Hence, this study postulates that the audit committee has a significant role in setting the chief executive compensation. Thus, since there is limited research on the impact of remuneration and audit committees on CEO compensation, this research fills the gap in the academic literature on this central issue.

Remuneration committees are generally created to independently set, review, and monitor the compensation package awarded to top executives in the organizations. Regarding the audit committees, according to Song and Windram (2004), audit committees are now shifting their scope from the conventional financial reporting function, towards a greater emphasis on the internal controls and risk management function of the organizations. However, according to Lee (2013), the board and its sub-committees are more effective in discharging their responsibilities when they are structured in a manner that ensures their autonomy to discharge duties without hindrance and free of retribution. Examples of the fundamental dimensions frequently mentioned in the literature include those characteristics associated with the level of independence, expertise, gender diversity and activity of the board and its standing committees.

To date, studies on the impact of remuneration committee characteristics on CEO compensation are limited and reported mixed and inconclusive results. For example, Pukthuanthong et al. (2004) conducted a study on 160 US firms using the Execu-comp database and found a negative relationship between remuneration committee independence and top executives' pay. They concluded that as the percentage of independent directors increases, executive remuneration decreases. Similarly, a recent study by Alfarisa and Harymawan (2021) on 240 Indonesian ISX-listed firms found that there is a negative association between the proportion of independent directors and executive compensation. Hence, they proposed that companies with a higher ratio of independent directors provide relatively lower compensation to their executives due to effective supervision of management's opportunistic behaviour. Additionally, they suggested that independent directors are more effective at designing and monitoring executive compensation. Also, they noted that the quality of the remuneration committee was captured by composition characteristics involving the number of members, the proportion of independent directors, the independence of the chairman, the presence of



financial expertise, and the number of meetings conducted during the year. The result revealed that relatively lesser total compensation is paid to the directors in companies that have the presence of a higher quality remuneration committee.

Likewise, Scholtz and Engelbrecht (2019) using data from the top JSE 100 - Johannesburg listed companies found a negative relationship between the existence of independent directors on the remuneration committees and total executive director's remuneration. On the other hand, Harymawan et al. (2020) using data on companies listed on the Indonesian stock exchange during 2014 – 2017 found that the quality of the remuneration committee is positively associated with both, i.e., executive compensation and the company's performance. They commented that companies with high-quality remuneration committees are more likely to link their executive's remuneration with firm performance, thus, in such companies' higher remuneration is linked to attaining higher financial outcomes. Hence, they explained that establishing a high-quality remuneration committee creates compensation packages that induce superior firm performance. Nonetheless, they also suggested that executive compensation packages should be attractive enough to incentivize and retain talented managers. Therefore, it was noted that remuneration committees play an important role in designing and monitoring executive pay schemes to reduce agency conflict. Similarly, Madhani (2015) reported that Indian companies which have a greater number of board committees including audit and remuneration committees, usually exhibit a higher standard of corporate governance and provide better disclosures in their annual reports.

Likewise, Aslam et al. (2019) suggested that the size of the board and the existence of sub-committees have a positive association with executive compensation and firm performance.

This indicates that a larger board and its sub-committees are more capable of evaluating the company's interests, which in turn, improves its financial performance. On the other hand, Gregory-Smith (2012) conducted a study on UK - FTSE 350 companies and found no association between CEO pay and independent remuneration committee directors. Similar results were found by Cheng and Firth (2005) who conducted a study in the context of Hong Kong and found that independent directors were not able to reduce the top executive remuneration. Anderson and Bizjak (2003) also found that an increase in remuneration committee independence does not affect chief executive pay. Likewise, Słomka-Gołębiowska (2016) conducted a study on Polish banks listed on the Warsaw Stock Exchange and found that the involvement of independent remuneration committee members does not reduce the level of executive pay or make incentive contracts more efficient. They further suggest that paying excessive compensation to top executives is a violation of the rights of minority shareholders. Similarly, regarding audit committees, Al-Matari (2014) found no significant association between audit committee independence, audit committee size, audit committee meetings and the performance of companies listed on the Muscat Stock Exchange in Oman.

While several studies have been conducted in the research area of the pay gap, however, most of them have focused on different specific contexts only, like the gender pay gap (for example, Birindelli & Iannuzzi, 2022; Burns et al., 2022; Bussin & Christos, 2016), and in context to the gender pay gap in NHS foundation trusts (Ellwood et al., 2020), and the impact on R&D (Sun & Luo, 2019).

Despite the extensive literature on the audit committee, little or no attention has been paid to its role in mitigating the executive pay gap. Hence, regarding audit committees, researchers

have only focused on the impact of audit committees on audit fees (Ge & Kim, 2020; Xiong, Li & Gao, 2021; Yin & Du, 2021), and the impact on company performance (Wang & Huynh, 2013; Zhou et al., 2018). However, there is limited empirical research available on the impact of remuneration and audit committee characteristics on the executive pay gap between CEOs and other executives. Further, to the best of the researcher's knowledge, no such research is available in the context of Pakistan. Consequently, this study bridges this research gap in the literature.

Overall, this research focuses on two main committees i.e., remuneration and audit committees of the board and not on other committees such as CSR which are usually found in companies for three key reasons. Firstly, remuneration and audit committees are the two main committees recommended by local and international corporate governance codes like SOX in the US (2001), the Greenbury report (1995), Cadbury (1997) report in the UK, and CCG in Pakistan. Secondly, remuneration and audit committees are frequently mandated by regulators because they are expected to influence executive compensation programmes with the associated pay gap. Lastly, at the time of data collection, the data on the other relevant monitoring sub-committees was not available for many of the Pakistani companies. This is presumably because they are not local code requirements.

Research in the context of Pakistan is important because it is presumed that the lack of studies on the topic leads the developing countries' regulators to copy-paste or import corporate governance policies designed for developed countries, without proper consideration of cross-country institutional differences (Young et al., 2008). Pakistan and other developing countries usually suffer from corruption, political instability, weak governance, and law enforcement

issues. Further, due to the recent trends in globalization, an increase in chief executive pay can also be attributed to the mobility of executives across countries. In this regard, the context of Pakistan is also important for international investors because of the increase in foreign direct investments in Pakistan. Moreover, due to the global nature of the economy, the context of Pakistan is important for employers and executive head-hunters intending to hire chief executives in/from Pakistan. In addition, the case of Pakistan is also important because of its geo-political location, the development of China's 'One Belt, One Road' initiative passing strategically through Pakistan which is popularly known as CPEC, and the structural governance differences in Pakistan like weak state systems, as compared to developed countries in which most of the previous research have been conducted.

### **1.3 Research Aim, Objectives, Research Questions, and Methodology**

This study aims to examine the association between chief executive compensation and remuneration and audit committee variables in Pakistan. To address this aim, three main research objectives have been identified: First, to uncover the underlying CEO compensation trends across different industries listed on the Pakistan Stock Exchange – PSX-100. Second, to analyse the impact on executive compensation of the independence, expertise, and activity of the 'remuneration committees for the companies listed on the PSX. Third to assess the impact on executive compensation of the independence, expertise, and activity of the 'audit committees' for the companies listed on the PSX.

Thus, in line with the above objectives, the study proposes the following research questions:

The first research question is:

*Does the underlying trend for CEO compensation for firms listed on Pakistan's PSX 100 index differ across different industrial sectors?*

The second research question is:

*What is the impact on executive compensation of the independence, expertise, and activity of the 'remuneration committees' for the companies listed on the PSX?*

The third research question is:

*What is the impact on executive compensation of the independence, expertise, and activity of the 'audit committees' for the companies listed on the PSX?*

This research uses a quantitative approach to find the answers to the above research questions. It focuses on understanding the impact of remuneration and audit committee variables on the chief executive compensation gap in Pakistan. Before assessing the effect of these variables on the dependent variable, the tests for pairwise correlation, multicollinearity, normality, heteroscedasticity, and linearity were performed and were found to be satisfactory.

The empirical analysis for this thesis is conducted on the panel data set of the top 100 companies listed on the PSX. One of the key benefits of using the panel regression method is that it can differentiate between the cross-sectional and time series data, which also allows for removing any unobservable heterogeneity in the data. Considering the above assumptions, Gujrati (2014) suggests that the Ordinary Least squares (OLS) method "is the most popularly used in practice, which provides estimators of the parameters that have several desirable statistical properties", such as the estimators are linear, unbiased, and the OLS estimators have smallest variance. So, the values can be estimated with the least possible uncertainty. Hence,

under the assumed conditions, “OLS estimators are BLUE: best linear unbiased estimators, which is the spirit of the renowned Gauss–Markov theorem”, which provides a theoretical justification for the use of the least square method (Gujrati, 2014). So, the benefits of using the OLS method are that it is relatively simple to use and understand, it is highly applicable and useful in solving various statistical problems and is the best linear unbiased estimator.

#### **1.4 Research Contributions**

To the best of the author’s belief and knowledge, no study was conducted on this specific topic in the context of Pakistan. The existing studies have mostly focused on the determinants of executive compensation (Hussain et al., 2014; Shah et al., 2009), the impact of board’s governance on executive compensation (Yasser et al., 2011; Anjam, 2010), and some have focused on contexts such as the gender pay gap (Birindelli & Iannuzzi, 2022; Burns et al., 2022; Ellwood et al., 2020; Bussin & Christos, 2016). Little attention has been paid to the impact of remuneration and audit committees on the executive pay gap. The study makes three important contributions:

*Firstly*, it uncovers the trends in executive compensation across different industrial sectors in Pakistan from 2016 to 2019. The results have implications for the board of directors, executive head-hunters, tax authorities, as well as remuneration consultants as they should help them visualise the variations in sector-wise trends in chief executive compensation across the listed companies.

*Secondly*, it is important to note that the literature has largely focused on the impact of committee characteristics on the chief executive pay, without paying much detailed attention to the compensation of other executives of the company. Little attempt was made to find the impact of remuneration and audit committee characteristics on the pay gap between a CEO and an average executive of the company. Therefore, the current study is the first of its kind to investigate this pay gap between the compensation of a CEO and an average executive in the context of Pakistan. The findings of this study suggest that a huge executive pay gap exists in Pakistan, which is as high as 210 times between a CEO and an average executive of the company.

*Lastly*, the study reveals the impact on executive compensation gap of the remuneration and audit committee governance variables. While several corporate governance studies have investigated the determinants of CEO compensation (e.g., Conyon & He, 2012; Bebchuk & Fried, 2003; Core et al., 1999), there has been very little focus on the impact of committee variables on the executive compensation pay gap. To the best of the author's knowledge, no specific study has evaluated the possible impact of audit committee selected variables on CEO compensation in Pakistan. Thus, the current study fills this gap by shedding light on the impact of independence, expertise, and activity of the audit committees. These variables are carefully selected from the priorities emphasized by the Sarbanes Oxley (SOX) Act – Sarbanes (2002), the Greenbury report (1995), and the Cadbury (1997) report, as well as the international and local codes of corporate governance. The findings of this research suggest that the independence of the remuneration committee has a negative impact on the executive pay gap, while the independence of the audit committee has a positive impact on the pay gap. Additionally, the expertise of the remuneration committee is also found to have a statistically significant and negative impact on the executive pay gap in Pakistan.

## 1.5 Structure of the Thesis

The study is organized into seven chapters broadly discussed as follows:

**Chapter 1** presents the introduction to the thesis. It comprises the background, motivation, objectives, and major contributions of this research.

**Chapter 2** reviews the theoretical and empirical literature related to this research topic. The theoretical literature identifies five main theories of corporate governance namely: agency theory, transaction cost economics, institutional theory, legitimacy theory, and stakeholder theory. These principles are used to understand and discuss the main concepts which underpin the supervisory function of the board and its sub-committees as well as the channels through which such roles affect executive compensation. The review of empirical literature involves studies on both developed and developing countries including Pakistan. The empirical literature review uncovers mixed results in those studies concerning broader corporate governance concepts and executive compensation. Additionally, there is limited empirical research on the impact of remuneration and audit committees on the executive pay gap, especially in the context of developing countries including Pakistan.

**Chapter 3** describes the data used in this study. It discusses the research sample process and data collection sources, including the efforts made to authenticate their validity. It also provides the descriptive statistics, data distribution and sector-wise emerging trends of CEO compensation using graphs and in doing so makes important contributions to meeting the first



research objective of this study which is “to find the underlying CEO compensation trends across different industries listed on the PSX 100 index”.

**Chapter 4** provides the research method underpinning this study. This chapter specifies the empirical model and develops the hypotheses on the expected relationship between the dependent variable and the independent variables (i.e., remuneration and audit committee selected variables) used in the regression model. Further, this chapter also provides the measurements and definitions of the variables, for example, the relative chief executive compensation was measured by dividing the CEO compensation by the average executive compensation. It also discusses the procedures of data analysis and potential econometric problems like normality, heteroscedasticity, linearity etc. and the methods that can be used to resolve them.

**Chapter 5** provides a discussion and explanation of the empirical results of the impact on executive compensation of the independence, expertise, and activity of the ‘remuneration’ and ‘audit’ committees for the PSX 100 listed companies. It focuses on the statistical significance of these committee characteristics on relative CEO compensation in the context of Pakistan based on pairwise correlations and multivariate OLS regression analysis.

**Chapter 6** provides the results of the robustness test and additional analysis. It presents the results of remuneration and audit committee variables conducted on the two main industrial groups. The data is divided into two sub-sample groups, by classifying the firms based on the similarities in their business model and industrial operations. It is presumed that the differences in the results across the two industrial groups are presumably due to the differences in their business models, operations, and government support for the sectors which are of strategic

importance to the country. Group A is composed of Business-to-Customer (B2C) consumables-related companies, whereas Group B is made up of Business-to-Business (B2B) related companies. Further, this chapter also provides the results of additional analysis conducted in this study.

**Chapter 7** provides an overall conclusion on the work carried out in this study. This chapter summarizes the observable key points from each chapter in the thesis with their associated policy implications. It concludes by outlining the limitations and suggestions for future research.

## **Chapter 2: Literature Review**

### **2.1 Introduction**

The main aim of this research study is to examine the impact on executive compensation of the independence, expertise and activity of remuneration and audit committees for companies listed on the main stock exchange of Pakistan i.e., the Pakistan Stock Exchange (PSX). Based on these objectives, this chapter will review the literature on corporate governance to highlight the channels through which the functions of high-quality remuneration and audit committees influence the chief executive's compensation. Our study aims to challenge the traditional notion that only remuneration committees have an impact on executive compensation, instead, we posit that audit committees also have an impact on it. The argument in this chapter is broadly structured into two sections. Section 2.2 defines corporate governance; Section 2.3 presents the theoretical framework underpinning the empirical work to be carried out in this study. Section 2.4 summarises the empirical literature on the relationship between the board of directors and chief executive compensation, with a primary focus on the impact of audit and remuneration committees in Pakistani listed companies. Section 2.5 concludes with a summary of the chapter. We will deal with each of these here in turn.

### **2.2 Defining Corporate Governance**

According to Solomon (2020), "There is no single accepted definition of corporate governance". Consequently, two perspectives of corporate governance were recommended. The *narrow* view promotes the traditional finance paradigm by restricting corporate governance to the relationship between a company and its shareholders only, which is also

expressed in the agency theory. However, a *broader* view considers a more inclusive definition of corporate governance by defining it as follows:

*“Corporate governance may be seen as a web of relationships, not only between a company and its owners (shareholders) but also between a company and a broad range of other ‘stakeholders’ i.e., employees, customers, suppliers, bondholders....”.*  
*(Solomon, 2020, p.5).*

Similarly, the Cadbury Report of the UK - Cadbury (1992) defines corporate governance as "the system by which companies are directed and controlled", which highlights that quality of direction and control arrangements are the two important foundations of an effective corporate governance system. The Organization for Economic Cooperation and Development – OECD has long been trying to create awareness about the importance of governance in organizations and has also offered a definition that is relatively highly accepted: *“set of relationships among a company’s management, its board, shareholders, and other stakeholders.”* (OECD, 1999, p.10).

The implication of the foregoing corporate governance definitions is the significance of maintaining a good connection between the executive management and the organization’s diverse internal and external stakeholders. One way of achieving an improved relationship between internal and external stakeholders including shareholders is through a fair remuneration system which can reduce the conflict of interest among the executives (*agents*) and shareholders (*principals*) of the company (Jensen & Meckling,1976). Furthermore, these corporate governance descriptions indicate that companies must have appropriate systems and processes to successfully direct and monitor business operations. The responsibility of

establishing and supervising these robust monitoring systems and processes is entrusted to the board of directors and its sub-committees. Similarly, the board is “the official first line of defence against managers who would act contrary to shareholders’ interests.” (Brennan, 2006, p.579). According to DeZoort (2002) to deal with the potential principal-agent problem, “the board assumes an oversight role that typically involves monitoring the CEO and other top executives, approving the corporation's strategy, and monitoring the control system” (DeZoort, 2002, p.40). Given its diverse responsibilities, the board usually delegates some of its oversight duties to its sub-committees, including audit and remuneration committees.

According to Lee (2013), the board and its committees are more effective in discharging their internal governance responsibilities, if they are structured in a manner that maintains their freedom to discharge their duties without hindrance and free of retribution. Examples of the fundamental dimensions of the board with associated sub-committees frequently cited in the literature include characteristics like the level of independence, size, diversity, expertise and experience, tenure, and transparency. The next section discusses the key features of the empirical literature on internal corporate governance and organisational practices with particular emphasis on the role of audit and remuneration committees in determining executive management compensation packages.

### **2.3 Theoretical Literature**

This section summarises the main theoretical concepts which underpin the supervisory function of the board of directors and the channels through which such roles affect executive compensation. These five theories are (i) Agency theory, (ii) Transaction cost economics (iii) Institutional theory, (iv) Legitimacy theory, and (v) Stakeholder theory. Further, theoretical perspectives on the executive pay gap are also presented.

### 2.3.1 Agency Theory

The agency theory literature dates back earlier to Berle and Means (1932) who highlighted the problems inherent in the “separation of ownership and control”, with associated contractual agreements. They concluded that this separation of ownership and control is the ‘root cause’ of all the tensions and disagreements between the managers and shareholders. The nature of this agency problem was highlighted in the seminal work of Berle and Means (1932) in the following words:

*“The stockholder is left with... little more than the loose expectation that a group of men, under a nominal duty to run the enterprise for his benefit and that of others like him, will observe this obligation.”* (Berle & Means, 1932, p. 244).

Moreover, agency literature refers to these shareholders as the ‘principal’ and the managers as ‘agents’ of the company. A subsequent seminal work by Jensen and Meckling (1976) considered this ‘principal-agent relationship’ as a nexus of implicit or explicit contracts to manage the transactions of the company. They further explained that these problems arise due to the division of labour and people working together with different aims and objectives. Nevertheless, they suggested that compliance by individual managers primarily depends on whether the contracts made with them, implicitly or explicitly align with their objectives. Furthermore, to support the self-interests of management and residual risk-bearing shareholders, corporate law sets out a series of statutory contractual structures, including the governance functions of the board, its committees, and its auditors. These regulatory elements of corporate governance mechanisms which are intended to promote greater goal congruence among the principal and agents are increasingly mandated by governments, stock market authorities, and various professional accounting bodies like ICAP, ICAEW, and ACCA.

According to Solomon (2020), agency theory is historically connected with the initial development of stock markets. In earlier days, before the formation of modern stock exchanges, the company owners were primarily dependent on borrowing from wealthy friends and family members. However, it was soon realized that to meet the increasing demand for investment finance to support the growth of firms, it was necessary to find better financing alternatives to the above; where a larger number of investors, other than friends and family can reliably invest their money. Thus, the availability and sale of company shares on the stock exchange were seen as the catalyst in the flow of capital and economic growth in those regions.

However, on the other hand, this development in the stock market has its downside as well, primarily because shareholders of the company had only little direct influence on the operations of the company. Further, the advent of the limited liability form of businesses and allowing the general public to freely buy shares resulted in a conflict of interest between those who provide finance and those recruited to manage their funds. This mismatch in the goals of shareholders and management is referred to as the ‘principal-agent’ problem (Solomon, 2013). The agency theorists attempt to explain and address these agency problems by suggesting initiatives such as instituting a system of monitoring and control by establishing a governing board and its committees (Ezeani et al., 2021) as well as linking the chief executive compensation with the achievement of performance targets.

Alchian and Demsetz (1972) discussed the determinants of agency cost, especially in situations where the completion of work relies on the cooperation of two or more individuals. The problem of shirking and the capability of the board to detect and punish such evasion was debated and they recommended the creation of a ‘central monitor’ who could hold the residual

claim to minimize the agency costs. In line with company law, shareholders elect a board as a central monitor, who has the legal power to recruit, dismiss and compensate the senior management team including the chief executive of the company (SECP Companies Act, 2017). Subsequently, it is the contractual responsibility of the management to invest the shareholder's funds in those production factors such as human resources, machinery, and technologies which are needed to exploit the opportunities to earn appropriate returns for their shareholders.

However, using contractual agreements as a control strategy may also involve significant agency costs. For example, to reduce the problem of conflict of interest, it is the principal's responsibility to create incentives for these agents, and then keep on actively monitoring their behaviour by incurring agency costs. Jensen and Meckling (1976) categorised these agency costs into three types, namely (i) monitoring expenses, (ii) bonding expenditures, and (iii) residual loss. They argued that the principal regularly incurs monitoring costs to observe the behaviour of the agents to ensure that it conforms to the terms of their contractual agreement. Examples of monitoring costs can be auditing fees, expenses incurred in the appointment and training of directors, as well as the formation and maintenance of the board and its committees like remuneration and audit committees. Moreover, these monitoring costs include the amount spent to provide attractive incentives to the top executives to align their interests with those of the principal (Solomon, 2013).

Ex-ante bonding costs are incurred when agents attempt to convey and convince analysts and investors that they are trustworthy and capable of maximizing shareholder wealth (Solomon, 2013). The managers try to communicate this gesture by disclosing additional information about their risk management strategies in the company's annual reports and arranging regular meetings with the shareholders. Agency theorists assume that agents or management of the



company can act in their self-centred if their behaviour is not monitored independently and effectively and such additional agency costs can also cancel out the gains achieved from better managerial behaviour and reduce shareholder wealth (Salem et al., 2021a). Agency theorists have termed this decline in wealth as the residual loss to the shareholders.

Furthermore, agency theorists note that ‘information asymmetry’ is another aspect of the principal-agent problem (Beaver et al., 1989; Waterman & Meier, 1998; Ezeani et al., 2021; Mouselli & Hussainey, 2014; Salem et al., 2021b; Tan et al., 2022; Usman et al., 2022a). This imbalance in the flow of information arises from the fact that managers are much closer to the actions and daily operations of the company. This gives them access to more in-depth information about the company's operations and position than any existing or prospective shareholders.

According to Beaver et al. (1989), information asymmetry leads to two main problems namely ‘moral hazard’ and ‘adverse selection’. The *first* problem ‘moral hazard’ occurs when the managers attempt to diminish the ability of shareholders to accurately deduce and relate effort expended at work to their remuneration, perhaps by publishing account statements containing errors, falsified transactions or misreporting effort expended (Salem et al., 2023a). Furthermore, according to Scott (2012), moral hazard occurs when one party is unable to fully observe the behaviour of the other party. So since the efforts are not easily and accurately observable, the managers may reduce their efforts expended. The agent tries to benefit by providing inferior quantity and quality information to the principal to prevent them from observing their evasive attitude to work. This prevents the principal from finding out that the effort expended by the agents is below the level that was stipulated in their contracts. The possible reasons for such deceitful managerial behaviour may include workload pressures, a

lack of required skills with no provision for suitable training and disciplinary processes for offenders.

The *second problem* is ‘adverse selection’, which occurs when agents try to practise self-selection in the aspect of their work and performance targets (Beaver et al., 1989). This usually happens when exploitative managers attempt to deceive investors and market analysts into believing that the duties stipulated in their contracts have been completed with all the predetermined performance targets achieved. The absence of effective governance structures monitoring mechanisms would make it difficult for these interested parties to confirm the accuracy of the published accounts. For example, agents may try to camouflage poor earnings by manipulating profits and financial targets in the statements (Scott, 2012).

Moreover, opportunistic CEOs would seek to maximize their financial benefits by using opaque language and complicated techniques to value transactions and effort expended. The reasons for engaging in such deceitful behaviour may include agents trying to win reputation, promotion, perks, and bigger bonuses. Hence, opportunistic managers may wish to put their self-interests first by extracting bigger salaries and bonuses from the company. This might encourage them to focus on those short-term projects which provide opportunities to increase their managerial compensation.

Agency theory suggests that corporate governance mechanisms can help reduce the agency cost between the principal and agents (Jensen & Meckling, 1976; Mouselli & Hussainey, 2014). Thus, in the context of this research, it is hypothesised that the creation of remuneration and audit committees to decide on chief executive pay would discourage deceitful behaviour with associated reductions in agency costs.

Fama and Jensen (1983) remarked that it is ultimately the board's responsibility to control and monitor strategic initiatives and decisions taken by company managers. In this regard, investors are expected to take an authoritarian approach by directly appointing the board and its remuneration and audit committees to safeguard their interests. Forming these remuneration and audit committees should help to improve the quantity and quality of information available to directors. Furthermore, the presence of remuneration and audit committees could improve accountability and transparency of managerial activities because their behaviours are closely scrutinised by directors with expertise in the relevant business operations. Moreover, effective committees should reduce the likelihood of earnings misrepresentation by managers for their gains (Carcello et al., 2011).

Besides, the agency literature suggests that the characteristics of the supervisory board and its remuneration and audit committees might have an impact on its monitoring capabilities and performance. In this regard, the literature identifies certain characteristics such as the independence of the board, the size of the boards and the level of financial expertise of the members of the board and its selected committees as key factors influencing the monitoring effectiveness of directors. According to Fama (1980), the most important function of the board is to 'scrutinize' the top decision-makers inside the company. With regards to the dimension of board independence, their paper suggested that adding external directors to the governance system of a company could lower the chances of collusion among the top management team and increase the feasibility of the board and its function as a "market-induced mechanism" for low-cost internal transfer of the control. These independent directors' job is to scrutinise the behaviour of top management including the CEO. On the other hand, the external market forces discipline these outside directors by pricing and compensating them for their performance as referees.

Furthermore, Albitar et al. (2022) suggest that independent directors can help promote effective decision-making and can support the governing board in decreasing the information asymmetry by pushing managers to disclose more detailed information to the shareholders (Albitar, 2015; Gerged et al., 2021). Similarly, De Vlamincx and Sarens (2015) concluded that the independence of the audit committee is crucial in monitoring the quality of financial statements issued by that company. Moreover, Bathala and Rao (1995) proposed that the composition of the board and especially the presence of independent directors is an important governance mechanism to resolve, or at least mitigate agency conflicts. They further explained that the presence of outside independent directors is important because they have vast knowledge and expertise in their specific business areas. Moreover, unlike the internal executive directors, the outside independent directors are not easily influenced by group thinking and subordinate modes of behaviour, and they tend to remain impartial since their reputation as referees is also at stake in this entire process (Ezeani et al., 2022; Komal et al., 2022).

Regarding the dimension of the size of the board, researchers like Jensen (1993) and Yermack (1996) noted that larger boards are difficult to control and become ineffective in performing their required monitoring function, because of their coordination and processing issues. Larger boards and their sub-committees make the monitoring process more difficult instead of making it easier, leading to a reduction in the quality of reporting. According to Vafeas (2005), large-sized boards have long been associated with higher costs of coordination and lower firm value. They insinuated that initially adding more members to the committee adds value to the company, however, when these committees grow too large, they become difficult to manage and their performance declines, mainly because of delays in processing and diffusion of responsibilities. However, on the other hand, if the size of the committees is very small, then they may not be able to perform their duties efficiently, including the oversight of the financial

reporting and audit quality, due to increased workload pressure on the limited number of available members. Large-sized boards and committees may have greater diversity, skill sets, and a pool of resources than the smaller ones (Basiruddin, 2011; Vafeas, 2005). Moreover, companies with larger boards usually perform financially better, which indicates that companies with large-sized boards are better placed to monitor and assist in steering the performance of the companies (Kyereboah-Coleman & Biekpe, 2007; Usman et al, 2022b; Ezeani et al, 2023).

Bebchuk and Fried (2003) observed that the topic of executive compensation has also recently attracted a great deal of attention from financial economists. Furthermore, they explained that the dominant approach among financial economists is to view managers' pay arrangements as a (partial) remedy to the agency problem; known as the "optimal contracting" approach in the literature. However, they argued that an 'alternative view' to study the link between agency problems and executive compensation is through the "managerial power approach,". This considers executive compensation not only as a mechanism for addressing the agency problem but also as part of the actual agency problem itself. Moreover, they claimed that the presence of managerial power and rent extraction is likely to influence the design of remuneration arrangements. The manager's influence on the board and its remuneration committees mean that they are somewhat involved in 'setting their pay' which could mean that chief executives might try to extract excess pay.

Thus, one of the hypotheses to be investigated in this study is that the reward received by the CEOs is related to the composition of the remuneration and audit committees of the board. So, an independent and diverse committee is expected to be better equipped to monitor the work performed by the CEOs to limit the residual losses incurred by shareholders when CEOs shirk

or dishonestly record their effort expended. So, in the context of this theory, it is hypothesised that more independent and suitably composed remuneration and audit committees are more likely to formulate pay packages which are congruent with the effort expended by the chief executive in line with their employment contracts.

To summarize, the key strengths of the agency theory include its focus on clear assignment of responsibilities for the managers and board, regular monitoring and control, better risk management, and the alignment of the interests of managers (*agents*) and shareholders (*principal*) (Solomon, 2013). However, the limitation of this theory is the heavy cost of monitoring and control, and its overemphasis on financial incentives for managers. Further, the agency theory does not consider the goals of other stakeholders of the organization which are also important, such as customers and society.

### **2.3.2 Transaction cost economics Theory**

The foundations of transaction cost economics theory can be found in the seminal works of Coase (1937; 1960) and Williamson (1979) and were developed as an interdisciplinary joiner to combine ideas from several subject areas such as economics, law, and organizational behaviour. Coase is arguably known as the father of transaction cost theory and attempts to find the reason for the existence of the firms (Williamson 1985; Rindfleisch, 2020).

According to Coase (1937, p. 390), “the main reason why it is profitable to establish a firm is because of the cost of using the price mechanism”. These costs include charges for negotiating, inspecting, supervising, drawing up and concluding a contract for each transaction (Coase,

1993). Moreover, the conceptualization of transaction costs was 'comparative' because these costs could be reduced if operations took place 'within' a firm, rather than external 'market'. According to Solomon (2013), transaction cost theory predicts that the size of companies in today's era has increased so much that they substitute for the market when deciding on the resources. The changes in prices in the external environment direct the production activities of the organizations and the related transactions. Companies which have efficient backward, forward, and lateral integration can have better control over their prices and production activities. This means that the way firms are organized plays an important role in determining the level of control over their business transactions.

The transaction cost theory posits that the decision on whether a company manufactures a product itself or buys from an outside supplier is a critical element in the determination of future business costs. Furthermore, according to Solomon (2013), those companies which internalize transactions should get a competitive edge in the market. This internalization of operations could reduce future risks and uncertainties, as well as information asymmetry for businesses, especially in the context of control over their prices and operating decisions. Additionally, the removal of information asymmetry is beneficial for companies because it lessens the risk of dealing with suppliers of critical resources and ultimately leads to the reduction of the cost of doing business for them. For example, by internalising production, the firm can reduce losses associated with logistics and poor quality as well as uncertainties in receipt of supplies. Such internalisation of activities should ensure that information relating to the effort expended and targets are accurately recorded and circulated amongst the directors, thus reducing the opportunity for dishonest managers to falsify the figures. This greater amount and quality of information can result in enhanced monitoring and better remuneration decisions.

Williamson (1979) expanded the scope of transaction cost theory by considering firms and external markets as two opposite ends on the same continuum, rather than two separate choices for economic production. Furthermore, he identified that there are two important assumptions about the behaviour of economic actors i.e., bounded rationality and opportunism. The assumption of bounded rationality was built on the argument by Simon (1957) that transaction cost economics tries to embrace human behaviour more practically. He argued that managers will attempt to apply ‘bounded rationality’ in decision-making, meaning that a manager’s reasonableness is limited by a range of factors such as availability of quality information, time and cognitive capability. Moreover, to study these organisational issues from the comparative contractual perspective, it is important to understand the motivation and behaviour of individuals involved in the transactions. The theory of managerial ‘opportunism’ was later clarified by Williamson (1985) as a behaviour of “self-interest seeking with guile”.

Moreover, Williamson (1979), highlighted three key dimensions of economic transactions, namely, asset specificity, frequency, and uncertainty. More specifically, Williamson (1988) advocated that operations that involve a substantial amount of specialized assets occur repeatedly, and/or face a high degree of future uncertainty and have comparatively high transaction costs because economic actors have limits to their prudence and are more likely to act opportunistically. Consequently, Solomon (2013), inferred that deceitful managers would regularly try to undertake intricate transactions to benefit their self-interests. They acknowledged that organisational arrangements which enable managers to act opportunistically by producing poor quality goods, delivering products late, and/or not following through with provisions of a contract must be resolved by investors and regulators to ensure a sustainable flow of investment into innovation and creative industries. Following Williamson (1975), they argued that transaction-specific assets in these industries are non-



deployable, and physical and human skills, knowledge and experience are specialized and unique to a task.

Numerous actions are now considered to curb the opportunistic behaviour of managers. One that is promoted by economic transaction theorists' centres on the re-organisation of a firm's activities into specialised 'departments' headed by individuals with relevant expertise and experience in their fields. This departmentalization could improve managerial accountability transparency together with the quantity and quality of information flow to the board of directors. According to Jürgen Drumm (1999), informational efficiency is improved when workflow and routines within these departments are customised to exploit the skills, knowledge experience and extent of specialisation of employees. Furthermore, he argued that problems associated with bounded rationality and opportunism could be restrained by creating an environment that is conducive to good corporate governance with associated training for directors. Therefore, he emphasised the importance of re-designing organizational systems to strengthen the control and monitoring powers of directors.

Additionally, Jürgen Drumm (1999) highlights the importance of creating robust performance measurement systems to accurately document individual executives' contributions otherwise the pay system might not be useful in linking remuneration to actual company outcomes. Thus, confidence in individual performance monitoring systems should motivate employees to complete assignments, hence reducing the costs of supervision with accompanying transaction costs. Similarly, according to Theuvsen (1997), goal-setting and employee incentive systems can be built into jobs at the design stage to ensure that departments are directly linked to their external market's performance targets. Thus, the transaction cost theory is concerned with how various aspects of organisational structure and leadership might influence the cost of

monitoring and supervision by directors with a related compensation package. For example, behavioural consequences of dividing business operations into separate activities which can easily be coordinated within the organization's management hierarchy and departments should significantly reduce monitoring responsibilities. Therefore, it is logical to argue that subdividing company activities into specialist departments with clear lines of reporting and devolved responsibilities for each divisional manager would mean that tasks are easily scrutinised and traced to the overall mission statement of the organization. Such accountability and transparency should help align the interests of managers to those of primary stakeholders including shareholders with an associated reduction in moral hazard and adverse selection problems.

Furthermore, managerial opportunistic behaviours can also be further controlled by organising the assets, liabilities, and equity of an organization in a manner that enhances the overall accountability and robustness of the governance systems of the company. In this regard, Williamson (1988) suggested that a 'transaction' is the basic unit of analysis in the transaction cost theory and remarked that the decision on whether to use liability or equity for buying company assets is an important business consideration. This is because the introduction of liabilities or equity could have repercussions on the governance structure of that organization. He considered both liabilities and equity as dimensions of 'corporate governance structures', rather than merely as financial instruments. Thus, aligning transactions with a firm's capital structure is a crucial way of linking liabilities and equity financing to the specificity of the operations.

According to Williamson (1988), the transaction cost theory provides the framework for distinguishing the returns on investments in terms of their specificity characteristics. Asset

specificity relates to the degree to which a thing, or person of value, can be readily adapted for other purposes. Anything of value like machines, or human capital including the specific expertise of directors and CEO, with 'high asset specificity' can only be useful for certain specific tasks and circumstances, which means there will be very little opportunity to use it broadly for purposes other than its primary intended purpose, whereas low specificity means that an asset can be used generally for many different uses. However, moving them from one place to another might lead to incurring transaction costs. In this regard, debt providers prefer financing assets at relatively easier terms which have lower asset specificity. Therefore, as the degree of asset specificity increases, the terms of debt financing become costlier and adverse, incentivising firms to use more equity capital. Furthermore, Williamson (1988) referred to debt financing as procurement from the external market and 'equity' as procurement from within-firm integration. Furthermore, he remarked that equity finance is reserved for projects where the need for nuanced governance is great. Consequently, he recommended the use of equity capital for financing assets with high specificity. In this regard, he inferred that the structure and composition of the 'board of directors' is an endogenous control instrument which should be meticulously constructed by the equity holders of the organization. Transaction cost theory considers the board of directors as the principal instrument for safeguarding assets financed by equity finance. The upshot of this theory is that equity financing for physical and human assets with high specificity requires the more intrusive form of oversight and participation engendered by independent and autonomous remuneration and audit committees.

So, in the context of this research study, it is theorised that the arrangement of the directors and their active participation in committees, like 'remuneration and audit committees' where their qualifications and expertise are best matched should add value to the firm. This could reduce opportunities for dishonest managers to exaggerate their performance with related pay.

### **2.3.3 Institutional Theory**

The role of the corporate board and its constituent committees in the general organisational control systems is a complex phenomenon that it is usually considered that no single theoretical perspective can adequately cover its entire idea (Hung, 1998). This section attempts to discuss institutional theory and its interrelatedness with the legitimacy theory. Both theories are underpinned by the fact that societal expectations, as well as the regulatory requirements of the government authorities, are all examples of external pressures which influence the overall governance structures of the firms.

Institutional theory is typically associated with the seminal work of Meyer and Rowan (1977); Zucker (1977); DiMaggio and Powell (1983); and Meyer and Scott (1983). These institutional theorists emphasize that formal regulatory environments can strongly influence the development of governance structures in organizations.

According to Hung (1998), the impact of institutionalization on the governing board is best explained through the lens of professional bodies and other institutional control systems with the legal power to induce managers to pursue actions that maximise value for stakeholders including shareholders. For example, these authorisations could include directives coming from government regulatory agencies, professional bodies such as accounting and auditing standards-setting bodies as well as the Securities and Exchange Commission which publishes and enforces the law against market manipulation.

Furthermore, Solomon (2020), asserts that institutional theory provides the framework for the code of corporate governance and its expected impact on the managerial behaviour of compliant companies. It follows that such codes of governance guide directors on how to organise business operations for effective monitoring. Also, the power afforded to regulators and directors under corporate laws means that the top management would be more likely to accept the directives from the board and its constituent committees including those responsible for account auditing and remuneration. Thus, it is expected that the involvement of these external authorities can lead to better monitoring and decision-making, especially regarding executive compensation.

There are two widely accepted characterisations of ‘institutional environments’ in the literature. The first by Meyer and Rowan (1977, p.343) defines institutional environment as the: *"positions, policies, programs, and procedures of modern organization ... are manifestations of powerful institutional rules which function as highly rationalized myths."* This definition considers organizations as a passive audience for institutional knowledge because the rules are designed by the state, or even more broadly at an international level, which is external to the organization (Meyer & Scott 1983).

However, the second description by DiMaggio and Powell (1983) includes the conception of network ties with other organizations and states that:

*"...that, in the aggregate, constitute a recognized area of institutional life: key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products"* (DiMaggio & Powell 1983, p.148).

This second definition focuses on interaction, information flows, membership identification, coalition, as well as hierarchy among the organizations in the field (DiMaggio & Powell, 1983). Similarly, Ingram and Simons (1995), assert that an important aspect of the institutional theory is the understanding that organizational control systems are shaped by social norms and taken-for-granted conventions, which companies are obliged to follow to survive in that society. Hence, the organizations are pressured to somehow become increasingly similar to each other, mainly due to the constraints and connections with other organizations operating in their environment (Meyer et al. 1977; DiMaggio & Powell 1983).

Furthermore, Zucker (1987), identified two other well-known institutional approaches namely the 'environment as an institution', and the 'organization as an institution'. The 'environment as institution' ideology focuses on the impact of enforcing sector-wide social facts on the organization by regulatory bodies operating under state orders. This "statist" perspective focuses on the collective normative order, including the professions and the widespread general agreements shared by the members of a field. Moreover, it is forecast that organizations which conform to this collective normative order have relatively greater access to societal resources which enhances their chances of "long-run survival" (Meyer & Rowan, 1977). Whereas the 'organization as institution' approach assumes that organization is a central point to the generation of new cultural ideas. It considers that the fundamental aspects of institutional practices arise from within the organization, or from imitation of other similar organizations, but not from external power or coercive processes located at the state or international levels. These institutional elements which may comprise the organizational structures business operations and managerial roles are easily transmissible amongst firms within a network and to new entrants in an industrial sector (Zucker, 1988). So, in this approach, organizations are themselves deemed to be the main sources of institutionalization. For example, universities can

create new departments, which can lead to the creation of new governance structures and knowledge (Zucker, 1987).

Zucker (1987), infers that the implication of normative pressures on the company's management is that systems for monitoring managerial behaviour with related pay are typically guided by legalized institutional arrangements comprising codes of corporate governance, state laws, and professional certifications. It is suggested that compliance with these legitimated institutional elements might sometimes detract organizations from their core objections with associated performance targets. An organisation might resent strict enforcement by the authorities and might engage in a tick-box exercise without any real change in managerial behaviour. On the other hand, adopting these legitimised institutional codes of practice could help to improve access to critical resources, hence increasing the chances of an organization's survival in the long run.

For instance, unaccredited hospitals are unlikely to attract top physicians and are barred from receiving state funds (Zucker & Taka, 1986). Other examples of the importance of compliance with institutional governance structures include the Code of Corporate Governance issued by the Securities and Exchange Commission of Pakistan - SECP (2019), and the Code of Ethics published by the International Ethics Standards Board and adapted by the Institute of Chartered Accountants of Pakistan, and ACCA in the UK. Moreover, it is expected that these statutory arrangements should provide support to directors where the setting of performance targets and reward packages are concerned. Furthermore, Scott (1994), argues the involvement of these institutional bodies provides 'stability' in corporate policies including remunerations.

Thus, under the institutional theory, the role of the ‘board’ of directors in the overall governance system of an organisation is to nurture the relationship between the firm and the legal external regulatory bodies. Thus, the board of directors acts as a legitimizing body, by authorizing and communicating the decisions made by the senior management team to the relevant legal institutions at both state and international levels (Hung, 1998).

According to Hung (1998) in the context of governance and control, “*the directors are partly technical instruments designed to meet specific organizational goals*” (Hung, 1998, p.107). However, Meyer and Rowan (1977), observed that directors are more likely to exercise control through their social connections, meaning that their positions in formalized control structures are more ceremonial and symbolic in nature. This argument was built on the earlier proposition by Selznick (1957) which states that institutionalization encourages organizations to instil social values in their members to achieve stability and longevity in their operations. Thus, is considered that the effectiveness of boards in controlling managerial behaviour is influenced by the norms and values of a society, which, in turn, is rooted in the social ties of corporate board members (Berger & Luckman, 1967).

According to DiMaggio and Powell (1983), a consequence of pressures from external regulations is homogeneity in organizational structures. Powerful forces like the state, the industry regulators, or the professional bodies, compel the companies operating in the same industry sector to become more like each other. The benefit of this is that highly standardized organizational fields provide an environment in which individual efforts are easily measured. Such should enhance accountability with an associated reduction in opportunities for deceitful managers to exaggerate their achievements. For example, when company measurement and control systems are comparable across an industry sector, it should be easier for directors and



market analysts to verify the claims by managers on their effort expended with related outcomes and remunerations. Nevertheless, DiMaggio and Powell (1983) remarked that the homogenization of organization structures across industries does not necessarily improve efficiency. For example, almost all the leading codes of corporate governance strongly recommend that firms include a majority of independent and non-executive directors on their boards as well as audit and remuneration committees. Consequently, in the context of this study, a key question that arises is whether the dominance of independent non-executive directors on remuneration and audit committees would help establish more acceptable compensation packages for chief executive officers' relative to a median staff in the corporate hierarchy.

#### **2.3.4 Legitimacy Theory**

Legitimacy is defined by Maurer (1971) as "the process whereby an organization justifies to a peer or superordinate system its right to exist." (Maurer, 1971, p.361). The peers of the organization can be considered as the industrial classification in which it exists. Similarly, Lindblom (1994, p.2), defines legitimacy as "a condition or status which exists when an entity's value system is congruent with the value system of the larger social system."

Legitimacy theory is based on the principle that there is an implied social contract between society and an organisation. In this regard, Benston (1982) asserts that "a firm receives permission to operate from the society and is ultimately accountable to the society..." because society provides organizations with the right to use its resources. Similarly, Dowling and Pfeffer (1975) suggest that congruence with a society's norms and standards is vital for an organization to legally operate in that community. The underpinning of legitimacy theory is

that an organization must consider the rights of the public at large, and not merely the rights of the investors. Failure to comply with societal expectations might result in punishments such as boycotts and other forms of campaigns to disrupt the firm's operations, access to critical resources and demand for its products.

The legitimacy theory assumes that firms will try to make their operations appear genuine to guarantee access to critical resources including government grants, labour, finance, and technology for the success of their operations. So, organizations regularly try to ensure that they are working within the norms of their societies so that their business activities are perceived as legitimate by people outside the organization (Deegan, 2006). The theory is sometimes criticised because it is difficult to precisely assess and comprehend all the norms or expectations of society.

Interestingly, firms can sometimes go through phases of legitimacy, which Suchman (1995) discussed as gaining, maintaining, and repairing legitimacy. This process of legitimacy starts with the “gaining” of legitimacy, which is when society bestows acceptability on a new organization. The acceptance of society is usually gained through engaging and using various strategies (Deegan, 2006) to convey a positive image by actively engaging and informing the relevant public (Salem et al., 2023). After this legitimacy-gaining phase, the company must regularly try to “maintain” its legitimacy by protecting previous accomplishments and anticipating future changes in society’s perceptions. These involve:

*“Monitoring the cultural environment and assimilating elements of that environment into organizational decision processes, usually by employing boundary-spanning personnel as bridges.” (Suchman, 1995, p. 595).*

However, sometimes there might also be a need to “repair” the organization’s legitimacy, and these are usually reactive responses to unexpected crises. This phase usually requires focus to remedy earlier mistakes by the organization which might have damaged its community relations. This might explain why sometimes companies, such as tobacco, or mining companies provide detailed disclosures about their company’s governance and environmental-related policies.

Furthermore, Scott (2003) explains that there are three major strands of the legitimacy theory which are: (i) regulatory, (ii) normative and (iii) cognitive. Regulatory legitimacy comes from compliance with the regulations, rules, and local laws enacted in that society. These are sometimes enforced by penalties if continuous non-compliance occurs. This is usually the first aspect of legitimacy that most companies would try to obtain to continue their business in that society. Normative legitimacy is attained by complying with the norms prevalent in that society. Scott (2001) considered norms as notions of anything desirable including the way work should be done. Furthermore, according to DiMaggio and Powell (1983), companies need to conform to norms and values which can range from general to certain specific standards for a particular professional field. These customs could originate from a variety of sources including public opinion and professional societies or business associations (Ruef and Scott 1998). Cognitive legitimacy is achieved by observing ‘widely held cultural beliefs and practices’ (Scott 2001). Cognitive legitimacy is rooted in those taken-for-granted assumptions ingrained in any society’s social system. This is usually the subtlest, most powerful, and most difficult type of legitimacy for organizations to obtain (Suchman, 1995).

Dowling and Pfeffer (1975) suggested that there might be a threat to the existence of those organizations whose mission and values differ from the norms of the society in which they

exist. So, a widening of this gap or disparity in ethical practices could increase this risk for that organization. However, they argued that it is not guaranteed that the acceptability of a company would ensure an uninterrupted flow of resources to it. Alternatively, a company with continual access to resources is not necessarily assured of acceptability by its key stakeholders. So, there may be many different organizational objectives which legitimate companies try to achieve which include legality, economic viability, and acceptability amongst its key stakeholders.

Moreover, if a society is satisfied with the practices of a firm, it is more likely to assist in its activities with related access to vital resources (Elsbach & Sutton, 1992). In the context of this research, compliance with the legitimized elements, like, regulator's guidelines, and code of corporate governance are ways through which a company signals its acceptance of that society's desirable norms and expectations. So, the legitimacy theory lens helps in understanding the motivations of the board, its committees, and top management to comply with the society's code of corporate governance and their reason for providing extensive governance disclosures in their annual reports. Moreover, the disclosures presented by a firm in its annual report are a common way of communicating to society how much it values and respects its culture and way of life. Furthermore, informal regulatory structures, such as cultural norms, and societal pressures on managers and directors help to ensure that they abide by the terms of their contracts of employment. It is expected that such demands from external pressure groups like consumer watchdogs, environmental pressure groups, the media etc. would motivate directors to monitor, supervise and enforce the terms of employment contracts more effectively.

The board offers a maintenance function in overall governance and helps legitimize and sustain an effective relationship of the organization with the external regulatory environment. Thus, the board of directors acts as an internal legitimizing body, by supporting and authorizing the decisions made by the senior management team (Hung, 1998). Any associated reduction in risk should make it easier for the firm to access capital and other society's resources, as well as buy supplies and sell their products in that society. According to Kaplan and Ruland (1991), legitimation is a process by which organizations seek approval from the other major stakeholders in society. Such an endorsement is vital for organizations to maintain their reputation in the societies where they operate. Legitimacy is attained when companies adopt practices that are coherent with social norms and values (Meyer and Rowan, 1977). Al-Twaijry et al. (2003) suggested that organizations typically try to achieve legitimacy by trying to embrace the characteristics of other existing organizations in that industrial sector. Thus, in the context of this study, companies in the same industry might pay similar or better compensation packages to their managers and CEOs' to achieve legitimacy in the business community and the overall society. In this regard, a study by Liu and Taylor (2008) which was underpinned by the framework of legitimacy theory found that a company could gain legitimacy by publishing the remuneration details of its top executives. They emphasised the strong link between executive compensation and the extent of the public release of sensitive remuneration details of its key executives. Therefore, in the context of this research, it is hypothesised that the remuneration package for executives who are aware of the social values of the community in which the firm is located is relatively high compared with that for factory staff to guarantee that the firm's legitimacy and acceptability in that industrial sector, the business community and society.

The legitimacy theory helps us understand how organizations can gain acceptability in society and how they can use their environmental, social, governance, and financial disclosures to attain respectability in society. Also, the strengths of the legitimacy theory include its clarity on how organizations reduce their business risks, increase their profitability, and influence the members of society. Further, they can also use their authority to gain access to important resources in the society. However, the legitimacy theory mostly focuses on symbolic aspects of legitimacy, rather than the actual social structures that shape it. It lacks focus on how organizations can use their legitimacy to create social benefits, break social taboos, and address the social and environmental challenges faced by the society (Deegan, 2019).

### **2.3.5 Stakeholder Theory**

This theory is associated with the seminal works of researchers like Freeman and Reed (1983); and Dill (1975). However, the suitability of this theory for the management of organisational processes and incentives started to gain popularity after the influential work of Freeman and Reed (1983).

The term stakeholder was coined at the Stanford Research Institute (SRI) in 1963, defining it generally as "those groups without whose support the organization would cease to exist." However, Freeman and Reed (1983) expanded it and proposed two versions of this definition, one broader, and the other narrower. The broader version of the definition identifies stakeholders as: "any identifiable group or individual who can affect the achievement of an organization's objectives or who is affected by the achievement of an organization's objectives (like public interest groups, government agencies etc.). Whereas the narrower version of

stakeholders' is more specific and defines it as: "any identifiable group or individual on which the organization is dependent for its continued survival, like employees, as well as all the other stakeholders identified in the narrow sense of the term".

According to Freeman and Reed (1983), the stakeholder theory is a departure or shift from the traditional view that the shareholders of the company have a privileged place in business decisions. They suggested that in addition to the shareholders, there are other interested groups in the corporate environment whose needs should also be considered by firms. Attention on the principles of stakeholder theory increased considerably in the aftermath of the financial crisis of 2007 which heightened pressure on the companies to participate in social activities which contribute to uplifting the welfare of the community in which they operate. In this regard, the concept of social responsibility is also considered a use case of stakeholder theory because it demonstrates how companies integrate societal and environmental concerns into their business decisions (UNIDO, 2021).

Dill (1975) is considered to have laid the foundation for using the ideas of stakeholders as an umbrella for strategic management by broadening the notion of stakeholders to "people outside who have ideas about what the economic and social performance of the enterprise should include". So, this concept implies that a firm should try to create value for all its stakeholders, and not just the shareholders alone, and these stakeholders can be both insiders and outsiders (external) to the organization, examples of such external stakeholders can be shareholders, government etc. In addition, the public can also be considered as a stakeholder because their taxes provide resources to fund their country's infrastructural developments, which is then utilized by these corporate entities and private organizations (Solomon, 2013). Similarly, in the

context of this research, an example of internal stakeholders can be employees of the company, including the directors, and the CEOs. The implication of this concept for these top managers might be reflected in organizational governance systems instituted to create value for the employees including the chief executive officer by paying them salaries which are commensurate to their qualification, experience, and effort expended with related achievement. Hence, proponents of stakeholder theory attest that observed executive remuneration packages are appropriate to ensure that the company hires and retains talented employees including top managers. This is important because the extent of managers' care and attention to an organization's stakeholders and their rights is largely dependent on their incentives and interests (Al-Shaer et al., 2023).

Another assumption of the concept of corporate responsibility is that it establishes the moral responsibility for firms to act ethically. This is known as the "pure ethics" perspective of the stakeholder theory. This pure ethics view promotes the principle that companies are motivated to act honourably towards all their stakeholders including top management because such decent behaviour is 'good' and intuitively attractive. Quinn and Jones (1995) termed this view "non-instrumental ethics" but suggested that internal stakeholders including managers cannot ignore their ethical or moral obligations to external interested parties. Therefore, they recommended that managers and other policymakers including the board of directors should be virtuous in their behaviour.

Similarly, stakeholder theory also promotes the idea of "agent morality" which means that the agents (managers) need to initially fulfil their basic moral duties as human beings first, and only then they should focus on their corporate goal to maximize shareholder wealth. However,



an important consequence of this move to prioritise social value creation over shareholder maximisation is the presumption that costs to shareholders in terms of lower financial returns are acceptable by all interested parties including the investing shareholders themselves. However, Solomon (2013), advised that it is important for an ethical business to be concurrently profitable because of the established attitudes and expectations of the shareholders, managers, and board. Furthermore, Quinn and Jones (1995) contended that the traditional legal system and the managerial mindset are the main barriers to the advancement of this non-instrumental ethics view of the stakeholder theory.

More specifically, the stakeholder theory is motivated by the assumption that the monitoring effectiveness of the directors is considerably influenced by their ethical values on the welfare of stakeholders other than the investing shareholders who are influenced by their actions. Therefore, the directors including CEOs are increasingly expected to strike an appropriate balance between all these interested parties when reporting on the firm's activities to ensure their survival and success in the long run. An implication here of creating an inclusive contract with the managers (agents) is that the cost of monitoring and enforcing contracts may be sufficiently reduced. According to Shohaieb et al. (2022), the stakeholder theory suggests that managers should disclose detailed information for the interest of the stakeholders, and not for the manager's interest. Furthermore, it is posited that directors including those appointed to remuneration and audit committees will be much more motivated to carry out their supervisory roles with due diligence if their contract of employment integrates those social and ethical values which are considered important to them. Such should reduce the agency cost of contract enforcement, which in turn, enhances the link between corporate governance systems and executive pay grade.

According to Solomon (2020), one of the key assumptions of stakeholder theory is that companies have nowadays become so huge that their impact on society is pervasive, and so the companies need to be accountable not only to the investors, but also to all the other sectors like government, society, and employees including the directors. Furthermore, Freeman and Reed (1983) identified three kinds of stakes in an organization, namely: equity, economic, and influencer stakes. The shareholders have an equity stake in the company; the customers, suppliers, and employees are considered to have economic stakes; and the environmental and social pressure groups are said to have influencer stakes. Thus, in the context of this research, the CEO and directors have an economic stake in the organization. By contrast, corporate regulatory bodies such as the Securities and Exchange Commission of Pakistan have an influencer stake with formal power to dictate disclosure and financial reporting rules. Likewise, the independent outside directors serving on the boards, and its committees, especially those committees with women, and minorities' representation do not necessarily hold an equity stake but are considered to have an influencing stake in that organization (Freeman & Reed, 1983). Moreover, members of the economic and influencing groups might try to simultaneously buy shares of the company to obtain an equity stake and formal voting power, for example, trade unions might combine their political influence with economic power as managers of institutional pension funds to influence company behaviour including pay to CEOs. Furthermore, customer interests are increasingly better organized by highly educated individuals who campaign for the protection of their consumer rights. Freeman and Reed (1983) advocate the involvement of these influencer stake groups in the corporate decision-making process. Likewise, Solomon (2013) observed that many social and environmental lobby groups have become strong enough to exert ample pressure on firms which disregard their cause in their business operations. Hence, the stakeholder theory contends that an effective

and efficient corporate governance system is vital in making sure that the power and interests of all stakeholders are successfully balanced and protected by the organisation. So, it is expected that the board of directors and its substituent committees would respectfully recognise the concerns of the various equity, economic and influencing stakeholders in their decision-making.

Furthermore, the disparate stakeholders of the company expect it to behave as a good “corporate citizen” and work towards enhancing its quality of life (Hill & Jones, 1992). This perspective of stakeholder theory implies an exchange relationship as the stakeholders are both, affected, and in turn, also affect these corporate organizations (Freeman, 1984; Hill & Jones, 1992). The involvement of different interest groups would ensure that corporate decisions are not tilted to benefit investing shareholders at the expense of the other stakeholders. This inclusive stakeholders’ view should also be reflected in the setting of remuneration to the CEOs and other internal stakeholders to maintain a mutually beneficial relationship with them and the external parties including shareholders.

Therefore, the stakeholder theory suggests "involve all stakeholder groups in strategic decisions" or at least "invite them to participate in some capacity in corporate governance decisions" (Freeman & Reed, 1983, p. 92), and at the minimum, the “directors must be aware of the impact of their decisions on key stakeholder groups” (Freeman & Reed, 1983, p. 96). These principles were supported by Wheeler and Sillanpaa (1997) by stressing the need for organizations to be accountable to a large variety of stakeholders. They noted that the stakeholders of a company are diverse, so the composition of the board and committees should reflect such variety in structure. In the context of this research study, it is theorized that the

involvement and accountability to various stakeholder groups by a board and its committees composed of diverse members help to create an acceptable CEO remuneration package.

The strengths of stakeholder theory include its focus on safeguarding the interests of all the stakeholders of the organization, not just investors. It can help the organizations to understand, identify, and manage the risks and rewards associated with each of its stakeholders, which in turn can help in improving the holistic performance of the company. Stakeholder theory can also assist in cultivating stronger relationships with their stakeholders and creating long-term value for them. However, it also has limitations, like being too broad in its scope, difficult to practically implement, being too costly, and focusing more on the interests of powerful stakeholders.

### **2.3.6 Theoretical Perspectives on Executive Pay Gap**

The executive pay gap means the difference between the compensation of the CEO and other non-CEO executives of the company. According to Taherifar et al. (2021) pay gap influences the attitudes and performance of the individuals in an organisation. They classified the pay gap into three categories namely, vertical, horizontal, and overall. A vertical pay gap means pay disparity between different levels of the hierarchy, for example, the pay gap between the CEO and managers in the lower hierarchy. A horizontal pay gap means disparity within the same job level, for example, within the top management team level. The overall pay gap is a combination of both vertical and horizontal pay disparity (Gupta et al., 2012). This study focuses on the vertical pay gap between the CEO and an average executive of the company. According to Wade et al. (2006) CEO's pay is considered a significant reference point for other

employees in the organization in determining the fairness of their pay because of two main reasons, firstly because the CEO is one of the most important positions in an organization whose activities and actions are easily noticeable to other participants in the organisation, and secondly, because precise information on CEO's annual remuneration is easily accessible to employees from annual reports and other public sources. In this regard, the US Securities and Exchange Commission (SEC) has introduced a disclosure requirement for companies under Section 953(b) of the Dodd-Frank Act to disclose their pay ratios from the year 2017, i.e., disclosing the pay ratio of CEO to the median compensation of employees. This pay ratio disclosure was introduced by the US SEC to help reduce pay inequality and rent extraction by CEOs (Alan et al., 2020).

Gao (2019) suggested that the executive pay gap is a two-edged sword, which can motivate executives to progress and compete, while on the other hand, it can also have negative repercussions like triggering fraud, earnings management, and demotivation of employees. Similarly, Lazear (1989) suggested that wage compression for equal pay treatment can be beneficial for lowering workplace conflicts, however, on the other hand, it can also reduce the morale of efficient top-level executives as they may get demotivated by this. Hence, pay disparity is discussed in the literature from both economic and behavioural perspectives. The economic view is supported by the tournament theory (Lazear and Rosen, 1981), while the behavioural view is supported by the distributive justice theory (Cowherd & Levine, 1992).

The tournament theory proposed by Lazear and Rosen (1981), suggests that pay disparity leads to the motivation of employees to work harder to gain higher compensation. It argues that "extra weight on top-ranking prizes is required to induce competitors to aspire to higher goals" in the tournament. They discussed that a greater pay gap will lead employees to expend more

serious efforts to get promotions and future career benefits, leading to better company performance. Hence, they suggested using larger rewards to motivate and retain executives at higher organizational levels. According to Pfeffer (2007), high pay disparity may cause unpleasant feelings in workers, which might result in decreased employee productivity, and decreased company performance (Shin, 2014). Faleye et al. (2013) suggest that when the company has less knowledgeable employees, who are not well informed, productivity will rise with pay inequality. Additionally, they found evidence suggesting that pay disparity can cause an increase in firm value and operating performance. In line with this view, researchers (for example, Banker, Bu, & Mehta 2016; Faleye et al., 2013; Mueller et al., 2017) have found empirical support for tournament theory evidencing that pay inequality is positively associated with performance.

However, on the other hand, the distributive justice theory suggests that the allocation of resources and rewards within a society should be based on principles of justice, fairness, and equity (Cowherd & Levine, 1992). It advocates that the competition between executives may negatively influence the harmony, participation, and behaviour of executives in the organization, which can impact the overall performance of the company as well (Henderson & Fredrickson, 2001). It is contended that CEOs' large salaries, perks, and benefits are not always a just or fair distribution of a company's resources. According to this theory, the CEO's salary should not be decided only based on their position or rank within the company, but also their contributions, input efforts, and resulting performance. Furthermore, the salary of other employees should also be considered while setting the CEO's pay, particularly lower-level employees who also contribute to the success of the company but are paid relatively less. Employees when evaluating their pay, also look at the pay level of others and whether the pay allocation process followed a distributional principle or not. The theory contends that a high

CEO pay ratio is not only unjust but is also detrimental to employee motivation, as well as to social and economic equality within the society. Wilhelm (1993) applied the distributive justice theory to understand the problem of CEO pay disparity and concluded that higher pay gaps can create issues such as feelings of injustice, low morale, and increased cynicism among lower-level employees leading to lower levels of performance. Further, he suggested that the continuance of high payments to the CEO can also lead to reduced availability of funds for other important organizational activities, like research and development of future products and services (Wilhelm, 1993). In line with this view, Cowherd and Levine (1992) conducted their research and found support for the distributive justice theory, evidencing a negative relationship between pay inequality and firm performance.

While several studies have been conducted on the topic of the pay gap most of them have only focused on different contexts which are not closely associated with the topic of this study, for example, the gender pay gap (Birindelli & Iannuzzi, 2022; Burns, Netter, & Starks, 2022; Bussin & Christos, 2016), and in the context of the gender pay gap in NHS foundation trusts (Ellwood, Garcia-Lacalle, & Royo, 2020); executive pay gap and company performance (Zhang & Liu, 2015; Xu et al., 2016). Further, many researchers have only focused on examining the executive pay levels or their components, without much discussion on the impact of remuneration and audit committees on the executive pay gap. This research study aims to fill this gap in the literature.

## **2.4 Empirical Literature**

The previous section provided the theoretical background, while this section covers the empirical literature on corporate governance with a focus on the impact of audit and remuneration committees on executive compensation. It is broadly structured in three sections. The first presents the studies in the context of developed countries. The second discusses the literature from the perspective of developing countries, while the third focuses on Pakistan. Each of these will be discussed in turn.

#### **2.4.1 Developed Countries**

A review of the literature on developed countries is important for this study for two main reasons. *Firstly*, many of the developed countries such as the US and the UK have historically close business ties and trading relationships with the country of study i.e., Pakistan. *Secondly*, many of the earlier studies conducted on corporate governance are usually ethnocentric, or mainly Anglo-American (Sarkar and Sarkar 2000), and Pakistan being a former British colony has an Anglo-Saxon influence. Besides this, most of the initial CG guidelines and groundbreaking research work on corporate governance was also conducted in the context of developed countries, for example, the Cadbury Committee Report in the UK - Cadbury (1992); Greenbury (1995); SOX Act in the USA - Sarbanes (2002), Fama and Jensen (1983).

The Cadbury Committee was established in the year 1991 by the UK Financial Reporting Council, supported by the London Stock Exchange, and the accountancy profession in the wake of a series of financial scandals involving companies in the UK, which raised questions about the quality of financial reporting by such companies. The speed of such developments in corporate governance guidelines in the UK and other developed countries are primarily in



response to some of the largest corporate frauds and financial scandals in the world for example, the collapse of Enron, WorldCom in the year 2001, and Parmalat in the year 2003 (Rimkus, 2016).

According to the Cadbury (1992) report: “The effectiveness with which boards discharge their responsibilities determines Britain's competitive position. They must be free to drive their companies forward but exercise that freedom within a framework of effective accountability. This is the essence of any system of good corporate governance.” (Cadbury, 1992, p.11). Similarly, the UK’s Financial Reporting Council - FRC (2010), suggest that good corporate governance is an instrument that can be used to help the board in managing the affairs of the company effectively and providing accountability to the shareholders.

The corporate governance approach of the UK is principles-based and relies on the ‘comply or explain’ model, whereas the corporate governance system of the US is more rule-based (Ezeani et al., 2021; Ezeani et al., 2022). The UK’s principles-based approach provides general principles and ‘best practice’ guidelines for the companies, and the ‘comply or explain’ departure means that companies do not have to rigidly conform at all costs, and in case of non-compliance, they should provide a legally valid reason and justification for that departure. The proponents of the principles-based approach believe that the companies are already highly regulated and enforcing more rules will stifle their future development. On the other hand, those who advocate for the US rule-based approach believe in strict and detailed compliance rules, which are legally enforceable on all companies. The rule-based approach requires relatively strict observance by the companies which was determined predominantly through legislation in the form of the Sarbanes-Oxley Act, 2002 (known as SOX) involving the

contribution of the SEC, NYSE, and NASDAQ. These US regulations tend to rely on strict penalties and fines in cases of non-compliance with their requirements. For example, Monsanto, a leading US Company was fined an \$80 million penalty on charges of violating accounting rules (SEC, 2016). The supporters of the rules-based approach argue that robust procedures are effective because the high cost of compliance is surpassed by the benefits of preventing the occurrence of major fraud cases.

Several empirical studies have been conducted in the context of developed countries on the composition of the board and its constituent committees, which indicated that the board and its committee's independence, size, expertise, and frequency of meetings are the most important characteristics to facilitate board effectiveness (Gregory-Smith, 2012; Al-Najjar, 2017; Méndez et al., 2017). Furthermore, Ezeani et al. (2023) suggest that the composition of the corporate board is relevant in both shareholder-oriented as well as stakeholder-oriented corporate governance environments and suggest that the composition of the boards can mitigate agency conflict. In line with this view, Anderson and Bizjak (2003) indicated that increased focus on the structuring of the board and its committees is important because of the rising concerns of the shareholders regarding executive remuneration, which is perhaps one of the most important contracting devices in the firm. Most specifically, executive compensation decisions and ensuing accountability obligations of the board of directors to shareholders received considerable media attention in the aftermath of the recent financial crisis in the US and UK. (Hagendorff & Vallascas, 2011; Luo, 2012) commented on the inability of boards and their committees to suitably align executive compensation packages to company performance. Consequently, they argued that well-planned compensation contracts are powerful tools for motivating executives to strive to maximise company value as proposed by Agency theorists (Jensen & Meckling, 1976).

Core et al. (1999) conducted a study to examine whether a company's governance structure is associated with executive compensation and subsequent business performance in US companies. The sample included data of 205 listed companies from 14 different industrial sectors for three years. The executive compensation was measured by using both cash and total compensation, separately. The cash compensation was measured as the sum of salary and bonuses, whereas, the total compensation was measured as the sum of salary, annual bonus, the value of stock options, and performance shares. The composition structure was measured by variables such as the proportion of outside directors, CEO duality, and the size of the board. The results of their research reported that board composition structure tends to explain a significant amount of variation in CEO compensation. They found that CEOs' cash and total compensation are positively related to the size and the presence of independent directors. Similar positive results were also found by Boyd (1994) who conducted a study on 193 US companies from 12 industrial groups, evidencing a positive relationship between chief executive compensation and the presence of independent directors. This shows that independent directors might have a weaker position, or a lower level of control, or they might not be as effective in monitoring and controlling the executive compensation.

However, on the other hand, Anderson and Bizjak (2003) conducted a study using the data of 110 US-listed companies from 1985 to 1998. They found that remuneration committees with a higher number of independent directors did not affect executive remuneration, which means that greater levels of committee independence do not impact executive remuneration. Similar results were also reported by Finkelstein and Hambrick (1989) who conducted a study on the data of 63 executives of top US-listed companies for the years 1971, 1976, 1982 and 1983. According to the authors they have used data from these four years to include a wide range of

economic conditions in their data and to ensure that any such conditions would not bias their study. The results of their study suggested that there is no evidence of a statistically significant relationship between the proportion of independent directors and executive compensation.

Bao et al. (2021) conducted a study using data from S&P 1500 companies from the Execu-Comp database to assess the usefulness of CEO pay ratios as required by the Dodd-Frank Act in the USA. They calculated the pay ratios using the method suggested in SEC Release No. 33-9452 by dividing the total CEO compensation by the median employee compensation. The natural logarithm of the pay ratio was then taken as the distribution was positively skewed. They found that the unconditional relationship between the CEO pay ratio and financial quality is negative. Further, they suggested that the CEO pay ratios are found to be useful in explaining the fairness of compensation structures of a company. Main et al. (1993) conducted a study on top-level executives of 200 US-listed companies for the period of 1980 to 1984. They found that the pay ratio between different levels of top executives increases as one moves up in the hierarchy. They suggested that a higher salary gap between the CEO and other managers can provide a strong incentive effect for the motivation of other executives.

The UK Corporate Governance Code (2018, p.13) states that: “directors should exercise independent judgement and discretion when authorising remuneration outcomes, taking account of the company and individual performance...” This view was evidenced by the research of Al-Najjar (2017) who examined the impact of composition characteristics like size, independence, and meeting frequency on the remuneration of chief executives in the UK. They collected the panel data of 27 travel and leisure-related sector firms listed on the FTSE 350 for the period of 2003 to 2012. The CEO compensation pay slice was measured by the percentage of the total cash compensation of the CEO to top executive compensation; and the independent

variables included composition characteristics like independence which was measured as the percentage of independent directors, size, and the number of meetings held in a year. They used control variables such as debt-to-equity ratio, return on equity, and size of the firm measured by the natural logarithm of total assets. They used the Hausman test and found that the fixed-effects model is more appropriate than the random-effects models for conducting their research analysis and concluded that independent directors have a positive impact on the CEO compensation which means that independent directors might have a weaker position on the committees, or they might not be as effective in monitoring as they should be. Further, they found that the size of the governing board has a negative association with CEO compensation, which means that the CEOs will not be easily able to influence large boards to raise their compensation package, leading to lower CEO compensation. However, one of the limitations of the study was that the sample was limited to only 27 companies and one sector, which makes the generalizability of results difficult.

Similarly, Conyon and Peck (1998) conducted a study on the panel data of FTSE-100 listed companies of the UK for the period of four years i.e., 1991 to 1994. The chief executive compensation was measured as the sum of cash and bonuses paid to the CEO, whereas independence was measured as the proportion of independent directors. They controlled for firm size and firm performance which was measured by total shareholder return. They also found that the existence of a remuneration committee and its independence are both associated with increased levels of executive pay. However, on the other hand, Gregory-Smith (2012) conducted a study on FTSE 350 companies listed for the period of 1996 to 2008 and found no significant relationship between the independence of remuneration committees and executive compensation. The difference in the findings may be attributed to the differences in the period and sample of the study of these studies.

Coles et al. (2008) conducted a study on the data of 1992-1998, extracted from the Compact Disclosure database. They suggested that large firms with complex operations need a relatively higher level of specialized advising as compared to smaller firms, and hence need bigger and more diversified boards and committees to meet their advising needs. They suggested that larger boards are likely to be more leveraged with performance increasing with the size of the board and committees. However, they also cautioned that larger boards could also face problems in coordination and consensus-building among the large group of members, which can ultimately make them less effective. Likewise, Jensen (1993) also suggested that large boards are less effective because they usually suffer from free-riding problems which create pressure on the remaining directors and reduce the monitoring incentives for other members. Hence, smaller boards are usually associated with better coordination and monitoring. In a similar vein, Al-Najjar (2017) also found that board size has a negative relationship with CEO compensation, which indicates that CEOs might not be easily able to influence large boards to raise their compensation package, leading to lower CEO compensation, likewise, larger boards might be more hesitant to pay higher compensation to their CEOs.

Mueller et al. (2017) used data of firms from 2004 – 2013 and found that large-sized UK firms have higher executive pay gaps. The results also showed that pay disparity is higher in firms which have better financial performance and equity returns than their peers. They concluded that these large and financially successful firms with high pay gaps can secure the finest executive talent to work for their companies. However, the paper only uses data collected through surveys and suffers from a selection bias because the firms with abnormally high or low pay not taking part in the survey.

Similarly, Chalmers et al. (2006) conducted a study on governance, ownership and economic attributes of the companies listed on the ASX. They collected data of 200 listed firms for the years 1999 to 2002. The total compensation of the CEO was measured by including fixed salary, bonuses, the value of options granted, and shares issued. The governance characteristics included CEO duality, the percentage of outside directors, and the size of the board. The economic characteristics included size measured by the natural logarithm of total assets, investment opportunity measured by the market-to-book value of equity, and previous performance measured by ROA. Additionally, to control for industry-specific talent demand for CEOs, the industry indicators were assigned to mark the industry affiliation of each company. To identify the determinants of compensation, the multiple regression method was used and found that economic attributes of the companies like the size of the firm, investment opportunity, and the previous year's ROA are the most significant drivers of the CEO compensation.

Kanapathipillai et al. (2019) conducted a study to study the effect of remuneration committees on CEO pay. They collected the data for 482 companies listed on the ASX (i.e., Australian Stock Exchange) for the period of 2005 to 2015. The CEO compensation was measured as the natural log of total CEO compensation. The remuneration committee's existence was measured by using a dummy variable, and the committee's effectiveness was measured by forming a composite measure including the size of the committee measured by the number of members, number of independent members, the frequency of meetings, and the financial expertise of members. The results were controlled for the effects of industry and year using dummy variables. Further, they used control variables such as debt ratio, market-to-book ratio, ROA, the standard deviation of ROA, and firm size measured through the natural logarithm of total assets. They used the GMM estimation model to test their hypotheses to resolve the potential

endogeneity amongst the explanatory variables in their model. (Blundell & Bond, 1998; Arellano and Bond, 1991). They found that both the existence and the effectiveness of the remuneration committees are positively related to the CEO's pay for performance. Further, this relationship holds true for both the pre- and post-global financial crisis. The authors concluded that remuneration committees of the board can help in addressing the agency's problems of information asymmetry by incorporating corporate governance practices in the operations of the company.

Similarly, Kent et al. (2018) conducted a study on the data of ASX 300 companies for the year 2008. The independence was measured by the proportion of independent directors in the remuneration committee. They found that companies that have independent remuneration committees were found to have a much better alignment between their CEO pay and company performance. Additionally, they also found that committees with at least three members have relatively stronger CEO pay-to-performance alignment. On the other hand, Cybinski and Windsor (2013) conducted a study on data of 143 ASX-listed companies and found that the size of the company is an influential factor. Large and medium-sized companies which have 100% non-executive directors serving on their remuneration committees are most effective in controlling and aligning the CEO variable pay i.e. bonus incentive by relating it to the previous year's financial performance of the company, however, this was not the case in smaller sized companies i.e., despite having non-executive directors serving on remuneration committees of small-sized companies, they were not able to effectively align CEO bonus with company's performance. So, this shows that the level of independence of remuneration committees in small-sized companies does not seem to have a significant effect in aligning their CEO incentive pay. The difference in the findings can be attributed to the differences in the period and sample of the previous studies.



The pay gap between a CEO and an average employee in Australia's top ASX 100 listed firms is rising. It was reported to be 15.30 in the year 1993, which then rose to 51.4 in the year 2008 (Baker & Denniss, 2010; Productivity Commission, 2009). In this regard, recently Taherifar et al. (2021) conducted research on Australian listed companies by extracting data from three databases, namely, Thomson Reuters Data Stream, Morningstar, and Australian Bureau of Statistics and extracted data from 385 firms from 2004 to 2019. The natural log of the ratio of total CEO compensation to average employee pay was used to calculate the CEO pay inequality. The results show that pay inequality is higher in some sectors like banking, insurance, and retail where the CEO earns about 49, 41, and 35 times more than an average employee of the company. They found that employee performance is negatively correlated with pay inequality.

Conyon and Schwalbach (2000) conducted a comparative study of German and UK-listed firms for the period of 1969 – 1994. They extracted the sample data of 48 German and 102 UK firms from DTI and DataStream. They discuss that the corporate governance system in Germany is slightly different from the Anglo-Saxon system in the UK, for example, large companies in Germany must have a two-tier board governance structure consisting of a supervisory board (Aufsichtsrat) and a management board. The management board is responsible for operational decision-making, whereas the supervisory board is responsible for governance, supervising and monitoring the activities of the management board. The supervisory board is usually composed of elected representatives of both employees and shareholders. The UK has a market-based economy, while Germany operates in a bank-based system (Ezeani et al., 2021). The stakeholder model of corporate governance in Germany is also renowned for having strong linkages to the financial sector and inter-related directorates. Interestingly, an increasing trend

in executive compensation was identified in both countries despite their differing governance systems. The CEO cash pay was used to measure the chief executive's remuneration and they found that the CEO pay was almost twice as high in the UK as compared to Germany. Additionally, they also found that the pay-gap between the CEO and other employees is also around 4 times higher in the UK as compared to Germany. They used the OLS method and reported a positive pay-performance link between CEO pay and company performance in both countries.

Similarly, Usman et al. (2023) conducted a study on the data of the UK (shareholder-oriented) and German firms (stakeholder-oriented) from 2010 to 2019 and found that the financial expertise of audit committee members can help in deterring the managers to inflate the earnings of the company. Further, they also found that meeting activity of the audit committee helped in restraining managers from classification shifting in the UK, however, this was not the case in the context of Germany.

Chalevas (2011) conducted a study on the data of non-financial Greek companies listed on the Athens Stock Exchange (ASE, Greece). The sample consisted of 386 firm-year observations from the years 2000-2003. The CEO compensation was measured by taking the log of cash compensation paid to the CEO, while the firm performance was measured by using the return on assets. Using the OLS regression method, they found that independent directors have a statistically significant negative impact on the CEO compensation i.e., reducing the level of pay. However, the size of the board, presence of remuneration committees, and CEO duality were found to be statistically insignificant. Additionally, they also found that there is a statistically significant positive impact of firm size and firm performance on executive pay.

They concluded that the corporate governance mechanisms were found to be successful in creating a link between increased compensation and increased performance in Greece.

Randoy and Nielsen (2002) conducted a study on a sample of two European countries namely Norway and Sweden. The data was collected from the annual reports of 120 and 104 listed companies in Norway and Sweden respectively, from 1996 to 1998. They measured CEO compensation as the total amount paid to the CEO during the year. The log of compensation was taken by the authors to reduce heteroscedasticity. The results for both countries show a positive association between CEO pay and board size. Similarly, market capitalization also showed a positive association with the CEO pay for both countries. However, no statistically significant association was found between the chief executive compensation and the financial performance of the company, which they argue may be due to the tax system in both countries, which does not favour incentive-based compensation and stock option plans. Further, they also contend that Scandinavian CEOs are perceived to have less discretion in decisions and are more risk averse than Anglo-American CEOs, which may result in lower profitability on effort.

Slomka-Golebiowska and Urbanek (2016) conducted a study in the context of Poland by collecting data from 16 Polish banks from 2005 to 2013. They measured CEO compensation as the log of the total remuneration paid to the CEO during the year. The results showed that 48% of the boards were independent, whereas the average independence of the remuneration committee was much less than the overall board at 34%. The remuneration committee meeting frequency showed an average of only two meetings conducted per year. They found that the independence of the board is negatively associated with executive compensation, showing that independent directors tend to restrain the tendency to overcompensate CEOs. However, the independence of the remuneration committee did not have any statistically significant impact

on executive compensation. They suggested that it may be because of the reason that since remuneration committees were relatively new in Poland, it might take some time to make a meaningful impact. They concluded that since the independence of the remuneration committee members' minimum requirement was not specifically mentioned in Polish law, their participation only seemed to be symbolic. Additionally, the results showed that the meeting activity of remuneration committees was shown to have a statistically significant negative impact on CEO compensation.

#### **2.4.2 Developing Countries**

This section discusses the empirical studies conducted in the context of ‘developing countries’ with a special sub-section focusing on the context of Pakistan. Understanding and discussing research in the context of developing countries are important for this study because most of these countries have similar economic circumstances and their financial conditions reflect more closely the context of Pakistan. It is also important to note that many of these countries have directly or indirectly drawn their country codes of corporate governance from developed Anglo-Saxon countries. Likewise, many of the developing countries, including Pakistan, were once part of the former British colony, and as such their legal regulations had an influence of the British legal system. Moreover, Goswami (2002) suggests that since the second half of the 19th century, Indian companies have “generally followed an English common law framework” (Goswami, 2002).

Following the suit of developed countries, developing countries are also stressing the importance of boards and committees for improving the corporate governance scenario. In this

line, Ahmed (2010) suggested that remuneration committees serve as a useful tool in advising the board of directors on compensation-related matters and helping in reducing the overall agency costs by designing compensation in a manner that integrates the interests of executives with shareholders.

In this connection, Harymawan et al. (2020) conducted a study on data of Indonesian companies listed on the Indonesian Stock Exchange (ISX) from 2014 to 2017. The sample data was collected from the ORBIS database, and they measured the executive pay by taking the log of the sum of remuneration paid to the top-level directors of the company. They found that the presence of remuneration committees is positively associated with both, i.e., executive compensation and the company's performance. They reported that companies which have a presence of remuneration committees are more likely to link their executive's remuneration with firm performance, thus, in such companies' higher remuneration is linked to attaining higher firm performance. Hence, they explain that establishing a remuneration committee can help in creating compensation packages that induce higher firm performance. They also suggested that the compensation of executives needs to be attractive enough to incentivize and retain the executives to operate the company efficiently and effectively, and for this purpose, the remuneration committees can play an important role in designing and monitoring the executive remuneration structure to reduce agency conflict.

Similarly, recently, Alfarisa and Harymawan (2021) conducted a study on 240 firms listed on the Indonesian stock exchange and found that there is a negative association between the proportion of independent directors and executive compensation. Hence, companies with a higher ratio of independent directors are reported to provide relatively lesser compensation to their executives, which they suggest is due to effective supervision of management's

opportunistic behaviour. This also implies that independent directors are effectively able to play their part in designing and monitoring executive compensation. They also studied the relationship between the overall quality of the remuneration committee and director compensation. The quality of the remuneration committee was measured by adding five composition characteristics like the number of members, the proportion of independent directors, the independence of the chairman, the presence of financial expertise, and the number of meetings conducted during the year. The result revealed that relatively lesser total compensation is paid to the top-level directors in companies that have a presence of a higher quality remuneration committee. Similarly, Ahmed (2010) and Agyemang-Mintah (2016) also support this by demonstrating that the creation of RCs allows the committee to monitor and provide senior management with advice on wage decisions that lower agency expenses and should eventually improve performance.

Zhang and Liu (2015) conducted a study using the data of 2,993 Chinese state-owned enterprises - SOEs from the year 2010 – 2014. They suggested that the rapid corporate growth in China has led to an increase in executive compensation and the internal pay gap. Since this was leading to social inequality, the Chinese government in 2009 issued restrictions for SOEs which require that annual executive pay should not exceed twenty times the average employee pay in SOEs. To study the impact of the executive pay gap in relation to the company's performance, they measured the executive pay gap by dividing the average compensation of the top executives by the average compensation of other employees. Company performance was measured by calculating the ROA by dividing the net income by the average total assets. Control variables included firm size taken as the log of total assets, the board size, and leverage. The descriptive statistics showed that the average pay gap is 2.27 times, whereas the highest pay gap is 22.10 times. They used the regression analysis technique and found that both the

executive pay gap and firm size are positively related to the company's performance, hence providing support for tournament theory. The reason for this positive result was attributed to the availability of tournament incentives i.e., the internal pay gap provides executives with tournament incentives to improve financial performance. However, the limitation of this study is that it is only conducted on state-owned enterprises in the context of China.

Likewise, Xu et al. (2016) conducted a study using data from Chinese-listed firms from 2005 to 2012, extracted from the CSMAR database. They used the executive compensation of the top management team including the GMs and CFOs. The executive pay gap was calculated by dividing CEO pay by the average pay of non-CEOs. They found a positive association between the pay gap and company performance. They further suggested that this positive association is stronger when the pay level of a top executive is more than the overall industry average. Similar positive results were also found by Chen et al. (2013) who also found a positive association between the pay gap and company performance. Similarly, Zhou et al. (2010) also suggested that senior executives' compensation levels can have a positive impact on a company's financial performance.

Likewise, Abdullah (2006) also suggested that there is a need to connect executive remuneration with performance, which he found lacking in many firms. He conducted a study on 162 companies listed on Bursa Malaysia from 1999 to 2001 and found that executive remuneration is not associated with the company's performance, however, a lagged company's performance measured by ROA showed a negative relationship with executive remuneration. The paper suggested that this negative relationship might be due to an increase in the job description and compensation of directors during the sample period. Additionally, it also provided evidence of a positive relationship between remuneration and the company's growth

and size. This means that as the firm expands, the compensation of executives also increases with it. However, the presence of independent directors shows a negative influence on executive remuneration, showing that independent directors can play an effective role in constraining the level of executive remuneration.

However, statistically insignificant results were found by Jong and Ho (2020), who conducted a study to examine the impact of independent directors on executive remuneration in family-owned firms, where the chief executive and other top executives usually come from the controlling family. They found that independent directors do not have a significant influence on executive remuneration. They suggested that independent directors are not able to play an effective role in reducing agency conflict through the governance mechanism of executive compensation. Hence, they concluded that controlling family shareholders can misappropriate funds or extract private benefits through designing lavish remuneration packages so the minority shareholders would not be able to rely much on the presence of independent directors in such situations.

Jaafaar et al. (2015) conducted a study using data from 386 Malaysian listed firms for the years 2007 to 2009. They measured the executive remuneration by adding up the remuneration of all directors and taking the natural log of it. They report a positive association between the presence of remuneration committees and executive compensation. They also found that the companies which have the presence of a remuneration committee report higher returns, indicating the effectiveness of the committees in playing a significant role in setting the remuneration and motivating the executives to perform better. Additionally, they also found a positive association between executive compensation and company performance measured by



ROA. Further, they also found evidence of a positive relationship between executive remuneration and the size of the company, showing that as the firm size expands, the compensation of executives also increases with its size.

The survey by PWC (2017) also suggested that lavish executive remuneration packages further aggravates the existing income inequality in society. Importantly, the reduction in the income gap and the elimination of poverty is vital for the progress of any developing country and is also the number one SDG Goal for the year 2030. This income disparity in developing countries is also further evidenced by the figures reported by UNDP (2020) that, “80 per cent of the people who live on less than \$1.90, are in South Asia, and sub-Saharan Africa.”

Marimuthu and Kwenda (2019) conducted a study on an unbalanced panel data of 33 South African state-owned, commercial entities for the period of 1997 to 2017. Executive remuneration was measured by taking the log of total executive remuneration and finding a positive relationship between executive compensation and the size of the governing board. In addition, they found an inverse relationship between executive remuneration and the company’s financial performance. Hence, despite the declining performance of these state-owned entities, the remuneration being paid to their top executives was regularly increasing in these companies. The above results suggest the ineffectiveness of large-sized boards and their remuneration committees in designing and suitably aligning the executive pay with their company’s performance, which can also be a cause of the continued poor performance of such entities.

Olaniyi and Olayeni (2020) conducted a study in Nigeria by extracting data of 68 firms listed on the Nigerian Stock Exchange. Executive remuneration was measured by calculating the log

of the total annual pay of the CEO. They suggested that taking log transformation reduces the variability and chances of heteroskedasticity in the data. Firm performance was measured by calculating the ROA. They found that raising CEO pay causes a decline in company performance, showing that instead of being penalized, CEOs benefited from higher pay when firm performance was low. Further, the results showed asymmetric responses of chief executive pay to positive and negative shocks in firm performance. This implies that CEOs are handsomely compensated for good performance, but not punished for poor performance. However, they also suggested being cautious when using pay cuts as a governance tool to penalize CEOs as it can lead to repercussions like a reduction in the financial performance of Nigerian companies.

Hassan and Ahmed (2012) conducted a study on 25 non-financial firms listed on the Nigerian Stock Exchange (NSE) from 2008 to 2010. They used the cash compensation of the CEO to measure CEO pay because required information about stock options was not readily available. They used log transformation of the cash compensation to remove heteroskedasticity. They calculated the audit committee score by summing the effect of audit committee size, audit committee independence, and audit committee meetings. They explained that these three governance characteristics have been which are also widely used in the literature. Using the OLS regression method they found a statistically significant positive impact of executive compensation on firm performance. However, they did not find a significant association between the audit committee's strength and firm performance. They also suggested that executive remuneration should be less aggressively linked to performance to the extent that it does not induce managers to manipulate reported earnings to increase their compensation.

Akter et al. (2020) conducted a study on Bangladesh's textile sector companies listed on the Dhaka Stock Exchange (DSE). They collected data for 20 textile companies from 2011 to 2017 and found that there is no relationship between the percentage of independent directors and the performance of the company. This shows that independent directors do not seem to play an effective role in governing the organizations in the textile sector of Bangladesh. Additionally, they also reported an inverse relationship between executive remuneration and the performance of that company. They argued that paying higher remuneration to the company executives does not seem to stimulate the higher performance of the company and shareholders do not get any financial benefit from paying extravagant remuneration packages to the executives. They conclude that currently the executive remuneration is not aligned with the performance of the company which is a matter of great concern for investing shareholders.

Albitar (2015) conducted a study on 124 companies listed on the Amman Stock Exchange (ASE) from 2010 to 2012. The study used univariate and multivariate analysis and found that board size and audit committee size both have a positive association with the level of voluntary disclosure. Further, it also found that the size of the firm, profitability and liquidity also have a positive relationship with the disclosure level. However, independent directors showed an inverse relationship with the level of voluntary disclosure.

Similarly, Sridhar and Jasrotia (2021) conducted a study on data from 50 NIFTY companies in India for the period of 2007 to 2016 using the CMIE Prowess database. CEO compensation was measured as the sum of the total remuneration paid to the CEO. They found no linkage between CEO pay and performance. This indicates a clear disconnect between pay and performance in the Indian context and shows the lack of board and remuneration committees

in effectively designing compensation contracts. The paper also reported that Indian companies do not provide adequate disclosures regarding CEO pay in their annual reports which need improvement. They further suggested that Indian companies should follow the best practice of including full compensation details and break-up of previous years as well while disclosing the current year's compensation in their annual reports.

Likewise, Madhani (2015) also conducted a study on Indian companies listed on the Bombay Stock Exchange (BSE) in Mumbai. The sample data comprised 54 firms from 2011 to 2012. They found a positive correlation between committees and corporate governance disclosures, showing that firms which have a higher number of board committees, like audit and remuneration committees, exhibit a higher standard of corporate governance and provide better disclosures in their annual reports. They further suggested that committees of the board can serve as a major contributor to improving the overall governance in the organizations. Hence, the presence and effective functioning of the board's remuneration and audit committees are essential to help the board in discharging its supervision and monitoring functions.

Jaiswall and Bhattacharyya (2016) extracted data from the Prowess Indian database for conducting a study on data from 770 firms listed on the Bombay Stock Exchange of India from 2002 to 2013. CEO remuneration was measured by taking the log of the total CEO or Managing Director's pay. The total executive compensation amount included salary, bonuses, and all perquisites awarded to the executive. They found no significant relationship between chief executive compensation and the proportion of independent directors in Indian firms. Further, no association was found between CEO compensation and CEO duality, indicating that the total compensation is not significantly higher for CEOs who are also chairman of the board.

Additionally, the results showed that there was no impact on board size and the number of meetings held during the year.

### **2.4.3 Pakistan**

Most of the governance and executive remuneration studies are conducted in the context of developed countries, and despite a wealth of international research on the topic, there is very little known about the impact of remuneration and audit committee characteristics on the chief executive compensation in the context of Pakistan. Likewise, it is unclear whether the characteristics influencing executive remuneration in developed countries would also be relevant in the context of Pakistan, and hence this study will help in improving an understanding of it.

This study aims to provide insights into the understanding of the role of remuneration and audit committee characteristics in determining chief executive compensation in a Non-Anglo-Saxon context. An example of the difference in the pay practice between Anglo-Saxon and Non-Anglo-Saxon countries is the high portion of equity-based compensation for executives in Anglo-Saxon economies (La Porta et al., 1999; Shleifer & Vishny, 1997), whereas the equity-based compensation is almost non-existent in the context of country Pakistan.

In addition, the context of Pakistan is quite different from the developed countries. This is evidenced by the study of Professor Geert Hofstede, also known as Hofstede Insights, which provided the rating of power distance in different countries, defining it as “the fact that all individuals in societies are not equal – it expresses the attitude of the culture towards these

inequalities amongst us.” (Hofstede Insights, 2020). According to Hofstede Insights, Pakistan scores 55 in Power distance, as compared to the UK which is rated at 35. Specifically, this raises the curiosity of whether independent and non-executive directors would be able to impact the governance of companies by regulating executive remuneration. Additionally, Hofstede Insights provides a rating of Individualism, defining it as the “degree of interdependence a society maintains among its members.” In this dimension of Individualism, Pakistan scores 14, which shows that Pakistan is more of a collective society, as compared to the UK, which is rated at 89, evidencing an individualistic society. In Individualist societies people usually prefer to only look after themselves, and their near ones, whereas, in collective societies, people tend to belong in groups, which fosters stronger relationships among the group members. According to Hofstede Insights (2020), employer and employee relationships in such collectivist societies are perceived in moral terms, likewise, remuneration decisions also take account of an employee’s individual as well as in-group performance. Hence, the context of the country Pakistan is important as this raises curiosity as to whether the CEO’s remuneration has any linkage with the overall firm performance and whether the directors serving in groups like remuneration and audit committees would be able to effectively and collectively design and monitor the CEO’s remuneration.

The main aim of this research study is to examine the impact of CEO compensation on the independence, expertise, and activity of remuneration and audit committees, however, to the best of my knowledge, there is very little available on the selected topic in the context of Pakistan, hence, because of this scarcity of relevant research articles, this section will discuss the available relevant studies in Pakistan.

Shah et al. (2009) conducted a study on the determinants of CEO compensation in Pakistan and found that board size is positively related to the CEO compensation. Additionally, they also found that the size of the firm and profitability measured by ROA also have a significant positive correlation with the CEO compensation, whereas the CEO duality had a negative relationship with compensation. These results explain that companies that are large and profitable, pay higher remuneration to their chief executives. Similarly, in companies in which the position of the Chairman of the board is separated from the position of CEO, such companies seem to be more independent and conservative in their remuneration decisions by paying relatively lower compensation to their CEOs.

Likewise, Iftikhar et al. (2019) conducted a study on 24 commercial Banks in Pakistan and found that compliance with the corporate governance code has a positive relationship with the efficiency of banks. They reported a positive association between the existence of audit and remuneration committees and the bank's cost efficiency. Similar results were also found by Iqbal and Kakakhel (2016) and Yasser et al. (2011). The study by Iqbal and Kakakhel (2016) conducted a study on Pakistani pharmaceutical companies and found that the existence of audit and remuneration committees has a positive correlation with financial performance, measured by ROA and ROE. In addition, they also found that the presence of independent directors, the size of the board, and the size of the firm have a strong significant impact on the profitability of the pharmaceutical firms in Pakistan.

Aslam et al. (2019) conducted a study to examine the interrelationship between executive pay and performance on data of KSE 100. The final sample after removing the companies with incomplete data was 50 companies. Due to the potential presence of endogeneity that may be caused due to the reverse causality of pay and performance, they used the GMM approach to

account for this problem, because it is frequently used to solve the problems of potential endogeneity and reverse causality between the pay and performance (Sheikh et al., 2018). They found that executive pay is related to the previous year's performance of the firm measured by Tobin's Q and EPS, which is also consistent with the findings of Azim et al. (2018) suggesting that this connection of executive pay with last year's (lag) performance might be because the remuneration committee members usually consider previous year's performance as a reference point for setting current year's compensation.

Similarly, Sheikh et al. (2018) conducted a study and found that CEO compensation is influenced by current-year accounting performance, as well as the lag performance of last year. However, stock market performance did not have any impact on the CEO compensation. Further, in contrast to the agency theory, executive remuneration was negatively impacted by CEO duality when the CEO also held the position of Chairman, whereas the size and independence of the board did not have any significant association with the executive pay. They conclude that this indicates the ineffectiveness of the board in playing its monitoring and controlling role in reducing the entrenchment of the CEOs. However, in contrast, Aslam et al. (2019) suggested that the size of the board and the existence of committees have a positive association with executive compensation and firm performance. This indicates that a larger-sized board and the existence of committees makes the board more capable of effectively evaluating the company's interests and helping to improve its performance. However, CEO duality has a negative association with performance. Similar results were found by Ismail et al. (2021) who also found that CEO duality has a negative effect on the firm performance. This indicates that when the CEO also holds the position of Chairman, it makes them relatively over-occupied and inefficient in monitoring and controlling the firm. They also found that non-executive directors also had a negative impact on the company's performance. This may be



due to the generally held view advocated by Javid and Iqbal (2010) that in Pakistan these non-executive directors are usually selected from among the family members due to which they fail to make a real difference, largely because of a lack of knowledge and required expertise. Appendix Table 2.1 presents the relevant empirical studies done in the context of Pakistan.

#### **2.4.4 Research Gap**

Based on the above review of the literature and to the best of the author's knowledge, there is only limited empirical research on the impact of remuneration and audit committees on the chief executive pay and no such research is available on this specific topic in the context of Pakistan. Consequently, this research aims to bridge this gap in the research literature. While several studies have been conducted in the research area of the pay gap, most have focused on different contexts such as the gender pay gap (Birindelli & Iannuzzi, 2022; Burns et al., 2022; Ellwood et al, 2020; Bussin & Christos, 2016), and the impact on research and development (Sun & Luo, 2019). Despite the extensive literature on the audit committee, little or no attention has been paid to its role in mitigating the executive pay gap. Regarding audit committees, researchers have primarily only focused on the impact of audit committees on audit fees (Ge & Kim, 2020; Xiong, Li & Gao, 2021; Yin & Du, 2021), and on company performance (Wang & Huynh, 2013; Zhou et al., 2018). In general, there is limited empirical research on the impact of remuneration and audit committee characteristics on the gap between CEO's pay and that of other executives and to the best of researcher's knowledge, no such research is available in the context of Pakistan. Consequently, this study bridges this research gap in the literature.

## 2.5 Summary

This chapter presents the theoretical and empirical literature related to this research topic. Regarding the theoretical framework, five main theories were discussed to explain the relationship between relevant variables. These theories include agency theory, transaction cost economics theory, institutional theory, legitimacy theory, and stakeholder theory. Further, two theoretical perspectives on the executive pay gap were also discussed namely, distributive justice and tournament theory. All these theories were used to understand and discuss the main theoretical concepts which underpin the supervisory function of the board and the remuneration and committee channels through which such roles affect executive compensation. For example, institutional and legitimacy theories helped in providing support for confirming the results of the first research objective of the study regarding executive compensation trends. Al-Twaijry et al. (2003) suggested that organizations typically try to achieve legitimacy by trying to embrace the characteristics of other organizations in that industrial sector and business community. Thus, larger companies might try to pay better compensation packages to their executives to achieve legitimacy in the business community and the overall Pakistani society. Hence, institutional and legitimacy theories can be used to understand pay and its variations in different industries in Pakistan. Similarly, agency theory helped in providing support for confirming the results of the second research objective of the study regarding the impact of independent directors in remuneration committees in reducing the executive pay gap.

In addition, this chapter also provided empirical literature regarding previous quantitative research related to the topic. The empirical literature review included studies done in the context of both developed and developing countries, with a separate section on Pakistan. It

provides a review of definitions of relevant variables and the impact of corporate governance mechanisms on chief executive pay. The empirical literature review indicated mixed results in the existing studies concerning governance and executive compensation, however, the literature review identified that to date there is no or very little empirical research available on the selected topic of remuneration and audit committees and its impact on the chief executive pay gap, specifically in the context of Pakistan.

## **Chapter 3: Data Description**

### **3.1 Introduction**

This chapter describes the data underpinning the empirical analysis carried out in this study. The discussion is broadly structured into four sections. Section 3.2 provides details about data collection sources and efforts made to authenticate their validity. Section 3.3 discusses the selection of the research sample and their distribution of the emerging trend in data using graphs. Section 3.4 provides a concluding summary. We will deal with each in turn.

### **3.2 Data collection sources and authentication**

The empirical analysis for this thesis is conducted on the panel data set of the top 100 companies listed on the Pakistan stock market (the PSX 100 Index). One of the key benefits of using the panel regression method is that it can differentiate between the cross-sectional and time series data, which also allows for removing any unobservable heterogeneity in the data. On the other hand, the pooled regression cannot differentiate between the data of distinct companies and time (Himmelberg et al., 1999). Since the required data for the variables of interest were not readily available from leading accessible databases, like OSIRIS and Thomson Reuters, so all the information used in the empirical analysis including CEO pay, average executive pay, board, remuneration and audit committee characteristics, are hand-collected from the audited annual financial statements of the companies from 2016 to 2019. Additionally, data on the financial performance indicators of listed companies such as share prices are collected from the official website of the Pakistan Stock Exchange (PSX).

Previous studies on the Pakistani market have also used a similar approach to collect data through the annual financial reports of companies, like Aslam et al. (2019) and Shah et al. (2009). Further, these researchers also suggested using the data of non-financial companies only, because banks and financial institutions have different regulatory frameworks and statutory requirements (Usman et al., 2022a), hence the above suggestion is logical and validates our sample selected for the purpose of this study. This idea is further discussed in the following section.

### **3.3 Sample distribution**

The research sample began with a population of all the companies on the Pakistani PSX 100 Index from 2016 to 2019, resulting in a total of 400 firm-year observations, however, following previous literature, the data of banks and financial firms were removed due to their unique regulations, differences in the nature of their operations, as well as the way their financials are reported in their statements (Usman et al., 2022). This leaves a final sample of 328 firm-year observations, which were constantly listed on the PSX exchange during the above study period of four years. Further, none of the firms was delisted from the PSX 100 index during this trading period, hence no further exclusion was required for this purpose. The justification for the choice of the starting date follows from the following reasons: the fact that the amendments to corporate governance regulations in Pakistan were made in 2014, which is usually expected to take full effect after two years. This is usually because regulators normally allow preparation time before firms are mandated to fully adopt a regulator's new guideline. Secondly, due to these corporate governance regulations, many of the companies established the required audit or remuneration committees after 2014, so a limited number of companies had both these

committees present and active before these years. Further, the selected time frame is also unique in the sense that there is no prior research conducted on this topic using this time frame.

The reason for selecting Pakistan is that most of the governance and chief executive remuneration studies are conducted on developed countries, and despite a wealth of international research, there is very little known about the impact of remuneration and audit committee characteristics on the chief executive compensation in the context of Pakistan. The governance, financial, and economic circumstances of Pakistan are very different from those of developed countries. Likewise, it is unclear whether the committee characteristics influencing executive remuneration in developed economies would also be relevant in the context of Pakistan. Consequently, this study aims to provide insights into the role of remuneration and audit committee characteristics in determining chief executive compensation in Pakistan. An example of the difference in the pay practices between developed and developing countries is the high portion of equity-based compensation for executives in developed economies (La Porta et al., 1999; Shleifer & Vishny, 1997), whereas equity-based compensation is almost non-existent in Pakistan. Hence, the situation in Pakistan is different from the developed economies as recognised by Hofstede (2023).

Regarding the making of panels, the data is analysed by creating two panels, like Cybinski and Windsor (2013). Table 3.1 shows Panel-I which provides the breakdown of the industries according to the sectorial classification of PSX and their respective percentage in the total sample. Further, to create balance in the industrial distribution of data for conducting empirical analysis, the data has been grouped into two industrial groups by creating a balanced panel. This is presented in Table 3.2.

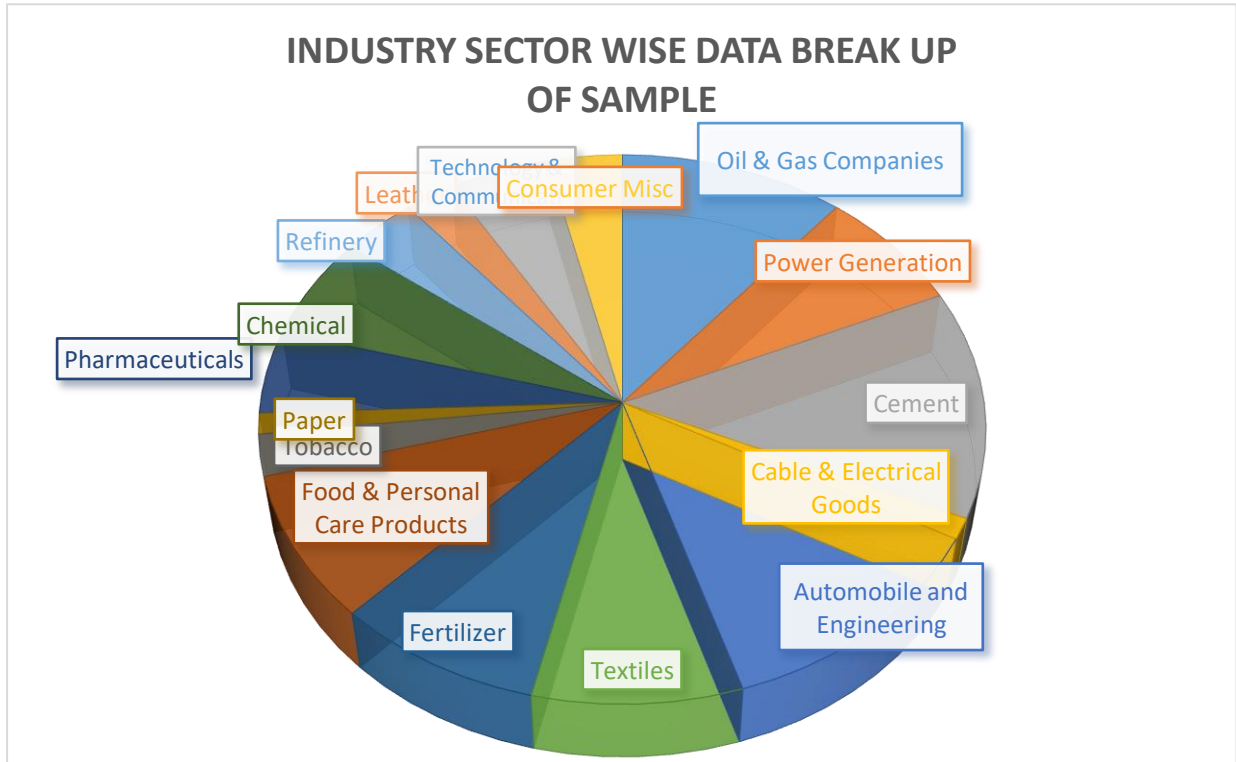
Table 3.1:

PANEL-I: Industry groups based on PSX sector classification.

<b>Industry Index</b>	<b>Industrial Sectors</b>	<b>Number of firms</b>	<b>Percentage % of the sample</b>
1	Oil & Gas Companies	9	10.976
2	Power Generation	6	7.317
3	Cement	11	13.415
4	Cable & Electrical Goods	1	1.220
5	Automobile and Engineering	10	12.195
6	Textile	7	8.537
7	Fertilizer	7	8.537
8	Food & Personal Care	7	8.537
9	Tobacco	2	2.439
10	Paper	1	1.220
11	Pharmaceuticals	4	4.878
12	Chemical	5	6.098
13	Refinery	3	3.659
14	Leather	2	2.439
15	Technology & Communication	4	4.878
16	Consumer Miscellaneous	4	4.878
	Total	82	100.000

Graph 3.1:

Industrial Sector-wise data break up:



Graph 3.1 shows that the PSX-100 index data consists of 10 companies in the Automobile sector, all of which are part of the study's data sample comprising 12.19% of the overall sample. The Cement sector consists of 11 companies contributing 13.41% of the sample. Similarly, the Chemical Sector contains 5 firms contributing 6%. The Cable and electrical goods sector include a company contributing 1.220 percentage. The fertilizer sector contains 7 companies contributing 8.53%. The Food and Personal Care Products comprise 7 companies which make up 8.53%. The Leather sector includes 2 firms contributing 2.439%. The Oil and Gas sector consists of 9 firms making up 10.97% of the sample. The Paper sector contributes 1.22% to the sample. The Pharmaceuticals sector comprises 4 companies comprising a percentage of 4.878%. Power Generation consists of 6 firms constituting 7.317%. The Refinery includes 3 companies contributing 3.659%. The technology and Communication sector



consists of 4 firms contributing 4.878%. The textile sector contains 7 companies contributing 8.53%. Lastly, the sample contains 4 companies from the Consumer Misc. sector contributing 4.87% of the sample.

Looking at the above, the three most dominant sectors in the data are shown to be Cement, Oil and Gas, and Automobile and Engineering. The Cement sector is dominant presumably because Pakistan is a manufacturer as well as an exporter of cement to neighbouring developing countries like Afghanistan. Similarly, the automobile sector is dominant presumably because of the increase in the sale of automobiles in Pakistan. The key characteristics of each of these are as follows: the average CEO compensation for the Cement sector is Rs. 32,489,250; and the average compensation of CEOs in the Oil & Gas sector is Rs. 44,030,417, whereas the average compensation of CEOs in the Automobile and Engineering sector is lower than both sectors which are stated at Rs. 28,475,034.

It can also be observed that the average independence of remuneration committees in both sectors is somewhat similar. i.e., the average independence of remuneration committee in the Cement sector is 17%, whereas it is 33% and 19% in the Oil & Gas and Automobile sectors respectively. Likewise, the data shows that the remuneration committees of the oil and gas sector are more active and tend to meet more frequently than the cement sector. Similarly, the average pool of expertise i.e., the size of the remuneration committee in the oil and gas and the automobile sectors is slightly higher than in the cement sector. However, whether these changes in their structure can impact the compensation or not will be investigated and discussed in the upcoming results chapter of this research thesis.

Similarly, it can also be observed that the average independence of the audit committee in the oil and gas sector is higher than in the cement and automobile sectors i.e., 47.50%, whereas it is 32.20% for the cement sector and 31.75% for the automobile sector. The data shows that the meeting activity of the audit committee for the oil and gas sector is much higher than the cement and automobile sectors. However, the average pool of financial expertise for all three sectors is somewhat similar. However, whether these changes in their structure can impact the compensation or not will be investigated and discussed in the upcoming results chapter of this research thesis.

Table 3.2:

PANEL-II: Data distribution in two Groups

Sectors	Number of firms	% Percentage of the sample'
Group-A:		
Automobile & Engineering	10	24.390
Cable & Electrical Goods	1	2.439
Food & Personal Care Products	7	17.073
Leather	2	4.878
Paper	1	2.381
Pharmaceuticals	4	9.756
Textiles	7	17.073
Technology & Communication	4	9.756
Tobacco	2	4.878
Consumer Miscellaneous	4	9.756
Total	41	100%

Group-B:		
Cement	11	26.829
Chemical	5	12.195
Fertilizer	7	17.073
Oil and Gas Companies	9	21.951
Power Generation	6	14.634
Refinery	3	7.317
Total	41	100%

Group A companies are mostly consumables-related and mainly B2C companies, like the Food and Personal care sector, whereas Group B includes process costing-related companies and B2B companies which are usually involved in producing large-scale, similar products like Cement. Since the data is limited, it would be difficult to group it into the numerous SIC groupings. Standard Industrial Classification (SIC) codes are used to categorize industries according to their business activities. Further, to create balance in the data and to conduct meaningful empirical analysis, the data has also been grouped into two industrial groups with some similarities in their business operations and a balanced panel has been created which is shown as Panel-II in above Table 3.2. Graph 3.2 shows the group-wise compensation of the CEOs in the two groups. The CEO compensation of Group A is around Rs. 41,194,187, whereas the average CEO compensation of Group B is stated at Rs. 38,752,626. The following section discusses further details and the descriptive statistics of the groups-wise data distribution for the chief executive compensation, remuneration, and audit committees in their relevant sections below:

### **3.4 Descriptive statistics**

This section discusses the trend observable from the summary statistics for the variables presented in the appendix Tables 3.1, 3.2, and 3.3. The discussion focuses on the main variables of research interest comprising: (i) Chief Executive Compensation (ii) Remuneration Committees and (iii) Audit Committees.

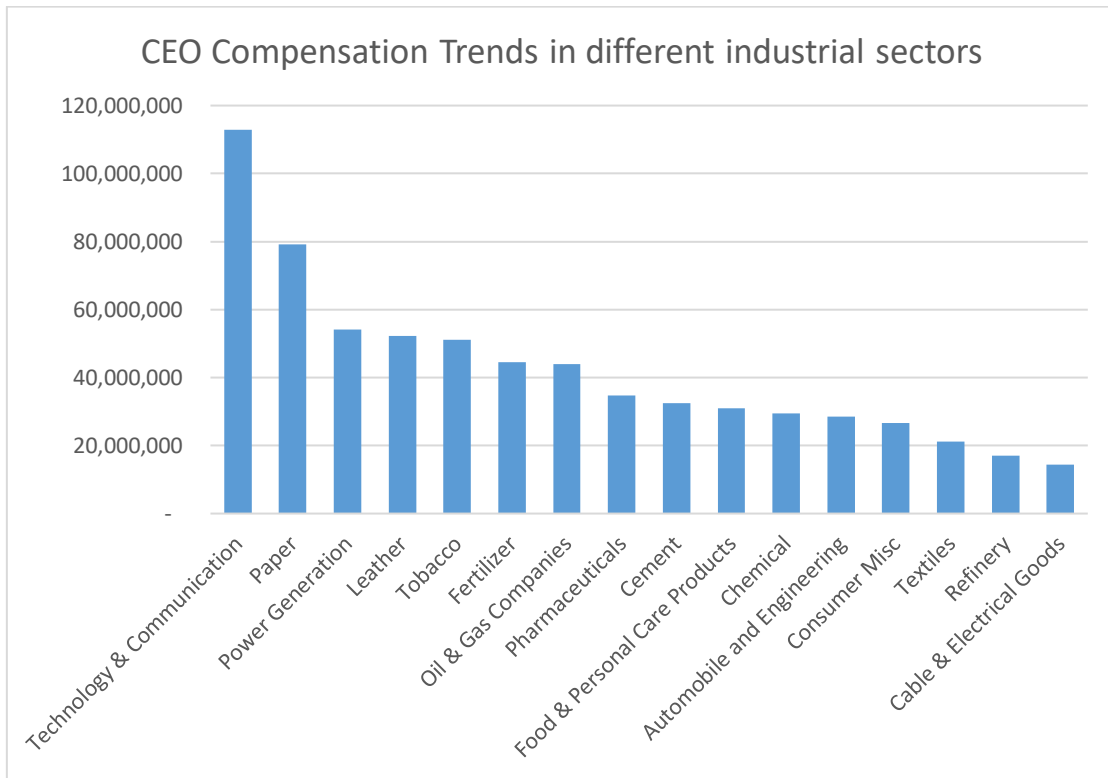
#### **3.4.1 Chief Executive Compensation**

The CEO compensation has been measured in the literature using different methods, such as total cash compensation including the sum of basic pay, benefits, and bonuses (Cybinski & Windsor, 2013; Khan et al. 2020), percentage of the total CEO cash compensation to the other top executive compensation (Al-Najjar, 2017), the sum of cash remuneration and equity-linked pay (Alkalbani et al., 2019; Gregory-Smith, 2012). As per the previous studies on Pakistan (Khan et al., 2020; Usman & Akhtar, 2015), this study also uses the total cash remuneration of CEOs because equity-based pay like stock options is rarely offered, nor reported in Pakistan.

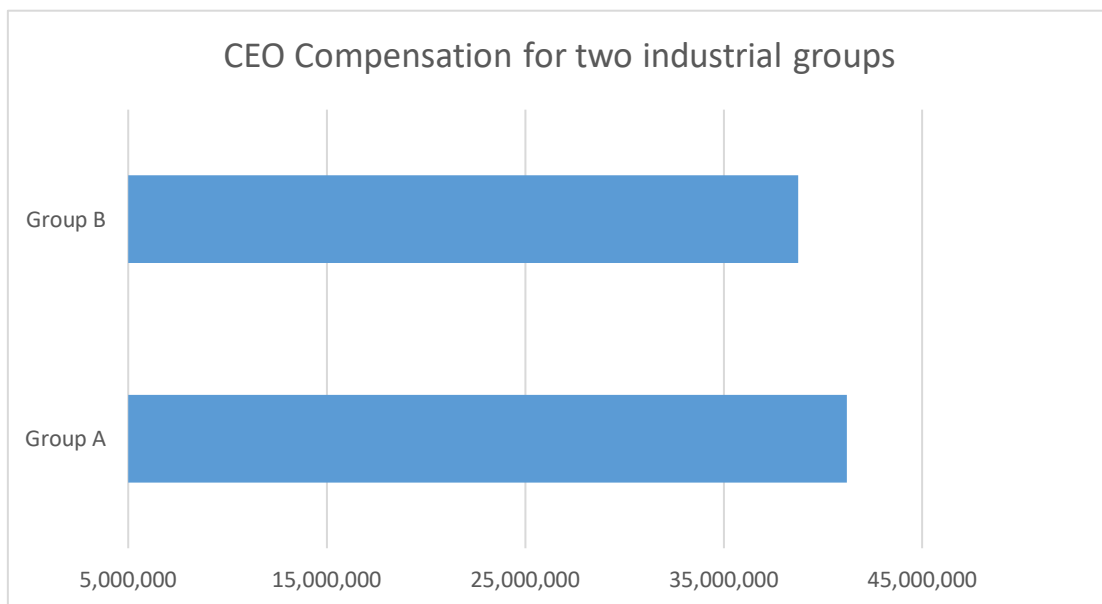
For estimating the compensation of the chief executive officer, this study uses the relative compensation of the CEO in comparison to an average executive of the company (i.e., CEO pay divided by the other executives' pay). The reason for selecting this variable is to show the pay gap between the chief executive and the average executive of the company. This consideration of executives is in line with the Stakeholder theory recognition of the role played by executives other than the CEO in the overall success of the organization. Furthermore, this

relative compensation variable also indicates the pay gap between the CEO and other executives of the company.

Graph 3.2: PANEL- I: CEO Compensation Trends in different sectors of PSX



Graph 3.3: PANEL-II: CEO Compensation for two industrial groups



The descriptive statistics shown in Appendix Table 3.1 shown in the appendix reveal that the maximum relative compensation of the CEO is as high as 210 times, which shows that the CEO is paid 210 times relatively higher than the average executive of the company, whereas the mean was 10.82 and the median was 7.60. This shows the inequality in the distribution of pay between the rank of a CEO and an average executive. The maximum salary of the chief executive officer was reported to be as high as Rs. 381,888,000, whereas the minimum salary was as low as Rs.0. Graph 3.2 shows the CEO compensation trends in different industrial sectors of Pakistan. The top three sectors paying their chief executives' higher compensation than others were found to be the technology and communication, Paper, and Power generation sectors. Further, Graph 3.3 shows the CEO compensation trends after distributing the data to two main industrial groups. The average CEO compensation of Group A is shown to be Rs. 41,194,187, whereas the average CEO compensation of Group B is stated at Rs. 38,752,626.

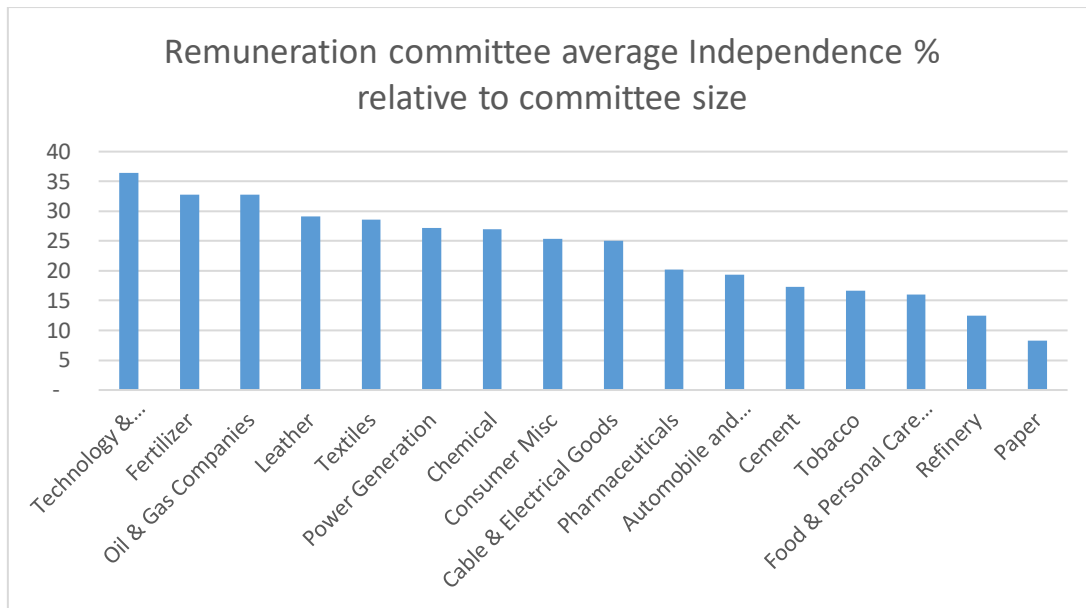
### **3.4.2 Remuneration Committee Variables**

In this study, three characteristics are used to capture the functioning of the remuneration committee: namely independence, expertise, and activity. These are discussed as follows:

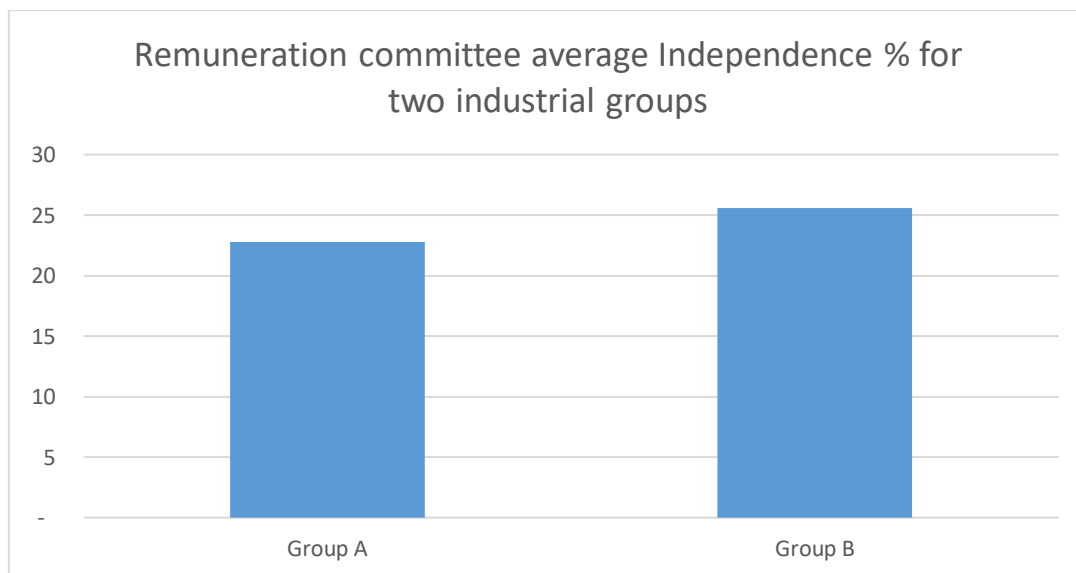
*Independence of remuneration committee:*

Graph 3.4:

Remuneration committee Independence for different PSX sectors



Graph 3.5: Remuneration committee independence for two industrial groups



The independence of the remuneration committee is considered vital for its efficient and effective functioning. For estimating the independence of the remuneration committee, the number of independent directors is divided by the total number of directors in the committee. A similar measurement was used by Alkalbani et al. (2019) and Gregory-Smith (2012). The descriptive statistics shown in Appendix Table 3.2 show that the maximum number of independent directors on remuneration committees is as high as 100%, whereas, on the other hand, there are also companies with no independent directors at all on their remuneration

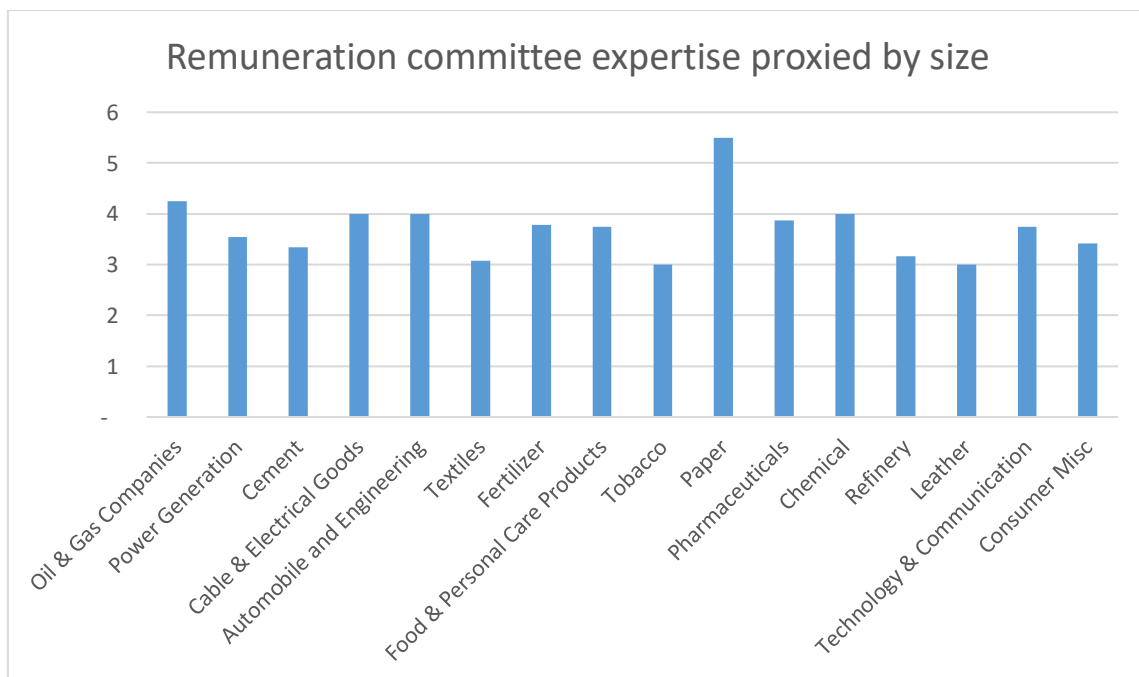
committees. The firm with higher independence is also presumed to influence the chief executive's compensation. The average committee independence value is 24.18%, and the median independence of remuneration committees is shown to be 25% relative to their size. Furthermore, graph 3.4 shows the trends in the independence of remuneration committees in different industrial sectors of Pakistan. It shows that the Technology and communication, Oil and gas, and Fertilizer sectors were found to have the highest percentage % of remuneration committee independence in those industries.

Further, Graph 3.5 of the group-wise data shows the average independence of remuneration committees for the two industrial groups distribution, showing that independence in Group A is 23%, whereas it is 26% in Group B.

*The expertise of the remuneration committee:*

Graph 3.6:

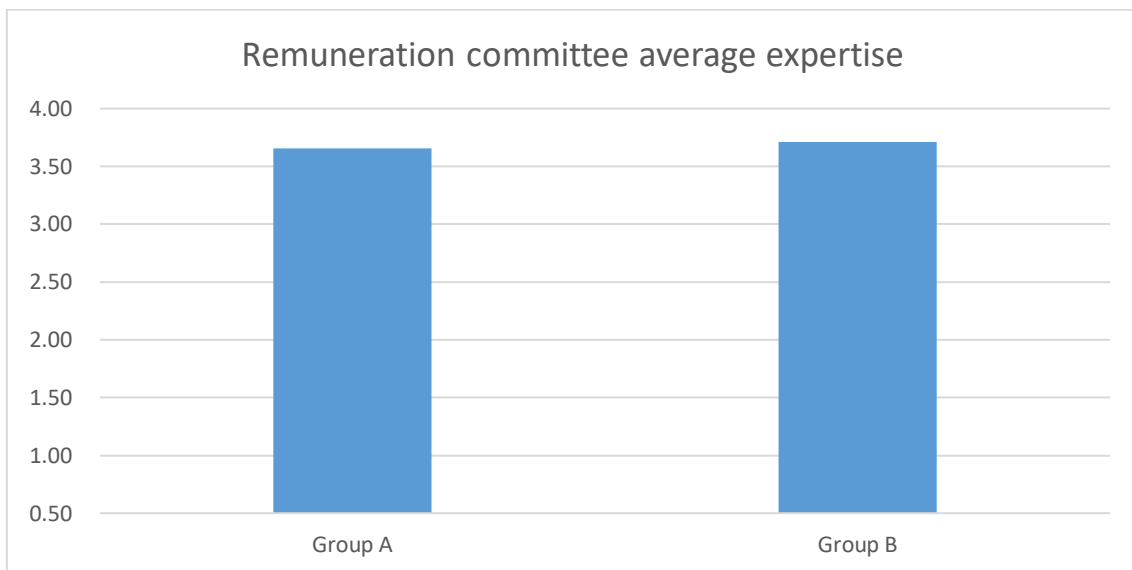
Remuneration committee expertise for different PSX sectors





Graph 3.7:

Remuneration committee average expertise for two industrial groups

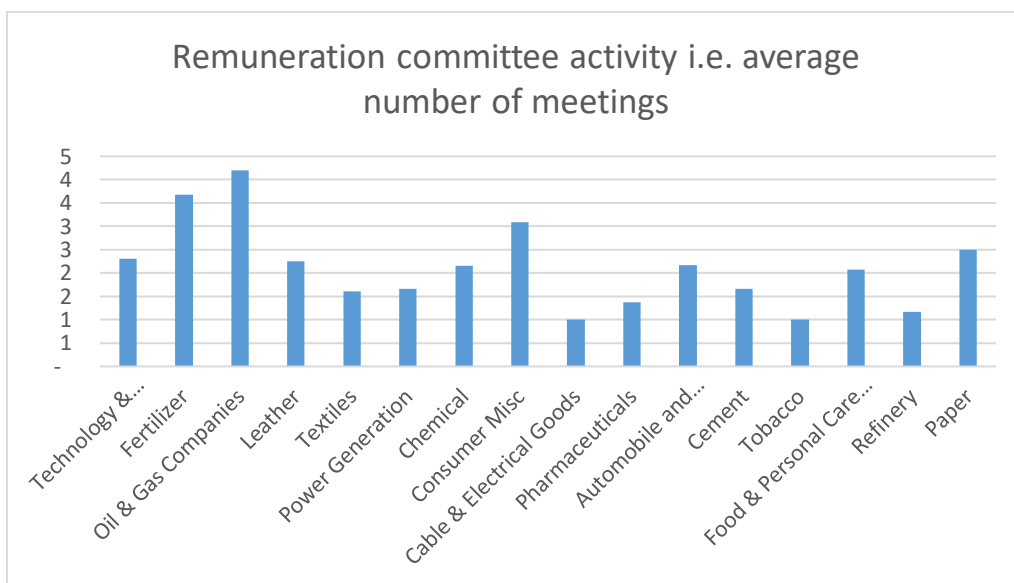


The second remuneration committee variable is the expertise of the remuneration committee. For estimating the expertise of the remuneration committee, a proxy of the size of the remuneration committee is used. This is used because the large-sized committees are expected to have a bigger pool of expertise available to them, which can help them in better supervision (Aldamen et al. 2012). For estimation, the log of the total number of directors serving on the committee is taken. The descriptive statistics presented in Appendix Table 3.2 shows that the maximum size of remuneration committees in the data is 8 members, whereas, on the other hand, the minimum is shown to be 0. The minimum value of 0 shows that there are companies in the data which do not have a remuneration committee at all, however, whether this affects the remuneration of the CEO or not will be investigated and discussed further in the upcoming results chapter of this thesis. Furthermore, the median size of the remuneration committee is shown to be 3 members. Currently, there is no single recommended benchmark for the size of the remuneration committee.

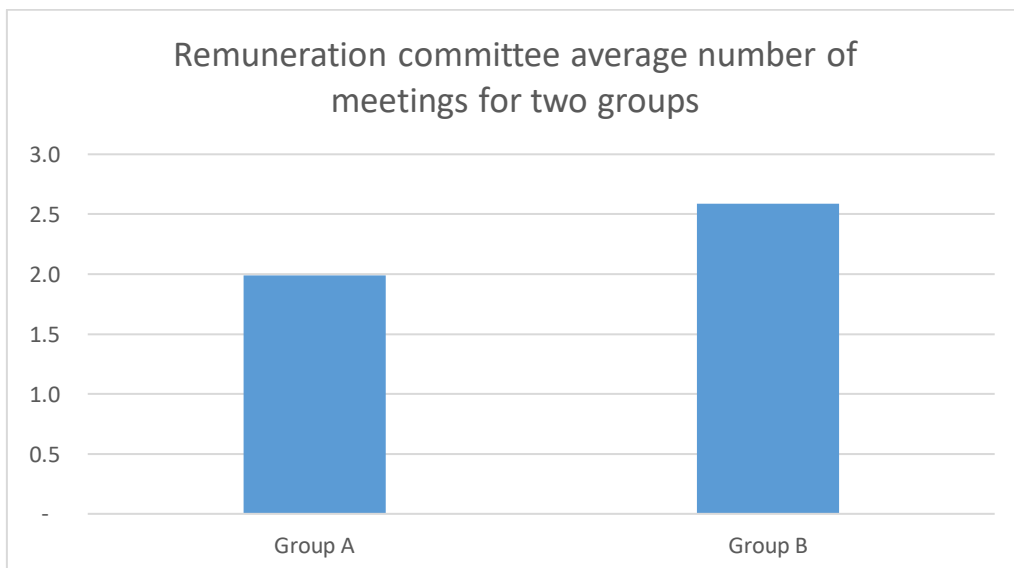
Graph 3.6 shows the expertise-related trends of remuneration committees in different industrial sectors of Pakistan. The oil and gas marketing, oil and gas exploration, and miscellaneous sector companies were found to be highly active as compared to their peers. Further, Graph 3.7 shows the average pool of expertise of remuneration committees in the two groups distribution which is shown to be almost the same in both the groups.

*The activity of the remuneration committees:*

Graph 3.8: Activity of remuneration committees for different PSX sectors



Graph 3.9: The activity of remuneration committee for two groups



The third remuneration committee variable is the level of activity of the committee. According to Menon and Williams (1994), mere presence and independence of the committee are not enough, instead, they must also be active to perform their supervisory functions properly. The reason for using the committee's level of activity is to approximate the committees' supervisory efforts measured by using a proxy i.e., the number of meetings held by the committee in a year. A similar measure of activity was used by several prior studies including Al-Najjar (2017), Méndez and García (2007), De Vlaminc and Sarens (2015), and Vafeas (2005). However, these authors have also indicated the limitation of using the number of meetings as a proxy for activity because the number of meetings itself does not indicate the work achieved in those meetings. On the other hand, these authors however also highlight that committees that do not meet or meet less frequently are unlikely to be effective monitors (Deli and Gillan, 2000). Keeping this in mind, this study considers committee activity as an essential component of its effectiveness.

The descriptive statistics presented in Appendix Table 3.2 shows that the maximum number of remuneration committee meetings held in a year was 11, whereas, on the other hand, the minimum number of meetings is shown to be 0. The mean value is 2.28, whereas the median number of remuneration committee meetings is shown to be 2. Menon and Williams (1994) also suggested a minimum of two committee meetings per year, however, the code of corporate governance of Pakistan suggests having at least one meeting per year (CCG, 2017). Graph 3.8 shows the meeting or activity trends of remuneration committees in different industrial sectors of Pakistan. The oil and gas, and the miscellaneous sector companies were found to be highly active as compared to their peers and met more than 4 times each year.

Additionally, Graph 3.9 shows the remuneration committees' activity for the two industrial groups' distribution and shows that the Group B companies are found to be slightly more active, than the Group A companies. However, does this affect the remuneration of the CEO or not will be investigated and discussed in the coming results chapter of this thesis.

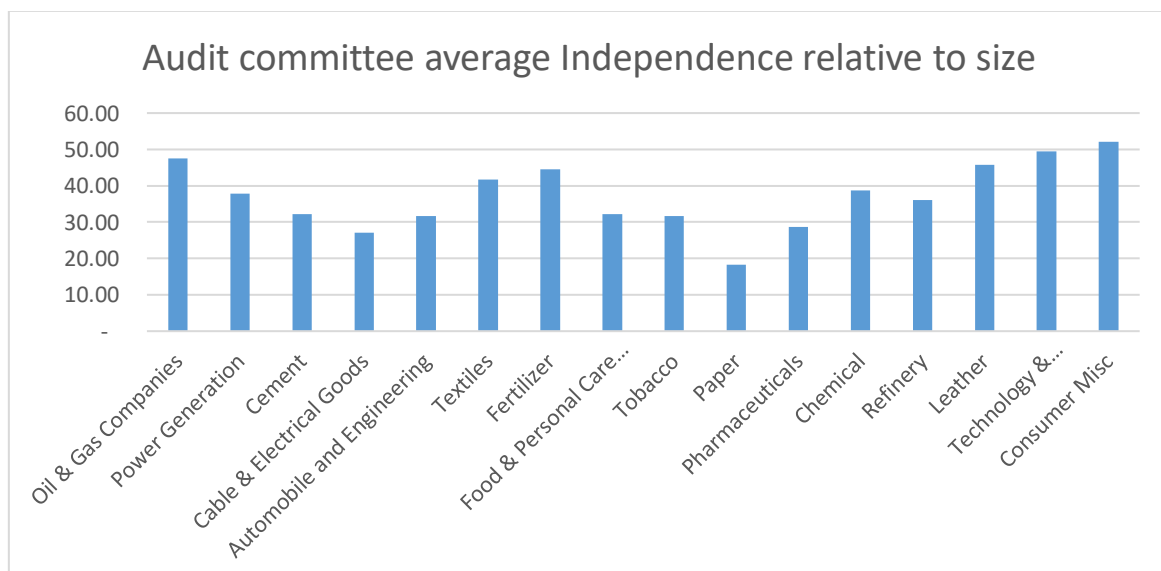
### 3.4.3 Audit Committee Variables

Three aspects of the characteristics of the audit committee are examined in this study, namely independence, financial expertise, and activity. These are discussed as follows:

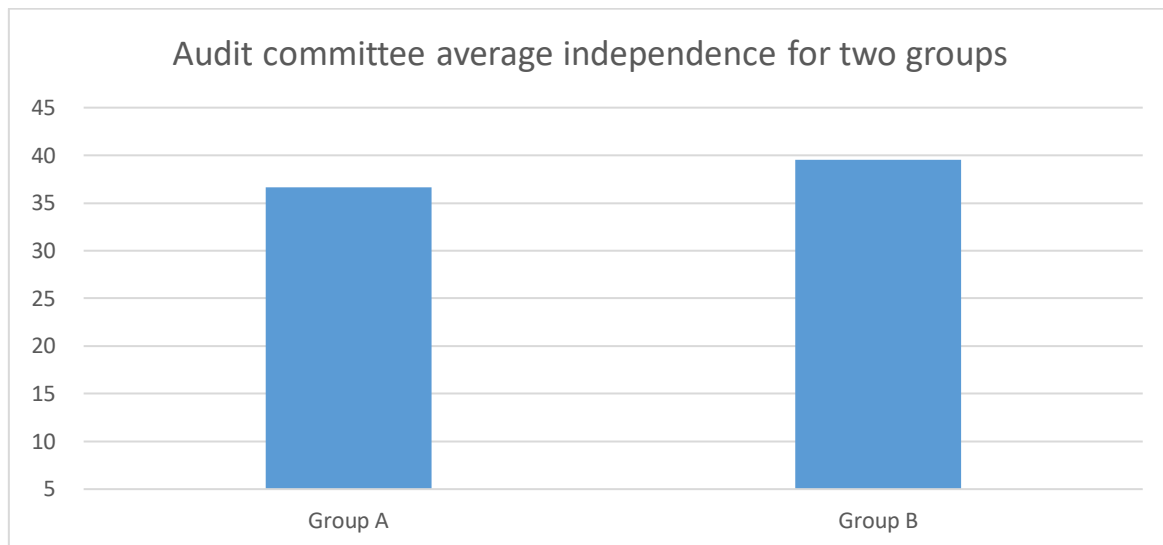
*Independence of audit committee:*

Graph 3.10:

Audit committee independence for different industrial PSX sectors.



Graph 3.11: Audit Committee independence for two industrial groups



An audit committee is directly responsible for the reporting process (Albitar et al., 2022) and as such an efficient audit committee must safeguard the interest of its shareholders (Usman et al., 2022a). The first audit committee variable i.e., independence of the audit committee of the firm's management is needed to perform supervisory functions independently without bias. For example, an independent committee would have the freedom to make its own judgments and would be able to challenge the calculations and possible misstatements by managers in the financial statements. According to Baxter and Cotter (2009) creation of an audit committee reduces management's intentional earnings management. The presence of an independent audit committee also influences the transparency and voluntary financial disclosures by the organization (Setiany, 2018).

Currently, there are not many papers which directly discuss the impact of audit committees on chief executive compensation. This is because the traditional direct role of the audit committee has been to ensure the accuracy of financial statements and hence the audit committee has a role in influencing the management's compensation indirectly. For example, the audit committee will ensure that the managers do not falsify the financial statements to get higher

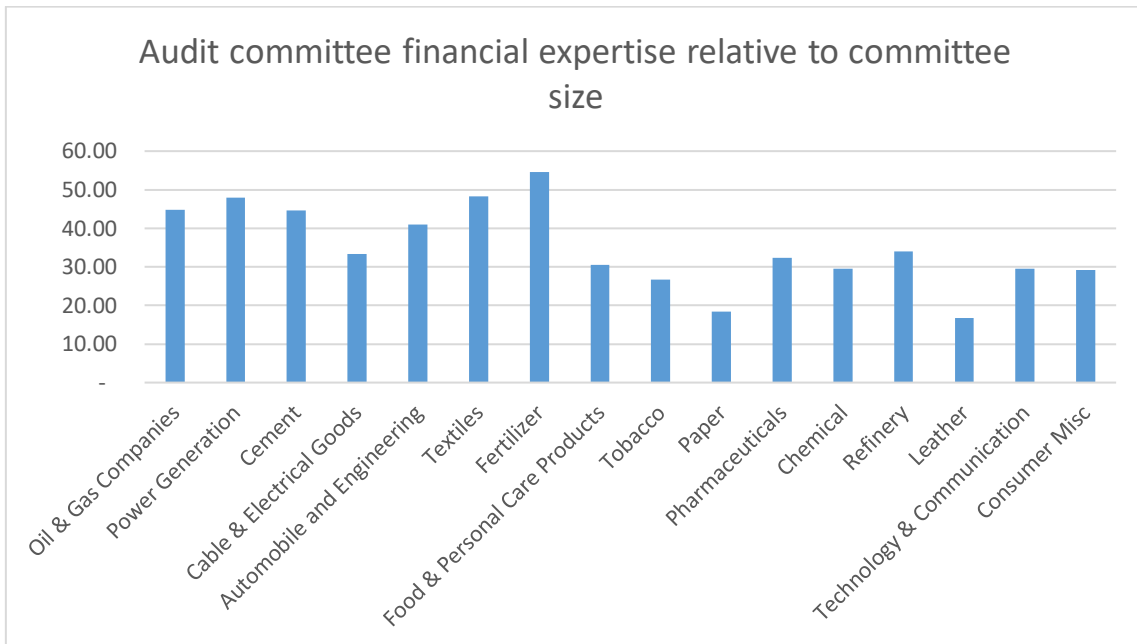
incentives and compensation by exaggerating the revenues or profits of the company because the manager's bonuses are mostly linked to these targets (Gerged et al, 2023; Salem et al, 2023b). So, the audit committee makes sure that those sales reported in the statements have occurred, so the audit committee helps in ensuring the quality of financial statements (De Vlaminck & Sarens, 2013) on which their pay depends and hence helps the remuneration committee in estimating the accuracy of whether the performance targets were correctly achieved.

The extent of independence of the audit committee is measured in terms of the number of independent directors divided by the total number of directors in the committee. A similar measure of audit committee independence was considered by Anderson et al. (2004), Al-Najjar (2017), Bradbury et al. (2006), Islam et al. (2023), Salem et al. (2021a) and Usman et al. (2022). The descriptive statistics shown in Appendix Table 3.3 show that the maximum number of independent directors present in audit committees is as high as 100% whereas, on the other hand, there are also companies with no independent directors on their audit committees. The median value of independence of audit committees is shown to be 33% relative to the size of the committee. This median figure shows that the independence is quite low in Pakistani companies as it shows to be even less than half of its size. With regards to the group-wise distribution of data, it can be observed from Graph 3.11 that the average independence of the audit committee of Group A is 37%, whereas Group B's independence is shown to be at 40%.

*Financial Expertise of the Audit Committee:*

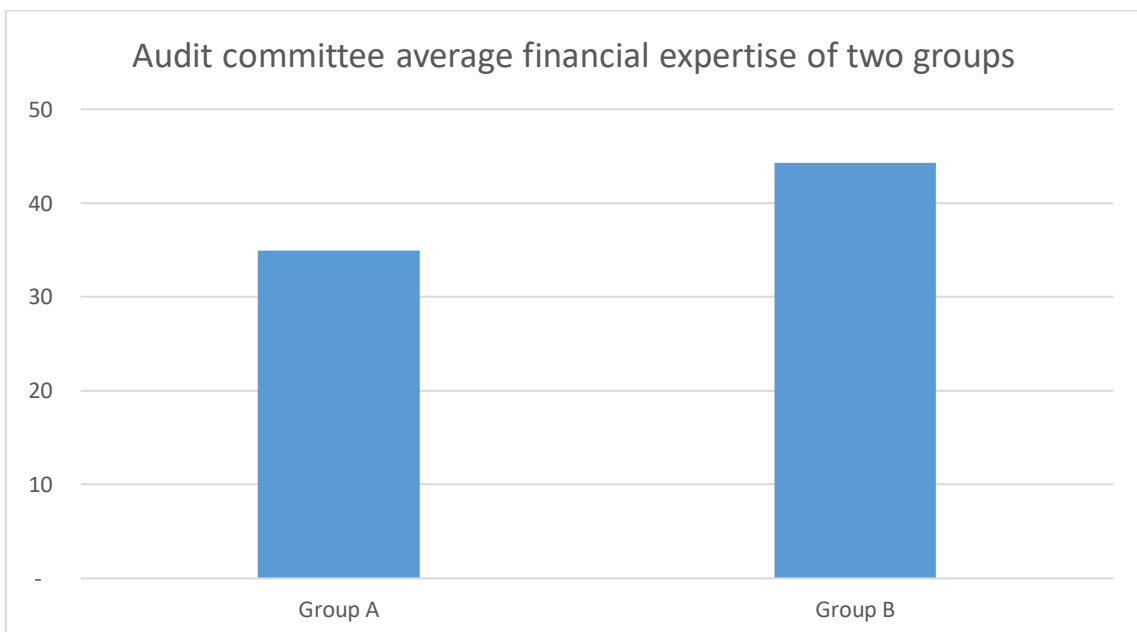
Graph 3.12:

Audit committee financial expertise for different sectors of PSX



Graph 3.13:

Financial expertise of audit committee for two groups



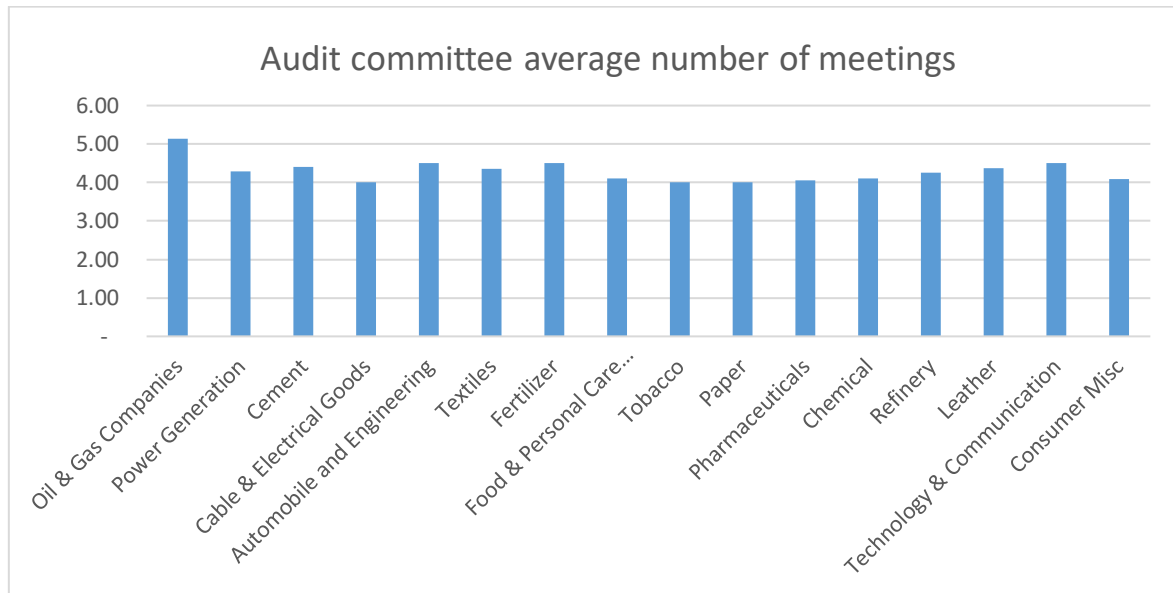
The second audit committee variable is the financial expertise of the audit committee. According to Kusnadi et al. (2016), companies which have a blend of expertise including accounting and finance produce better financial reports. The level of financial expertise possessed by audit committee members is proxied by the number of formal financial certifications or degrees such as CA, ACCA, CIMA, and degrees with majors in finance divided by the total number of members. The descriptive statistics presented in Table 3.5 shows that the maximum number of audit committee members with financial expertise is 100%, whereas, on the other hand, the minimum number is shown to be 0, which means there are committees which have no financial expertise available with them, which may or may not have an impact on executive pay. This impact is explored further in the results chapter of this thesis. Recently Islam et al. (2023) have also used a similar measure to assess the audit committee's financial expertise of companies in Bangladesh. The mean expertise % value relative to the committee size is around 40%, whereas the median value is 33%. The code of corporate governance of Pakistan suggests having at least one member of the audit committee be financially literate (CCG, 2017). So, this shows that while there are companies with no expertise, the average audit committee in Pakistan has 40% of its members with financial expertise. Further, Graph 3.13 shows that the average pool of financial expertise in Group A is 35%, whereas, Group B has 44% members with financial expertise.



The activity of the audit committee:

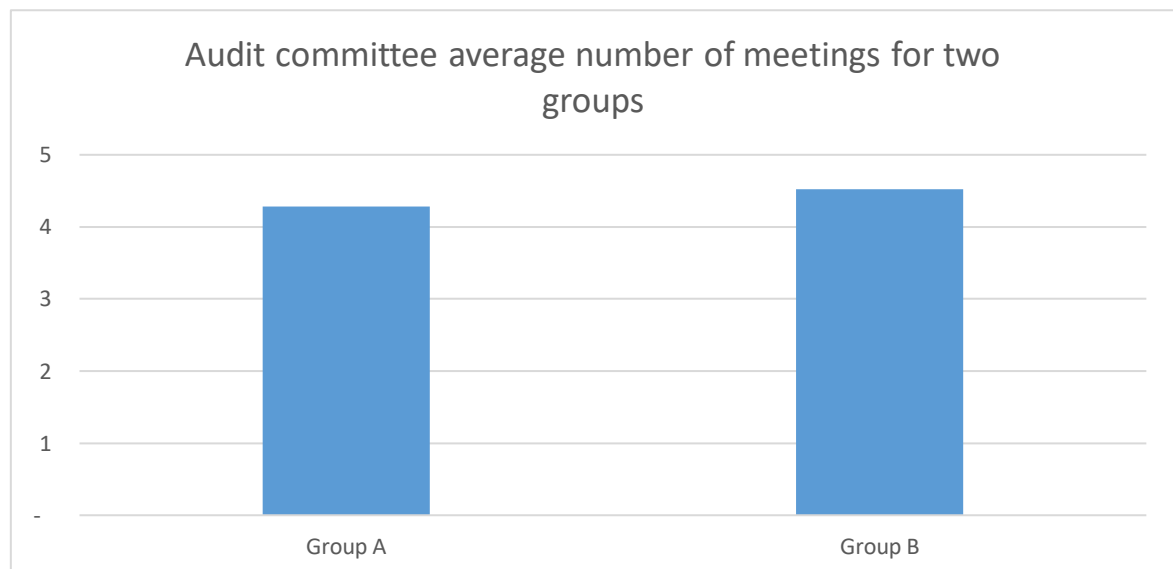
Graph 3.14:

The activity of audit committees for different industrial sectors



Graph 3.15:

Audit Committee average activity for two groups



The third audit committee variable is the frequency of meetings in a year. According to Be´dard et al. (2004), audit committees need to meet regularly and maintain a certain level of activity to efficiently fulfil their responsibilities. There are different recommendations on the number

of meetings in a year Menon and Williams (1994) suggested a minimum of two meetings per year, whereas Deli and Gillan (2000) considered 3 meetings as the benchmark for meeting frequency. They concluded that companies which have a lesser frequency of audit committee meetings have relatively a higher chance of being involved in financial statement manipulation or fraud. More frequent meetings have a better chance to spot problems in the company. The code of corporate governance of Pakistan suggests having at least one meeting every quarter (CCG, 2017). For estimating the meeting of the audit committee, the total number of committee meetings has been taken. A similar measure of the level of activity for audit committees was employed by previous authors like Al-Najjar (2017), Islam et al. (2023), Kusnadi et al. (2016), Setiany et al. (2018), Salem et al, (2021a) and Usman et al. (2022). The descriptive statistics presented in Appendix Table 3.3 shows that the maximum number of audit committee meetings held in a year was 10, whereas, on the other hand, the minimum is shown to be 0. The mean value of the committee is 4.40, whereas the median number of audit committee meetings is shown to be 4. Further, Graph 3.15 shows that the meeting activity of audit committees of Group A is 4, whereas Group B showed that they met more actively which was around 5 times a year.

### **3.4 Summary**

This chapter describes the data used in this study and in doing so also makes an important contribution to meeting the first research objective of this study. Currently, such trends are not readily available in Pakistan, hence one of the contributions of this study is to collect local data and identify the sector-wise chief executive compensation trends for these companies. The computation of industry-wise executive compensation trends can be used by the Pakistani remuneration committees and executive pay consultants in benchmarking average executive

compensation for a specific industry. The data indicates that the top-3 industrial sectors which pay the highest executive compensation to their CEOs are the technology and communication, paper, and power generation sectors. The technology and communication sector pays the highest remuneration to its CEOs with an average compensation of Rs. 112,812,694. The reason for this high compensation in the technology and communication sector is presumably due to the digital boost in the country. This statement is supported by the governmental support and incentives offered by the Government of Pakistan to support its Digital Pakistan policy, which has helped increase the sector's sales from \$3.3 billion to \$6 billion (Pakistan & Gulf Economist, 2018). However, on the other hand, the Cable and electrical goods sector is shown to pay the lowest compensation to its chief executives averaging around Rs. 14,456,000, which is due to a lack of governmental support for this sector.

## Chapter 4: Methodology

### 4.1 Introduction

This chapter summarises the research methods underpinning this study. The discussion here is broadly structured into four sections. Section 4.2 specifies the empirical model. Section 4.3 develops the hypotheses on the expected relationship between chief executive officer compensation and the variables used in the regression model. Section 4.4 discusses the control variables used in the study and Section 4.5 discusses potential econometric problems and the estimation method used to resolve them. Finally, section 4.6 provides a concluding summary. We will deal with each in turn.

### 4.2 Model Specification

This study examines the impact on relative CEO compensation of the characteristics of remuneration and audit committees of the firms listed on the Pakistani Stock Exchange. This study uses the following regression model, which has been adapted from equations employed in previous empirical literature including, Larcker et al. (2007); and Schauble (2019).

$$CP_{it} = \beta_0 + \beta_1 (RC_{it}) + \beta_2 (AC_{it}) + \beta_3 (CV_{it}) + \varepsilon_t$$

Where:

$CP_{it}$  is the relative CEO pay calculated by dividing total CEO pay, by the pay for other executives (Xu et al., 2016)

$RC_{it}$  is a vector of three remuneration committee characteristics namely independence,

activity, and expertise.

$AC_{it}$  is a vector of three audit committee characteristics namely independence, activity, and expertise.

$CV_{it}$  comprises variables which have been chosen to control the impact on relative chief executive compensation of other governance and firm-specific characteristics.

These control variables are further classified into the following categories i.e., internal and external governance, and other firm-specific characteristics. The governance category comprises of following board and governance variables namely: board size, board independence, CEO duality, board activity, and the industry index. Further, the other firm-specific characteristics including the following five variables: financial leverage (total liabilities divided by total assets), firm size (log of total assets), liquidity (current assets divided by current liabilities), profitability (earnings before interest and taxes divided by total assets) and market ratio (market capitalisation divided by equity book value). The technological progress is approximated by the years identified and included in the panel data framework. Several previous researchers have used these variables in the empirical study of the determinants of executive pay. These include Albitar et al. (2020); Albitar et al. (2022); Abdoush et al. (2022); Ahmed et al. (2023); Al-Shaer et al. (2023); Ezeani et al. (2023); Gerged et al. (2022); Iftikhar et al. (2019); Larcker et al., (2007); Schauble (2019). Shohaieb et al. (2022).

Appendix Table 4.1 defines all the above variables underpinning the empirical analysis in this study.

### **4.3 Hypotheses development**

Extant research to date has focused more on the impact of the overall board on executive compensation. However, it may be the nature of the remuneration and audit committees, rather than the board-at-large, that influences the CEO compensation. Hence, this study aims to examine the impact on the chief executive compensation of the independence, expertise, and activity of remuneration and audit committees for the companies listed on the stock exchange of Pakistan. PSX 100 index is used for this study because it is the leading index for the country, representing around 85 per cent of Pakistan's market capitalization (Sarmaaya, 2021). Corporate board characteristics in terms of independence, expertise, and activity are selected because they demonstrate the committee's ability, effort, and expertise to fulfil the monitoring and supervision responsibilities assigned by the company's board. This section develops the hypotheses underpinning the expected impact of these remuneration and audit characteristics on chief executive pay. The discussion is organised under the following headings of the variables of interest: (i) remuneration committee characteristics and (ii) audit committee characteristics.

#### ***Variables of interest:***

The main variables of interest which constitute the focus of this study are independence, expertise, and activity of the two important board committees i.e., remuneration and audit committees. According to Laux and Laux (2009), two of the most important functions of the board are setting the CEO's compensation appropriately and overseeing the financial reporting process of the company. They suggest that both these functions are interdependent as the

compensation schemes motivate the CEOs to manipulate the earnings of the company, however, these two important functions are delegated to two different committees. This study aims to examine the impact of independence, expertise, and activity of the remuneration and audit committees on chief executive compensation. Both committees and their variables of interest are discussed here in turn.

#### **4.3.1 Remuneration Committee Variables**

This section discusses the three important characteristics namely independence, activity, and expertise of the remuneration committees as follows:

##### **Independence of the remuneration committee**

The independence of the remuneration committee is measured in this study as the proportion of independent members serving on the committee. This measurement has been used in previous studies such as Alkalbani et al. (2019); Alfarisa and Harymawan (2021); and Gregory-Smith (2012). It is posited that the independence of the remuneration committee can have a negative impact on the chief executive's remuneration, which is presumed due to effective supervision of the manager's opportunistic behaviour by independent directors. The independence of the remuneration committee from the company's executive management team is vital for its effective and efficient functioning. This is supported by The UK Corporate Governance Code (2018, p.13) which states that: "directors should exercise independent judgement and discretion when authorising remuneration outcomes, taking account of the company and individual performance..."

The hypothesized view that the independence of the remuneration committee can have a negative impact on executive remuneration is also supported by the results of previous studies, such as Alfarisa and Harymawan (2021) who found that there is a negative association between the proportion of independent directors and executive compensation, suggesting that the companies with a greater proportion of independent directors provide relatively lower compensation to their executives, which they suggest is due to the effective supervision of management's opportunistic behaviour. This also implies that independent directors are effectively able to play their part in designing and monitoring executive compensation. Likewise, Kent et al. (2018) also suggested that remuneration committees which were fully composed of independent directors were found to have a much better alignment between the CEO pay and their company performance. This hypothesis is developed in line with the recommendations of agency theory which suggests that appointing independent directors can help improve the monitoring function of the board and its committees (Lee et al., 1992). Further, Cadbury (1992) and SOX (2001) also recommend that the independence of the board and its remuneration committees should be improved to enhance independent decision-making, especially regarding setting the executive pay. Moreover, unlike the internal executive directors, the outside independent directors are not easily influenced by group thinking and subordinate modes of behaviour, and they tend to remain impartial since their reputation as referees is also at stake in this entire process (Ezeani et al., 2022; Komal et al., 2022). Therefore, it is expected that independent directors serving on the remuneration committees can help in setting and controlling the chief executive compensation. Considering the above, it is hypothesized that:

*Hypothesis 1: the relative chief executive compensation is negatively related to the independence of remuneration committees in the Pakistani listed companies.*



## **The expertise of the remuneration committee**

The expertise of the remuneration committee is measured in this study as the total number of members in that committee, such as Alfarisa and Harymawan (2021) and Sun et al. (2009). This is because large-sized committees have a larger pool of expertise available to them, as compared to smaller ones (De Vlaminc & Sarens, 2005). It is postulated that the expertise of the remuneration committee can have a positive impact on the relative chief executive remuneration.

Sun et al. (2009) found that firms with large-sized remuneration committees perform better than their peers. Similarly, Kent et al. (2018) found that companies which have large-sized remuneration committees of three or more members have a stronger CEO pay-to-performance alignment. Similarly, Kanapathippillai et al. (2019) suggested that the remuneration committee's effectiveness is likely to improve with the increase in the expertise of the members. Further, they found that the size of the remuneration committee is positively correlated with the CEO's compensation. Agency theory support to this hypothesis that hiring directors with relevant expertise can help in better monitoring and supervision of the agents (Nyambia & Hamdan, 2018; Jaafaar & James, 2015). Further, this hypothesis is also in line with the legitimacy theory that companies are motivated to hire directors with relevant expertise to gain authority in that society. Scott (2001) considered societal norms as notions of anything desirable including the way work should be done. The expertise of directors can help them in controlling excessive director remuneration (Nyambia & Hamdan, 2018). Similarly, The Greenbury Report i.e., Greenbury (1995) also suggests that the remuneration committee

members must have sound knowledge and expertise for making better executive remuneration decisions. Considering the above, it is hypothesized that:

*Hypothesis 2: the relative chief executive compensation is negatively related to the expertise of remuneration committees in the Pakistani listed companies.*

### **The activity of remuneration committees**

The remuneration committee activity is measured in this study by the total number of remuneration committee meetings held in a year, as supported by previous studies such as Al-Najjar (2017); and Kanapathippillai et al. (2019). It is postulated that the activity of remuneration committees can have a negative impact on the relative chief executive compensation.

It is expected that active remuneration committees would be able to better supervise and control the chief executive compensation. According to Main et al. (2008), the success of a remuneration committee depends on more than just adding a few independent directors to it, rather it requires a significant commitment to meeting time or activity by the members of the remuneration committee. They reported an average of 4.8 remuneration committee meetings each year and suggested increasing it further as well. In line with our research hypothesis, Kanapathippillai et al. (2019), also measured the remuneration committee activity by the number of committee meetings held in a year and found that the activity of the remuneration committee has a statistically significant impact on the chief executive's compensation.

This hypothesis is developed in line with the recommendations of agency theory which suggests that establishing active remuneration committees can help the boards in discharging their responsibilities regarding executive pay. Further, Cadbury (1992) also recommended creating and maintaining active remuneration committees for setting and monitoring the executive pay. Regular meetings are important for the operational effectiveness of remuneration committees. These meetings provide a platform for the remuneration committee members to discuss and debate the executive compensation policies and structures. Similarly, Scholtz and Engelbrecht (2015) also suggest that remuneration committee meetings can act as an effective governance tool especially when setting executive pay. Regular monitoring can only be performed if the remuneration committees are active during the whole year. Considering the above, the following hypothesis is proposed:

*Hypothesis 3: the relative chief executive compensation is negatively related to the activity of remuneration committees in the Pakistani listed companies.*

#### **4.3.2 Audit Committee Variables**

The following discussion will help in understanding the role of the audit committee and its independence in setting the chief executive compensation: Part of the chief executive compensation payment package comes from performance-based bonuses, which are based on the reported earnings of the company. These earning numbers are then used by the remuneration committee to set executive compensation. Hence, this study postulates that the audit committee has a key role in setting the chief executive compensation. However, since there is only very limited research available on this topic, we can only infer the impact of audit committee characteristics on executive compensation through connecting variables including

earnings quality and company performance, which indirectly affects the chief executive compensation. According to Laux and Laux (2009, p.2) “When the board functions are separated through the formation of committees, the compensation committee is willing to choose a higher pay-performance sensitivity, as the increased cost of oversight is borne by the audit committee.” According to Usman et al. (2022a), an efficient audit committee must safeguard the interest of shareholders and report high-quality earnings. This section discusses the three important characteristics namely independence, activity, and expertise of the audit committees as follows:

### ***Independence of the audit committee***

The independence of audit committees is measured in this study as the proportion of independent directors serving on the committee. This measurement has been used in previous studies such as Gerged et al. (2022); Puwanenthiren (2020); Vafeas (2005). It is postulated that the independence of the audit committees can have a negative impact on the relative chief executive remuneration, which is expected due to effective supervision of managers’ opportunistic behaviour by independent directors.

Beasley et al. (2000) and Dechow et al. (1996) suggested that there exists a significant association between the existence of audit committees and transparent reporting of financial statements. Furthermore, the audit committee would be more effective in its decision-making and challenging the position of executives on the financial statements when it is composed of independent committee members (Carcello et al., 2011). Furthermore, Gerged et al. (2022) found that the independence of audit committees has a negative influence on the likelihood of

financial distress in companies. Similarly, Baxter and Cotter (2009) suggested that the creation of independent audit committees reduces the chances of manager's intentional earnings manipulation, and the audit committees would be more effective because independent directors are in a better position to objectively and independently review the financial statements prepared by the executive managers. Independent audit committee members are relatively more resistant to organizational pressure to manipulate financial figures (Klein, 2002).

The study's hypothesized view is further reinforced by the research of Vafeas (2005) who suggested that companies that have more outside independent directors on the audit committees have a better quality of earnings and vice versa. Therefore, it is expected that independent audit committee members would have the freedom to make their independent judgments and challenge the possible misstatements by managers in the financial statements. Hence, it is postulated that the presence of independent directors in the audit committee will reduce the chances of the manager's intentional earnings management (Baxter & Cotter, 2009) and would hence be able to effectively monitor and control the chief executive's compensation. Similarly, De Vlamincx and Sarens (2015) suggested that the independence of the audit committee is crucial in monitoring the quality of financial performance reports issued by that company. Further, SOX (2001) also mandated creating and maintaining audit committees which are independent of the management. This hypothesis is also supported by the Agency theory which suggests that appointing independent directors can help improve the monitoring function of the board and its committees (Adams et al., 2010; Hermalin & Weisbach, 1998). Moreover, Bathala and Rao (1995) also suggested that the presence of independent directors on the board and its committees is an important governance mechanism to mitigate agency conflicts. Agency theorists propose that agents can act in their self-interests if their behaviour is not monitored

independently and the arising agency costs can lead to a reduction in shareholder wealth (Salem et al., 2021a).

*Hypothesis 4: the relative chief executive compensation is negatively related to the independence of audit committees in the Pakistani listed companies.*

### ***The expertise of the audit committee***

As discussed in the previous section, since there is very little research available on the specific topic of the impact of audit committee expertise on chief executive compensation, so due to this limitation, it is only able to discuss the available studies discussing the impact of audit committee expertise on earnings management and performance, which indirectly affects the chief executive compensation. In a similar vein, Laux and Laux (2009) stated that the use of performance bonuses induces managers to manipulate the earnings of the company, which creates an increased need for task separation of the board's remuneration and audit committees.

The expertise of the audit committee is measured in this study as the number of members with accounting or financial education like a BS in accounting and finance, master's degree in finance, and relevant professional certifications such as CA, CFA, CPA, ICMA, ACCA, CIMA, etc. (Iyer et al., 2012). It is postulated that the financial expertise of audit committees can have a positive impact on the relative chief executive remuneration.

According to Dechow et al. (1996) companies having dedicated audit committees are less likely to get involved in earnings management and fraudulent financial reporting. Further, Laux and

Laux (2009) suggested that the presence of audit committees positively affects the pay-performance relationship of the chief executive remuneration. Similarly, Puwanenthiren (2020) found that the audit committee's financial expertise has a significant association with firm performance. The news about the appointment of a financial expert to a company's audit committee has a positive reaction in the stock market, showing an increase in the share price of such companies (Davidson, Xie, & Xu, 2004). Likewise, Usman et al. (2023) also suggested that the financial expertise of audit committee members can help in deterring the managers from inflating the earnings of the company. This hypothesis is developed in line with the suggestions of SOX (2001) which requires that audit committees must have at least one financial expert in its composition. Furthermore, the agency theorists also propose that hiring directors with relevant expertise can help in better monitoring and supervision of the agents (Hillman & Dalziel, 2003). Further, the transaction cost theory also supports this hypothesis as it suggests that the departments and functions should be led by individuals with relevant knowledge and expertise in their fields. This could improve the decision-making as well as the quantity and quality of information flowing to the board of directors. According to Jürgen Drumm (1999), informational efficiency is improved when workflow and routines within these functions and departments are customised to exploit the skills, knowledge experience and extent of specialisation of employees. Additionally, legitimacy theory also provides support to this hypothesis which suggests that companies are motivated to hire directors with relevant expertise to attain legitimacy in that society. Thus, it is postulated that the presence of directors with relevant financial expertise in the audit committee will be able to reduce the chances of the chief executive's earnings management and would be able to monitor the chief executive's compensation. It is hypothesized that:

*Hypothesis 5: the relative chief executive compensation is negatively related to the expertise of the audit committees in the Pakistani listed companies.*

### *The activity of the audit committee*

The audit committee activity is measured in this study by the total number of audit committee meetings held in a year, as measured by previous studies such as Méndez and García (2007); Puwanenthiren (2020); and Vafeas (2005). It is postulated that the activity of audit committees can have a negative impact on the chief executive compensation.

It is expected that active audit committees would be able to better supervise and control the chief executive compensation. According to Deloitte (2012), the meeting activity of the audit committees is important to improve communication between the directors serving on the committee and the management, and these meetings provide a platform to help in asking relevant questions “regarding management, external auditors, resources or other issues related to financial reporting and internal control” (Deloitte, 2012, p.6). A more active audit committee is expected to be a more effective monitoring device, where the activity or diligence of the audit committee is measured by the number of audit committee meetings (Puwanenthiren, 2020). The frequency of the audit committee meetings is a key element for determining its success and effectiveness (Xie et al., 2003). Prior studies on the impact of the activity of audit committees like Méndez and Garcia (2007) also found that large companies have relatively more active audit committees having at least 4 or more meetings in a year. They interpreted this result as showing that since larger companies have more complex operations, their audit committees need to meet more regularly for better supervision and control.

Similarly, Méndez et al. (2017) conducted a study measuring executive pay as the natural logarithm of the average annual total remuneration. The annual remuneration was adjusted in



terms of the base year 2004 to achieve better comparability of the annual remuneration. The audit committee activity was measured as the value of the total number of meetings per year. They found that the audit committee's meeting activity has a negative impact on the earnings management of the company. Likewise, Vafeas (2005) found that the frequency of audit committee meetings is associated with a higher quality of earnings. This suggests that increased activity of the audit committees improves monitoring, thereby leading to a better quality of financial reports. Similar results were also found by Abbott et al. (2000) who concluded that there is a significant negative relationship between audit committee meetings and the occurrence of restatements in the annual financial statements. Agency theory expects that establishing active boards and committees can help them in discharging their monitoring and control responsibilities efficiently (Méndez and Garcia, 2007). According to Elmashtawy et al. (2023), regular monitoring by audit committees can only be performed if the audit committees are active and vigilant during the whole year. Frequent meetings are crucial for the success and effectiveness of audit committees. Frequent meeting activity of the audit committees can also help in restraining managers from classification shifting in the United Kingdom (Usman et al., 2023). Xie et al. (2023) also suggested that the frequency of the audit committee meetings is a key element for determining its activity and effectiveness. Considering the above, it is posited that the presence of active audit committees will reduce the chances of managers' manipulation and would be able to better monitor and control the chief executive's compensation. The following hypothesis is proposed:

*Hypothesis 6: the relative chief executive compensation is negatively related to the activity of the audit committees in the Pakistani listed companies.*

#### **4.4 Control variables**

This section discusses the control variables used in this study which can impact the chief executive compensation. Each of these control variables is discussed here in turn.

##### ***Board Independence***

Board independence is an important internal corporate governance mechanism. Independence is measured as the percentage of independent directors on the board, as measured by Albitar et al. (2015); Albitar et al. (2022); Abdoush et al. (2022); Ahmed et al. (2023); Al-Shaer et al. (2023); Al-Najjar (2017); Ezeani et al. (2023); Gerged et al. (2022); Shohaieb et al. (2022). It is expected that board independence will have a negative impact on the chief executive's compensation.

Prior research has shown mixed evidence like Al-Najjar (2017) examined the impact of board independence on the remuneration of chief executives and found that independent directors have a positive impact on CEO compensation. This shows that independent directors might have a weaker position on the board, or they might not be as effective in monitoring as they should be, leading to a decrease in the needed level of control and monitoring, as also suggested by Zajac and Westphal (1994). Furthermore, Gerged et al. (2022) conducted a study on found that the independence of the board has a negative influence on the likelihood of financial distress of the companies. However, on the other hand, Abdullah (2006) found that the presence of independent directors showed a negative influence on executive remuneration, which shows that independent directors play an effective role in constraining the level of executive remuneration.

### ***Board Size***

The second internal governance mechanism used in the study is the board size. According to Albitar et al. (2022) size of the board is an important attribute which can impact the effectiveness of the board of directors. The size of the board is measured as the total count of the number of directors serving on the board as measured by Albitar et al. (2020); Albitar et al. (2022); Abdou et al. (2021); Abdoush et al. (2022); Ahmed et al. (2023); Al-Shaer et al. (2023); Al-Najjar (2017); Ezeani et al. (2023); Gerged et al. (2022); Shohaieb et al. (2022). According to Coles et al. (2008), large firms with complex operations need a relatively higher level of specialized advising as compared to smaller firms and hence need bigger and more diversified boards to meet their advising needs. However, larger boards could also face problems in coordination and consensus-building among the large group of members, which can ultimately make them less effective (Coles et al., 2008). Similarly, Abdou et al. (2021) suggested that firms in the UK with smaller boards are likely to have lower instances of earnings management. Likewise, Jensen (1993) also suggests that large boards are less effective because they usually suffer from free-riding problems which create pressure on the remaining directors and reduce the monitoring incentives for other members. So smaller boards are usually associated with better coordination and monitoring.

It is expected that board size will have a negative impact on the chief executive's compensation. Prior research has shown mixed evidence, like, Al-Najjar (2017) found that board size has a negative relationship with CEO compensation, which indicates that chief executives might not be able to easily influence large-size boards to raise their compensation packages. However, on the other hand, Jaiswall and Bhattacharyya (2016) found no significant relationship between the chief executive compensation and the size of the board. Further, Marimuthu and Kwenda

(2019) found a positive relationship between board size and executive compensation. Their results indicate the ineffectiveness of large-sized boards and their remuneration committees in designing and suitably aligning executive pay with their company's performance.

### ***Board Meetings***

Another important internal corporate governance mechanism is the board meeting, which is measured as the number of board meetings held in a year. According to Lipton and Lorsch (1992), the meeting time is an important resource provided by the directors to the organisation which helps the board in performing its monitoring and control functions. Vafeas (1999) suggested that internal controls of the company can be improved if the board of directors meet regularly to discuss issues. Furthermore, the increase in board activities can also help in improving corporate strategies and monitoring executive management (Vafeas, 1999).

It is expected that board meetings will have a negative impact on the chief executive's compensation. Prior research has shown mixed evidence, for example, Jaiswall and Bhattacharyya (2016) found no significant relationship between chief executive compensation and the number of board meetings. Similarly, Al-Najjar (2017) found that there is no impact of board meetings on CEO compensation. Vafeas (1999) found a negative association between the board meetings and the market valuation of the company, however, board meetings were shown to have a positive impact on the operating performance of the company. On the other hand, Fich and Shivdasani (2006) found that there is an inverse relationship between board meetings and the performance of the company.

### ***CEO Duality***

The CEO duality means the union of positions into one i.e., more specifically combining the roles of the chairman and the CEO of the company (García-Ramos & Díaz, 2020). This variable has been used by recent researchers such as Ahmed et al. (2023); Al-Shaer et al. (2023); Conyon and He (2017); and Srbek and Dittrich (2016). According to Rescigno (2018) if the chief executive officer also holds the position of the board chairman, then it may allow the chief executive to dominate and overpower the decisions of the board of directors. In such situations, the CEO would be responsible for both the key aspects of the business i.e., operations, as well as governance. So, the CEO's duality can lead to power abuse, as it can shift the decision power to the CEO. However, on the other hand, Guillet et al. (2013) suggest that combining the powers may be beneficial in situations which require quick decision-making.

It is expected that CEO duality will have a positive impact on the chief executive compensation. However, prior research has shown mixed results, for example, Conyon and He (2017) found that there is no significant association between CEO duality and executive pay. However, on the other hand, Srbek and Dittrich (2016) found that CEO compensation is relatively higher in companies where the CEO is also the chairman of the board.

### ***External Industry index***

The industry index is used as a proxy of the external control variable. An industry index is used for classifying each company in its relevant industry category. The industry categorization of the PSX stock market is used for this purpose. The industry index has been used previously by Usman et al. (2022), Cybinski and Windsor (2013), and Taherifar et al. (2021). Cybinski and Windsor (2013) suggested using the industry as a categorical variable to control for industrial

differences and categorized companies into four industrial sectors. Further, according to Taherifar et al. (2021), industry plays an important role in compensation. They suggest that the industry labour market can influence the bargaining power of employees and their executives. Table 3.1 and Chapter 3 provide the breakdown of the industries and further discussion about the classification of the companies into different industrial sectors. Further, it also showed the respective percentage of each industry in the total sample. The industry index is used as the external governance control variable. An industry index is used for classifying each company in its relevant industry category. The industry categorization of the PSX stock market is used for this purpose. Chapter 3 provided the breakdown of the industries and a detailed discussion about the classification of the companies into different industrial sectors. Further, it also showed the respective percentage of each industry in the total sample.

#### ***Other firm-specific control variables***

Apart from the above internal and external governance control variables, there are also other firm-specific control variables which can affect the results of the study. These other firm-specific control variables have been identified and used in line with the previous researchers such as Albitar et al. (2022); Al-Shaer et al. (2023); Fich and Shivdasani (2006); Iftikhar et al. (2019); Kanapathippillai et al. (2019); Larcker et al. (2007); Schauble (2019); Usman et al. (2023) and in line with the previous studies, the following five control variables are used: the financial leverage measured by dividing total liabilities by total assets; the firm size measured by calculating the natural logarithm of total assets; the liquidity ratio calculated by dividing the current assets by the current liabilities; the profitability is estimated by calculating the return on assets; the gross opportunity is estimated by calculating the market to book ratio i.e., dividing the market capitalization by the book value.

## 4.5 Estimation Method

The method used for the data analysis is divided into two segments. In the first segment, the univariate data analysis techniques such as descriptive statistics and correlation matrix are used, and in the second segment, the multivariate data analysis techniques, such as the panel data regression and robustness tests are used.

The descriptive statistics presented in Chapter 3 summarized the data in terms of the shape of the distribution and the central tendency for each variable. It presents values such as mean, median, minimum, maximum, and standard deviation values of each of the variables in the data set. The correlation matrix presents the level of correlation between the explanatory variables. According to Gujarati (2003; 2008); and Harris and Raviv (2008), the higher level of correlations among the explanatory variables shows the presence of the multicollinearity problem. They further suggested that a correlation coefficient threshold value needs to be set such as  $80\% \pm$  can be used for highlighting the presence of any multicollinearity problem which can affect the results of the study.

In the second phase of data analysis, this study uses multivariate data analysis techniques for conducting empirical analysis. The multiple regression method using OLS is being used for this study, which has been used and suggested by various researchers such as Albitar et al. (2020); Jung and Subramanian (2017); Broye et al. (2017) to examine the association between relevant variables such as executive compensation, corporate governance, and firm performance. However, Gujarati (2003) suggested that before using any multivariate data

analysis technique, three key assumptions which are also relevant to my work, need to be examined i.e., normality, linearity, and heteroscedasticity.

Normality presumes that the distribution is normal. For checking the normality, the histogram test is employed which helps in visualizing the data distribution. Linearity assumes a linear relationship between the variables. The Quantile-Quantile (Q-Q plot) test is used to check for this linearity assumption. Lastly, the heteroscedasticity assumption considers that no constant change exists in the dependent variable. Breusch-Pagan and White's tests can be used for examining this (Gujrati, 2014). This study uses the panel data regression method. The key difference between the pooled and panel regression method is that the panel regression can differentiate between the cross-sectional and time series which allows for removing any unobservable heterogeneity in the data. Hence, this is a significant technique to examine linear information. On the other hand, the pooled regression cannot differentiate between the data of distinct companies and time (Himmelberg et al., 1999).

Considering the above assumptions, Gujrati (2014) suggests that the Ordinary Least squares (OLS) method "is the most popularly used in practice, which provides estimators of the parameters that have several desirable statistical properties", such as the estimators are linear, unbiased, and the OLS estimators have smallest variance. So, the values can be estimated with the least possible uncertainty, as such known as an efficient estimator. Hence, under the assumed conditions, "OLS estimators are BLUE: best linear unbiased estimators, which is the spirit of the renowned Gauss–Markov theorem", which provides a theoretical justification for the use of the least square method (Gujrati, 2014). So, the benefits of using the OLS method



are that it is relatively simple to use and understand, it is highly applicable and useful in solving various statistical problems and is the best linear unbiased estimator.

However, the OLS may also have problems such as, it is usually limited to the linear relationship situations, it is easily influenced by the outliers, and being subject to overfitting. An alternative solution is to use the GMM estimation model. The GMM estimation model can be used to remove potential endogeneity amongst the variables (Blundell and Bond, 1998; Arellano & Bond, 1991). The study uses the GMM model to test the robustness of the results as presented in chapter 6 of this study. This has been used by recent researchers such as Al-Shaer et al. (2023) and Shohaieb et al. (2022) as well. Another alternative may have been to use the 2SLS method, but it is important to note that since the data was limited and was hand-collected manually through laborious efforts, hence, the data for creating the instrumental variables was not currently available. So, in this current situation using the 2SLS would not be suitable and would be at the cost of losing the explanatory power of the model, after which the results would become of less or no use. Due to this limitation, such expected problems are proposed to be dealt with in a future study.

Keeping the above discussion in mind, it is important to reiterate that the objective of this study is to provide an early study investigating the impact of remuneration and audit committees on chief executive compensation, and hence this study aims to mainly provide ‘short-term policy suggestions’ as an expected outcome from this study.

#### **4.6 Summary**

This chapter provides the research methods underpinning this study. Moreover, it specified the empirical model and developed the hypotheses on the expected relationship between the

dependent variable and the independent variables used in the regression model. This study measures the relative chief executive compensation by dividing the CEO compensation by the average compensation of other executives of the company. The committee variables included independence, expertise, and activity of the remuneration and audit committees. The model also included control variables to account for other governance and firm characteristics such as board independence, the board size, board activity, CEO duality, leverage, firm size, liquidity, profitability, and market ratio. The chapter also discussed the potential econometric problems and the estimation methods that can be used to resolve them. For example, Gujarati (2003) suggests that before using any multivariate data analysis technique, three key assumptions should be examined i.e., normality, heteroscedasticity, and linearity. In addition, this chapter also discussed the use of panel data regression analysis techniques to conduct an empirical analysis of the collected data. The results of all of these are reported in the following chapter 5 of this study.

## **Chapter 5: Empirical Results and Discussion**

### **5.1 Introduction**

This chapter discusses the results of the empirical analysis conducted using the Ordinary Least Squares (OLS) and regressions models presented in the previous chapter. The argument here is organised as follows: Section 5.2 describes the results of pairwise correlation analysis and tests to confirm the validity of assumptions underpinning the OLS method used in the regression analysis. Section 5.3 discusses the main regression results, while Section 5.4 concludes the chapter.

### **5.2 Tests for Pairwise Correlation, Multicollinearity, Normality, Heteroscedasticity, and Linearity**

Before assessing the impact on the dependent variable of selected remuneration and audit committee variables, the tests for pairwise correlation, multicollinearity, normality, heteroscedasticity, and linearity were performed. Such should confirm the validity of OLS assumptions and the suitability of this conventional model for the current study.

#### **5.2.1 Pairwise Correlation**

Ordinary pairwise correlation analysis helps to highlight the associations between each pair of variables in the empirical model. The Appendix Table 5.1 presents the matrix of a two-way

Pearson correlation between the variables of the study. The multicollinearity problem is anticipated when there is a strong relationship between two explanatory variables (Gujarati, 2003). Concerns about multicollinearity follow from the fact that such strong correlations may inflate standard errors and cause some variables to become statistically insignificant in the empirical model. Studenmund (2014) commented that multicollinearity affects the reliability, significance, and stability of an empirical model, and suggested solving this issue by omitting those variables with a high level of correlation. We note from Appendix Table 5.1 that the correlation between all the variables is low with coefficients below the cut-off point of 0.80 suggested by Gujarati (2008) and Harris and Raviv (2008). We may therefore assume that multicollinearity with its related consequences is not a major concern for this study.

The correlation values in column 1 of Appendix Table 5.1 show the relationship between the dependent variable (relative chief executive compensation) and the independent variables of the study. As expected, these results show a statistically significant negative correlation between relative CEO compensation and the independence of the remuneration committee. A similar negative relationship is also found between relative compensation and the independence of audit committees. Both these negative relationships are statistically significant at 1 per cent level of significance. These negative relationships provide support to our hypothesis-1 and hypothesis-4 developed in Chapter 4. Hence, broadly speaking, these results suggest that the independence of committees helps control the pay gap between the CEO and an average executive of the organization. This result implies that the companies with independent committees have relatively lower relative CEO compensation. In other words, this result indicates that the firms with a higher proportion of independent directors in their committees have a lower ratio of CEO-to-other executives' pay i.e., a lower pay gap between their CEOs and other executives of the company. This finding is also in line with the agency theory, which

proposes that appointing independent directors helps improve the monitoring and control function of the company (Lee et al., 1992). Further, this result corresponds with the findings by Alfarisa and Harymawan (2021); Bugeja et al. (2016); and Kuo and Yu (2014) which reported a negative association between committee independence and chief executive compensation. These authors noted that effective supervision and monitoring by independent directors mitigate the opportunistic behaviour of the managers.

On the other hand, the remuneration committee expertise has a positive relationship with the relative compensation presumably because of the problems of consensus building in a large committee, and the difficulty in managing a such large group of people. This problem was also evidenced in the results of the board size, which also has a positive relationship with compensation supporting the idea that larger boards are difficult to manage and coordinate. Similarly, both the remuneration committee and audit committee meetings have a positive relationship with compensation, however, it is statistically insignificant. Such suggests that an increased number of committee meetings does not particularly encourage awarding of higher CEO pay.

With regards to control variables, the variables which lead to an increase in pay inequality are profitability, firm size, board meetings, and board size. Profitability is shown to be positively correlated with the executive compensation which suggests that the higher profitable companies pay more to their chief executives and have higher relative compensation. This result is in line with Alkalbani et al. (2019); Gregory-Smith (2012); Harymawan et al. (2020); and Kuo and Yu (2014) who found a similar positive link between profitability, firm size and CEO pay. Similarly, firm size also has a positive and significant relationship with the relative

CEO compensation, at 1 per cent level of significance. This result suggests that larger-sized companies have a higher relative CEO compensation. This result is in line with the results of Alkalbani et al. (2019); Cybinski and Windsor (2013); Gregory-Smith (2012); and Harymawan et al. (2020), who found a positive link between firm size and CEO compensation. Further, variables which also show positive coefficients but are statistically insignificant are CEO duality, leverage, and market-to-book ratio. This result suggests that these variables do not encourage the awarding of higher CEO pay as they do not have a statistically significant correlation with the relative CEO compensation.

On the other hand, the variables which lead to a decrease in pay inequality are liquidity and board independence. The results for liquidity show a statistically significant negative impact on the relative CEO compensation, at 1 per cent level of significance. This result suggests that the companies having higher levels of liquidity have a lower relative CEO compensation. Likewise, the correlation results also show a statistically significant negative correlation between relative compensation and the independence of the board. This result suggests that independent boards help reduce the pay gap between the CEO and other executives.

### **5.2.2 Multicollinearity**

Appendix Table 5.2 shows the values of collinearity using the Variance Inflation Factor (VIF) of the variables of the study. The multicollinearity problem occurs when there is a strong relationship between two or more variables. As suggested by Gujarati (2008) and Harris and Raviv (2008), the cut-off point for high levels of collinearity is suggested by a VIF value of 10. The results shown in Appendix Table 5.2 show that all the variables have a low degree of

collinearity. Hence, we may presume multicollinearity between any of the variables of this study is not a major concern.

### **5.2.3. Normality**

To assess the validity of the assumption of normality, a histogram test is conducted. This analysis provides a frequency distribution for constructing an estimate of an unobservable underlying probability density function (Field, 2013). To ensure normality, the variables namely, relative CEO compensation, independence of committees and the board were transformed using the natural logarithm function (Cheung, 2019). The histogram is presented in Appendix Graph 5.3. It shows that the data is normally distributed. Further, the Jarque-Bera statistic has a p-value of 0.448, meaning that the null hypothesis of normality cannot be rejected. So, both these tests suggest the normality of data distribution.

### **5.2.4. Heteroscedasticity and Linearity**

Further, robust errors were used to estimate a heteroskedasticity corrected regression as suggested by Wooldridge (2015) and presented in Appendix Table 5.7. Lastly, the Linearity assumption is checked by plotting the Q-Q plot. The Q-Q plot provides a graph that plots the quantiles of the study variable against the quantiles of the distribution (Field, 2013). Appendix Table 5.4 presents the Q-Q plot which provides clear evidence that the relationship between the dependent and independent variables is linear.

### **5.3 Regression Results**

This section discusses the results of regressing relative CEO pay on the main variables of interest. Section 5.3.1 presents a discussion of the regression output for the variables of interest i.e., remuneration and audit committee characteristics, whereas Section 5.3.2 discusses the regression results for the control variables. All the tables referred to in this chapter are presented in the appendices chapter.

Most corporate governance researchers have used pool OLS regression (e.g., Gompers et al., 2003; Klapper & Love, 2004; Albitar et al., 2020) or a fixed-effects model (e.g., Yermack, 1996; Chhaochharia & Laeven, 2009; Albitar et al., 2020). In this regard, the Hausman panel specification test is usually conducted (Abdoush et al., 2022; Al-Najjar, 2017; Salem et al. 2021) to select from the random effect and fixed-effect models. The result of the Hausman test confirms that the fixed effects model is more appropriate for this study. The results of the Hausman test are shown in Appendix 5.5.

#### **5.3.1 Remuneration Committee Variables**

Appendix Table 5.6 presents the results of panel data regression for the variables related to the remuneration and audit committees. The table shows an r-squared of 0.88, indicating that 88 per cent of the variation in the relative CEO pay was explained by the model. Further, the p-value of the regression model is shown to be significant at a one per cent confidence level, hence confirming the statistical validity of the model.



The dependent variable for the model is the log of relative chief executive compensation. The second column of Appendix Table 5.6 shows that the independence of the remuneration committee (LN\_RC\_ID\_INDEP) has a statistically significant negative impact on the relative CEO compensation. The p-value for this variable is 0.04 indicating significance at a 5 per cent confidence level. The negative correlation is consistent with expectation and supports the first hypothesis (H1) developed in Chapter 4. This result implies that the companies with independent remuneration committees have relatively lower relative CEO compensation. In other words, the result indicates that the firms with a higher proportion of independent directors in their remuneration committees have a lower ratio of CEO-to-other executives' pay i.e., a lower pay gap between their CEOs and other executives as compared to their counterparts listed on the Pakistan Stock Exchange. This finding is also in line with the agency theory, which suggests that appointing independent directors helps improve the monitoring function of the board and its committees (Lee et al., 1992). These findings are also in line with the recommendations of Cadbury (1992) and SOX - Sarbanes (2001) that independence of the board and its remuneration committees should be increased to enhance independent decision-making regarding the governance of executive pay. Further, these findings are also supported by the legitimacy theory which suggests that the firms will attempt to make their operations appear genuine by presenting that they are governed transparently and independently, for ease of access to critical resources like government grants, loans, and investment financing for the success of their operations. So, organizations will try to ensure that they are working within the norms of their societies like in the context of this research, hiring independent directors and attempting to reduce the pay gap which can help their business activities to be perceived as legitimate by investors and other people outside the organization (Deegan, 2006).

Having independent directors on the remuneration committee can also help the organizations gain legitimacy and acceptance among investors and society at large. Further, this result corresponds with the findings of previous researchers like Alkalbani et al. (2019); Alfarisa and Harymawan (2021); Basu et al. (2007); and Kuo and Yu (2014) which reported a negative association between remuneration committee independence and chief executive compensation. Similarly, Cybinski and Windsor (2013) also found that in the case of large firms remuneration committees which are fully comprised of 100% independent directors are more effective than their counterparts. Newman and Mozes (1999) also found that concerning firm compensation, firms with fewer independent directors are more likely to be biased in favour of CEOs. Likewise, Vafeas (2003) found that companies with independent remuneration committees are in a better position to fend off public scrutiny of executive pay and its governance practices. All these authors noted that effective supervision by independent directors mitigates opportunistic behaviour by controlling the self-interests of managers.

Similarly, the statistically significant negative coefficient on the remuneration committee expertise variable (RC\_EXPERTISE) implies that there is a noticeable impact of remuneration committee expertise on the relative CEO compensation. The p-value of the variable is 0.01, meaning it is significant at the 5 per cent confidence level. The result is in line with the agency theory that hiring directors with relevant expertise for monitoring and supervision of the agents (Nyambia & Hamdan, 2018; Jaafaar & James, 2015). The result is also in line with the legitimacy theory and its concept of 'normative legitimacy' which is attained by complying with the norms prevalent in that society. Scott (2001) considered norms as notions of anything desirable including the way work should be done. Furthermore, according to DiMaggio and Powell (1983), companies need to conform to norms and values which can range from general to specific standards for a particular profession. These customs could originate from a variety

of sources including professional societies and/or business associations (Ruef and Scott 1998). Hence, by having directors with proper expertise in the remuneration committees, these companies attempt to gain legitimacy in society. The expertise of directors can help them control excessive director remuneration (Nyambia & Hamdan, 2018). Similarly, Vafeas (2003) also suggested that participation by more knowledgeable executives in the committees is preferred. Further, Cybinski and Windsor (2013) found that remuneration committees with a higher number of member expertise are better able to align executive remuneration with the firm's performance. The estimated negative association between expertise and relative CEO compensation is consistent with our expectations and supports the second hypothesis (H2) developed in Chapter 4. Consequently, we may confirm that committees which have a large size pool of member expertise to choose from have a lower pay gap among their CEOs and other executives

Further, Appendix Table 5.6 presents the impact on relative CEO compensation of the remuneration committee meetings (RCM\_MEETING). This shows that there is a positive, but statistically insignificant coefficient. Such suggests that the increased number of remuneration committee meetings does not massively encourage the awarding of higher CEO pay. This is also in line with the findings of Nyambia and Hamdan (2018) which suggest that directors might be over-occupied and might not be able to devote proper discussion time in meetings to debate executive remuneration, or it might be coupled with pressure or concentration of power in few hands. In the context of Pakistan, the remuneration committee meetings are sometimes presumed to be rubber-stamping of decisions taken by the CEOs and Executive directors. Hence, if the meetings are not taken seriously by the member directors, attendance rates are low and do not have a proper quorum to make decisions, then they may not be able to make

the required governance impact. Further, it is also suggested that the agenda of the committee meetings need to be circulated well in advance for the members to review them beforehand.

### **5.3.2 Audit Committee Variables**

The next research objective of the study was to examine the impact on executive compensation of the independence, expertise, and activity of the audit committees. The importance of the audit committee was highly stressed by the CCG of Pakistan, as well as the popular US - SOX Act (2001), which also served as a game changer and influencer in improving the corporate governance landscape around the world. It required organizations to create independent audit committees with at least one financial expert in their composition. The audit committees were made responsible for the monitoring and oversight of the company's earnings and financial reporting system. The audit committees are required to coordinate with other committees to understand the relevant risks and their effects on the company's financial reports.

The audit committee is responsible for the overall quality of the financial reporting of the company. Since CEO compensation is affected by the reported earnings used in the pay-setting process, this study investigates the impact of audit committee characteristics on chief executive compensation relative to other executives. However, since there is very limited research available on this topic, we can only infer on the relative pay influence of selected audit committee characteristics through approximating variables, like earnings quality with the associated company's market performance. Thus, the argument here is supported by the debate in earnings management literature which proposes that top-level executives typically

manipulate financial figures to inflate company earnings to boost their own compensation packages (Dechow et al., 1996).

This study focuses on understanding the impact of audit committee variables on executive compensation. Appendix Table 5.6 presents the results of audit committee variables. The first variable capturing the independence of the audit committee (LN\_AC\_ID\_INDEP) indicates that there is a significant positive impact of audit committee independence on the relative CEO compensation, with a p-value of 0.04. The significant positive coefficient shows that companies with a higher proportion of independent audit committee members have a higher CEO-to-executive compensation ratio, showing a wider pay gap between the chief executive and other executives of the company. The results are also in line with Laux and Laux (2006) who reported that when the board functions are separated via separate committees for setting remuneration and oversight of the reporting process, the audit committee members will usually recommend a higher pay and a lower pay-performance sensitivity for CEOs as compared to their counterpart directors in remuneration committees and board. Secondly, this positive coefficient sign can also be a possible indication of agency conflict and managerial opportunism. (De Vlaminck & Sarens, 2015; Nyberg et al., 2010; Bathala & Rao, 1995). In the context of a developing country Pakistan, this might be possible because many times the independent directors are not truly independent as required in its true spirit and are only placed in the committees for fulfilling or complying with the regulatory requirements. Similarly, it is also possible that the audit committee members are captured and/or under the influence of the autocratic executive directors of the company (Słomka-Gołębiowska, 2016). Furthermore, they remarked that excessive payment to chief executives in comparison to other executives signals a violation of the rights of the shareholders of the company. According to Westphal and Zajac (1995) and Vafeas (2003) executive compensation decisions can also be mismanaged due to

director captivity or a greater influence of the CEO over the directors. This CEO control may be due to demographic similarities between committee members and the CEOs (Westphal & Zajac, 1995). The social influence of the CEO can also be another reason for biased CEO pay decisions (Main et al., 1995).

The result of audit committee expertise (AC\_EXPERTISE) shows that there is a positive but statistically insignificant impact on relative CEO compensation. This insignificant positive relationship suggests that the expertise of audit committees does not considerably influence the relative CEO compensation in Pakistan. Similarly, regarding the number of audit committee meetings (ACM\_Meeting), the results show a positive but statistically insignificant impact of audit committee meetings on the relative CEO compensation. This result suggests that the meetings of audit committees do not have any significant impact on the relative CEO compensation. This is also in line with the results of Peasnell et al. (2005) and Haniffa and Hudaib (2006) who found that the audit committee meetings have no relationship with the earnings management practices of the company which can affect the chief executive compensation. Setiany et al. (2018) also found that audit committee expertise and meetings are not able to play an active role in the organization. According to Zakaria (2018) audit committees are sometimes only established to comply with the regulatory requirements, however, in practice, audit committees are not able to play their required active role in carrying out their supervision and control responsibilities and are thus found to be operating at less-than-optimal level. A few reasons presumed for this insignificant impact can be, strong control of committee meetings by the executive directors and CEO. The presence of executive directors and CEOs on these committees can be detrimental to their efficiency and performance. Similarly, if the committee meetings are presided over or chaired by these executive directors then they would already have lost their independence. Further, only conducting committee

meetings may not improve governance and efficiency unless they are regularly attended by all the members. Hence, a lack of a strict quorum monitoring mechanism, and attendance ratios of committee members might be a reason for this insignificant result in the case of Pakistan.

### **5.3.3 Control variables**

The regression model also includes control variables to account for the impact of other firm characteristics such as board independence, board size, board activity and other variables. For better synthesis and discussion, the results of control variables have been grouped into two categories i.e., the control variables which have a positive impact, and the control variables which have a negative impact on the dependent variable. The results of these control variables are as follows:

Increase in pay gap or positive sign: The control variables which lead to an increase in pay inequality are CEO duality and Profitability. Other variables which also show positive coefficients, but are statistically insignificant are board meetings, the board size, liquidity, and leverage. Here, only the results with Statistically significant variables having an impact on the relative compensation are discussed below:

Concerning the variable CEO duality (DUALITY\_CEO), the results show that there is a statistically significant positive impact of CEO duality on the relative CEO compensation, at 5 per cent confidence level. This implies that the companies in which the positions of CEO and Chairman are held by different people; have a higher relative CEO compensation. According

to Deegan (2006), CEO duality creates a more powerful CEO position in the organization which may be driven by opportunism and self-interest, like setting higher remuneration and benefits for himself or herself. Similarly, Solomon (2020) suggests that CEO duality creates consolidation of power with one person, leading to CEO entrenchment. This entrenchment weakens the monitoring ability of the board and its committees. The reason for this statistically significant influence in the case of Pakistan is presumably because of the importance of this internal governance mechanism in the context of Pakistan, where chances of misuse of power and collusion are higher, as compared to a developed country's context used in the study of Gregory-Smith (2012). Hence, separating the positions of CEO and board Chairman can help in reducing the chances of misuse of powers in the case of Pakistan.

Similarly, the coefficient on the profitability variable as measured by ROA (PROFITABILITY\_ROA) is positive and statistically significant at a 1 per cent confidence level. This result implies that the most profitable companies have the highest CEO compensation-to-other executive pay ratios. This result is in line with the agency theory perspective and is also supported by Alkalbani et al. (2019); Gregory-Smith (2012); Harymawan et al. (2020); and Kuo and Yu (2014) who found a similar positive link between profitability and CEO pay. They suggest that the companies which have higher profits have the financial capacity to pay higher compensation to their CEOs. However, it is observed that the companies which have higher profits and financial strength are not of any additional benefit to executives other than the CEO, as indicated by a higher pay gap in such companies.

Decrease in pay gap or negative sign: On the other hand, the variables which lead to a decrease in the pay gap are the independence of the board and the firm's size. Further, the market-to-



book ratio also shows a negative coefficient, but it is statistically insignificant. Here, only the results with Statistically Significant variables having an impact on the relative compensation are discussed below:

Regarding board independence, the results of appendix table 5.6 show that there is a statistically significant negative impact of the proportion of independent directors on the board on the relative CEO compensation, at 1 per cent confidence level. This result confirms that companies with a greater number of independent directors on their boards have reduced the pay gap between their chief executive and other executives of the company. This result is in line with Gregory-Smith (2012) who also found a similar negative link between board independence and CEO compensation. In line with the agency theory, it is believed that the firms with a higher proportion of independent directors on their boards help in improving the monitoring function of the board (Lee et al., 1992) and help in making compensation-related decisions more independently. Further, effective supervision by independent directors mitigates opportunistic behaviour by controlling the self-interests of managers.

Similarly, the results concerning firm size (FIRMSIZE\_LN\_TA) show that there is a statistically significant negative impact of firm size on the relative CEO compensation, at a 1 per cent confidence level. This result suggests that larger-sized companies have a lower pay gap. In Pakistan, it is presumed that large-sized firms have bigger and better-quality staff like they have more skilled people working in their HR departments which help them in framing clear and just remuneration policies and procedures, which in turn can help them in reducing pay inequality between all their employees, including the CEO and other executives.

#### **5.4 Additional Analysis - conducting separate regressions of Remuneration and Audit committees:**

To ensure that the above results are strong, the current section re-runs the regressions separately for remuneration and audit committees. However, interestingly, the results of these separate regression analyses confirm the results of the original regression model. The detailed interpretation of the results and their reasons have already been discussed in the previous section 5.3.

##### ***Remuneration committee variables:***

Appendix Table 5.8 presents the separate regression results for the variables related to the remuneration committees only. The table shows an R-squared of 0.88, indicating that 88 per cent of the variation in the relative CEO pay was explained by the model. The regression results confirm the findings of the original regression model. Since, the detailed interpretation of these results has already been discussed earlier in this chapter, hence, to avoid repetition, this section will only focus on discussing the findings of this analysis.

The second column of Appendix Table 5.8 shows that the independence of the remuneration committee (LN\_RC\_ID\_INDEP) has a statistically significant negative impact on the relative CEO compensation. The negative correlation and statistical significance are consistent with the results of the original full regression model and support the first hypothesis of the study. These findings are shown to be true without the presence of audit committees in the model, which means that independent directors in the remuneration committees have a significant influence on the chief executive pay gap regardless of the presence or absence of the audit committees

in the company. This result implies that the companies with independent remuneration committees have relatively lower CEO compensation, indicating that the firms with a higher proportion of independent directors in their remuneration committees have a lower pay gap between their chief executive officer and other executives as compared to their counterparts listed on the PSX. This finding is also in line with the agency theory, that appointing independent directors helps in improving the monitoring function of the board and its committees (Lee et al., 1992). Further, this result also corresponds with the findings of a negative association between remuneration committee independence and chief executive compensation by Alkalbani et al. (2019); Alfarisa and Harymawan (2021); and Kuo and Yu (2014). Similarly, Appendix Table 5.8 shows a statistically significant negative coefficient of the remuneration committee expertise variable (RC\_EXPERTISE), which implies that there is a noticeable impact of remuneration committee expertise on the relative CEO compensation. The negative association between expertise and relative CEO compensation is consistent with both, our expectations, and the results of the original full regression model. Further, the result also supports the second hypothesis of the study and is in line with the agency theory suggests that hiring directors with relevant expertise for monitoring and supervision of the agents (Nyambia & Hamdan, 2018; Jaafaar & James, 2015). Consequently, we may confirm that committees which have a large sized pool of member expertise to choose from have a lower pay gap among their CEOs and other executives. These above findings are shown to be true without the presence of audit committees in the regression, which means that the expertise of the remuneration committee directors has a significant negative influence on the chief executive pay, regardless of the presence or absence of audit committees.

***Audit committee variables:***

Appendix Table 5.9 presents the separate regression results for the variables related only to the audit committees. The table shows an r-squared of 0.88, indicating that 88 per cent of the variation in the relative CEO pay was explained by the model. The regression results are consistent and in line with the results of the original regression model. Since the detailed interpretation of these results have already been discussed in the previous sections of this chapter, hence, this section will focus on the discussion of results from this analysis.

The second column of Appendix Table 5.9 shows that the independence of audit committees (LN\_AC\_ID\_INDEP) have a statistically significant positive impact on the relative CEO compensation. The correlation and statistical significance are consistent with the results of the original regression model i.e., these regression results are consistent without the presence of remuneration committees, showing that independent directors in the audit committees have a significant influence regardless of the presence or absence of the remuneration committees in the company. The significant positive coefficient shows that companies with a higher proportion of independent audit committee members have a higher CEO-to-executive compensation ratio, showing a wider pay gap between the chief executive and other executives of the company. The reason for a positive coefficient might be because the directors are not truly independent and are only placed in committees to fulfil the regulatory requirements. Similarly, it is also possible that audit committee members are captured and/or under the influence of the autocratic executive directors of the company (Słomka-Gołębiowska, 2016). However, Appendix Table 6.9 shows that the result of the other two variables i.e., audit committee expertise (AC\_EXPERTISE), and audit committee meetings (ACM\_Meeting) have a statistically insignificant impact on relative CEO compensation. The regression results

confirm the original regression model. These findings are shown to be true without the presence of remuneration committees, meaning that the expertise and meetings of the audit committees have an insignificant impact on the chief executive pay, regardless of the presence or absence of remuneration committees. The detailed interpretation of these results and the possible reasons have already been discussed earlier in this Chapter. Similarly, Peasnell et al. (2005); and Haniffa and Hudaib (2006) suggested that the audit committee meetings have no relationship with the earnings management practices which can also affect the chief executive compensation of the company. Also, Setiany et al. (2018) found that audit committee expertise and meetings are not able to play an active role in the organization. Along the same lines, Zakaria (2018) reported that audit committees are sometimes established only to comply with the regulatory requirements, however, in practice, they are not able to play their required role in the supervision and control functions.

## **5.5 Summary**

Chapter 5 provides a discussion of the empirical results for remuneration and audit committee variables obtained using both univariate and multivariate statistical analyses. It focuses on understanding the quantitative impact of committee variables on chief executive compensation in the context of Pakistan. This chapter also discussed the need for performing the tests for pairwise correlation, multicollinearity, normality, heteroscedasticity, and linearity before assessing the impact of independent variables on the dependent variable. All these assumptions were investigated, and the results were found to be satisfactory.

The chapter aimed to meet the second and third research objectives of the study. The second research objective of the study is to examine the impact on chief executive compensation of the independence, expertise, and activity of the ‘remuneration committees’ for the PSX-listed companies. The empirical results indicate a set of interesting findings regarding how the remuneration committee variables impact executive compensation. For example, the independence of the remuneration committee shows a statistically significant negative impact on the relative CEO compensation. The negative correlation is consistent with the expectations and supports the first hypothesis of this study which was developed in chapter 4. This implies that the independence of remuneration committees can help in reducing the pay gap between the CEO and other executives of the company. This finding is also in line with the agency theory. Further, the result of regression analysis also shows a statistically significant negative impact of the remuneration committee expertise on CEO compensation. This implies that there is a noticeable impact of remuneration committee expertise on the relative CEO compensation in Pakistan. The estimated negative association between expertise and relative compensation is consistent with our expectations and supports the second hypothesis. This implies that the expertise of remuneration committees can help in reducing the pay inequality between the CEO and other executives of the company. The third research objective of the study is to examine the impact on executive compensation of the selected ‘audit committee’ variables. The results suggest that there is a statistically significant positive impact of audit committee independence on the relative chief executive compensation. The significant positive coefficient shows that companies with a higher proportion of independent audit committee members have a higher CEO-to-executive compensation ratio, showing a wider pay gap between the chief executive and other executives of the company. Moreover, the same results were achieved when separate additional analyses were conducted for remuneration and audit committees.

## **Chapter 6: Robustness Analysis**

### **6.1 Introduction**

This chapter discusses the results of the tests to assess the robustness of regressions presented in the previous chapter 5. This chapter is organised as follows: Section 6.2 discusses the effects of using robustness analysis using the Generalized Method of Moments (GMM) model. Section 6.3 discusses the effects of differences in industrial classification using two groups. Section 6.4 discusses the results of additional analysis conducted. Lastly, Section 6.5 concludes the chapter by providing a summary of the chapter.

To ensure that the results discussed in the earlier chapter are robust, the current chapter re-runs the regression model as follows: firstly, it uses the Generalized Method of Moments model (GMM), and secondly, the data is divided into two sub-samples of industrial business groups. The results of both these analyses are discussed below:

### **6.2 Robustness Analysis using the GMM Model**

To check the robustness of the model, the current chapter re-runs the regression model by using the Generalized Method of Moments model (GMM). The GMM estimation model is used to remove potential endogeneity amongst the variables (Arellano & Bond, 1991; Blundell & Bond, 1998). GMM is frequently used in the literature to solve the issue of endogeneity and achieve consistent estimates (Arellano & Bond 1991; Roodman 2006). Recently, authors like

Al-Shaer et al. (2023); Ezeani et al. (2023); Gerged (2023); Kanapathippillai et al. (2019), Salem et al. (2022), Salem et al. (2023); Shohaieb et al. (2022); Sheikh et al. (2018); Usman et al. (2022); and Usman et al. (2023) have also suggested using the GMM technique due to the potential presence of endogeneity, which may be caused due to the reverse causality of pay and performance. According to Usman et al. (2023), the main strength of using the GMM model is that it guarantees the suitability of resolving any endogeneity issues. GMM can be used to address any conceivable bias in a dynamic panel (Arellano and Bond, 1991; Roodman, 2006; Salem, 2023b). Further, the two-step GMM approach, which is used in this research study, can help in ensuring consistent estimations. The two-step GMM model can also help in enhancing the reliability of estimations by reducing issues caused by underpowered instruments (Blundell and Bond, 1998; Salem, 2023b). According to Khan et al. (2019), the two-step GMM estimator is an excellent option for getting effective and consistent estimates in a balanced panel dataset. Further, the two-step GMM's covariance matrix results are robust to panel-specific autocorrelation and heteroscedasticity (Seyram et al., 2019). The two-step GMM uses an orthogonal condition on the variance-covariance matrix to control heteroskedasticity, measurement error, and correlation of errors over time (Blundell & Bond, 1998; Ezeani et al. 2023b).

*Remuneration committee variables:*

The Appendix table 6.1 shows that independent remuneration committees (LN\_RC\_ID\_INDEP) have a statistically significant negative impact on the relative CEO compensation. The statistical significance and negative coefficient sign of this variable are both in line with the regression results of the full sample discussed in previous chapter 5. Moreover,



the results are also consistent with the expectations and support the study's first hypothesis (H1) that the companies with independent remuneration committees have relatively lower relative CEO compensation ratios. This finding is also in line with the agency theory, which proposes that the appointment of autonomous directors helps improve the monitoring function of the board and its committees (Lee et al., 1992).

Similarly, Appendix table 6.1 shows that the remuneration committee expertise variable has a statistically significant negative impact on the relative CEO compensation. The estimated negative association between expertise and relative CEO compensation is consistent with the results of our full sample. The result is also in compliance with our expectations and supports the second hypothesis (H2). This negative correlation is comparable to the result observed for our full sample of study in the previous chapter. Lastly, the appendix table 6.1 shows that the number of 'remuneration committee meetings' (RCM\_MEETING) have an insignificant impact on the relative chief executive compensation. This statistical insignificance is also in line with the regression results of the full sample presented in the previous chapter.

*Audit committee variables:*

The Appendix table 6.1 shows that independent audit committees (LN\_AC\_ID\_INDEP) have a statistically significant positive impact on the relative CEO compensation. The statistical significance and positive coefficient sign of this variable, both, are in line with the regression results of the full sample discussed in previous chapter 5. This implies that companies with a higher proportion of independent audit committee members usually have a higher CEO-to-other executive compensation ratio, showing a wider pay gap between the chief executive and

other executives of the company. The reason for such a positive coefficient according to Słomka-Gołębiowska (2016) may be due to independent audit committee members being under the influence of the autocratic and influential executive directors.

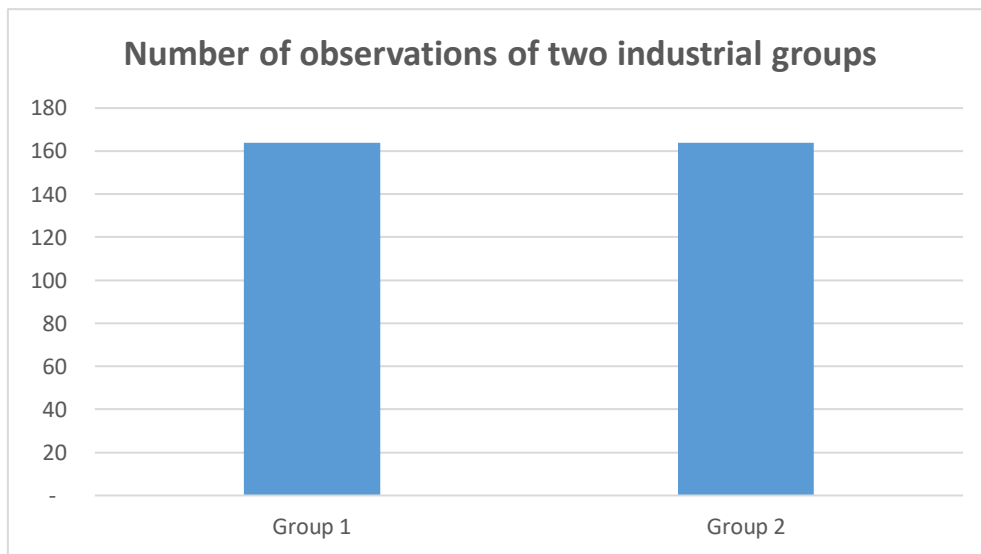
Similarly, the coefficients for the audit committee financial expertise variable (AC\_EXPERTISE) and the number of audit committee meetings (ACM\_Meeting) held are statistically insignificant. This statistically insignificant relationship implies that the financial expertise and audit committee meetings do not considerably influence relative CEO compensation. The insignificant results for both these variables confirm the estimates for our full sample results presented in the previous chapter.

### **6.3 Robustness Analysis Using Two Main Industrial Groups**

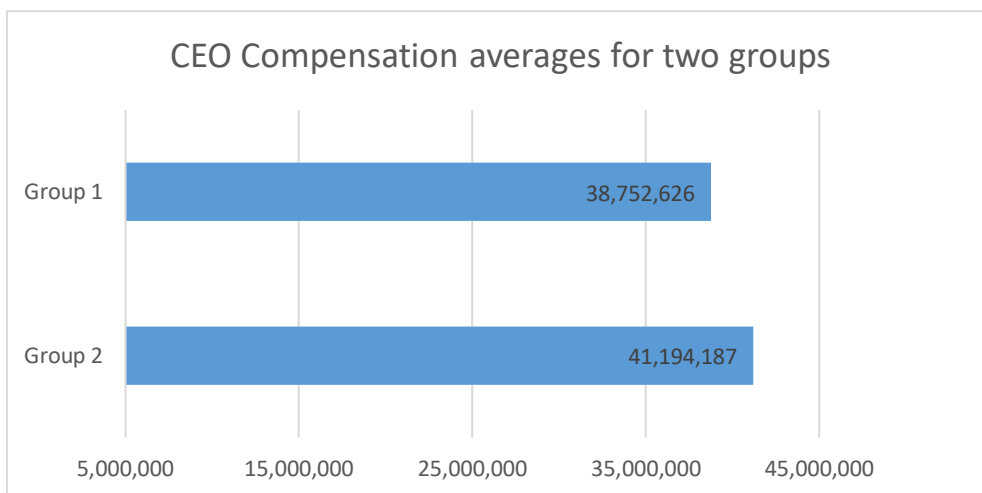
To ensure that the results discussed in the earlier chapter are strong, the current chapter re-runs the regression models by classifying the data into two sub-samples of main industrial groups. The details of classification were already discussed earlier in chapter three. This study classifies firms into two business groups based on the similarities in their business model and industrial operations (Cybinski & Windsor 2013; Harrison et al., 2017). Group A companies are mostly consumables-related and B2C companies, like the Food and Personal care sector and Group B, includes B2B and process costing-related companies which are involved in producing large-scale similar products like the Cement sector. To the best of the author's belief and knowledge, the above industrial classification and robustness analysis in the context of Pakistan is another distinct feature of this study. Most of the previous studies in Pakistan have conducted robustness on a basis like, size of the companies, financial performance ratios, positive and

negative returns, marketing expenses, subsidies received or not, and financial or non-financial banking companies' groups classification (like, Shaikh et al. 2015; Bashir et al., 2013; Wenqi, et al. 2022), however, some of these earlier basis risks omitting the identification of the specific business model. The benefit of using an industrial classification is that it helps in identifying the chief executive pay gap in each of the two business models.

Graph 6.1: Data is divided into two industrial groups



Graph 6.2: CEO Compensation averages for two industrial groups



According to Bender (2017), the B2C type organizations usually have a bigger need for legitimacy and positive public image, as compared to a relatively lesser-known B2B company. Appendix Table 6.2 and Graph 6.1 show that the two groups are balanced and contain an equal

number of 164 observations in each group totalling 328 observations in total. Graph 6.2 shows the CEO average compensation for both industrial groups. The average CEO compensation of Group A is shown to be Rs. 41,194,187, whereas the average CEO compensation of Group B is stated at Rs. 38,752,626.

The descriptive statistics shown in Appendix Table 6.3 reveal that the mean relative CEO compensation is 9.28, and the maximum relative compensation of the CEO in 'Group A' is 27.8 times of compensation of other executives. Whereas Appendix Table 6.4 shows that the mean relative compensation for 'Group B' is 12.40, and the maximum relative compensation of the CEO in Group B is as high as 210 times, which means that the CEO is relatively paid 210 times higher than the average executive. This shows huge inequality in the distribution of pay between the CEO and an average executive of the company in both groups, especially in Group B where the inequality is larger.

Appendix Tables 6.5 and 6.6 show the regression results for the impact on relative CEO pay of remuneration and audit committees for Groups A and B respectively. Appendix Table 6.5 shows an adjusted r-squared of 0.41, indicating that 41 per cent of the variation in the relative CEO pay was explained by the model. The p-value of the F-statistics for the regression model is less than 0.0001, which is shown to be significant at 1 per cent confidence level, hence confirming the statistical validity and collective significance of explanatory variables in the model. Similarly, Appendix Table 6.6 indicates an adjusted r-squared of 0.64, indicating that 64 per cent of the variation in the relative CEO pay was explained by the model. This shows that the regression model for the second group fits better than the first group, which might be due to more variation in the characteristics of firms in group B. This argument is also supported

by the results of the standard deviation dispersion of the data, which is 23.9. for Group B, as compared to 6.34. for group A. However, the p-value of the F-statistic for the regression model is comparable to that of the first industrial group, implying that collectively the explanatory variables in both models are highly significant at a 1 per cent confidence level. Again, this validates the importance of the regression slope coefficients. Subsequent sections discuss the results of the regression models for each industrial group. We note that the estimated slope coefficients measure the marginal contribution of the corresponding explanatory variable to the outcome variable (i.e., relative CEO pay), assuming all the other variables in the model remain unchanged.

### **6.3.1 Remuneration Committee Variables**

The second column of appendix table 6.5 shows that ‘independent’ remuneration committees (LN\_RC\_ID\_INDEP) for firms in the industrial ‘Group A’ have a statistically significant negative impact on the relative CEO compensation. The estimated p-value for this variable indicates significance at a 1 per cent confidence level. The statistical significance and negative correlation sign of this variable are in line with the regression results of the previous chapter 5. Moreover, the results are consistent with the expectations and support the study’s first hypothesis (H1) that the companies with independent remuneration committees have relatively lower relative CEO compensation ratios. This finding is also in line with the agency theory, which proposes that the appointment of autonomous directors helps improve the monitoring function of the board and its committees (Lee et al., 1992). By contrast, results in appendix table 6.6 show that the influence of the independent remuneration committee (LN\_RC\_ID\_INDEP) is statistically insignificant for firms in the industrial ‘Group B’. The

differences in the marginal contribution of independent remuneration committees across the two industrial groups are presumably due to the discrepancies in their operations, business model, and government support to reflect their strategic importance for the country's economy. For example, Group A companies are mostly B2C and consumables-related companies, like the Food and Personal care sector, unlike Group B which includes B2B and mass production process-related companies which are involved in producing large-scale similar nature products like the Cement sector. In the context of these results, it seems that the independence of the remuneration committee is making an impact in the case of companies dealing in consumables and B2C products.

Appendix Table 6.5 reports a statistically significant and positive impact on relative CEO compensation of the remuneration committee 'expertise' (RC\_EXPERTISE) variable for 'Group A' companies. The inference is that there is a noticeable unfavourable outcome when remuneration committees with a broad range of expertise are measured by the proxy of the number of the remuneration committee members i.e., committee size, and is engaged in the discussion on CEO compensation compared with the compensation of average other executives of the company. This is presumably because committees with expertise in a broad range of areas are more adept at matching the skills of a CEO to the intensity of their responsibilities and related work pressures compared with the other executives of the company. This may also be due to less effective monitoring of executive compensation possibly because of their large size, as suggested by (Core et al., 1999). However, by contrast, appendix table 6.6 shows that the remuneration committee expertise variable has a statistically significant negative impact on 'Group B' companies. The estimated negative association between expertise and relative CEO compensation is consistent with our expectations and supports the second hypothesis (H2). This negative correlation is comparable to the result observed for our full sample of study in

the previous chapter. Presumably, this seems to be because the remuneration committees in Group B (B2B) might not be differentiating between the work pressures of a CEO and other executives of the company. The secret to this result might be rooted in the B2B operational nature of the companies which are expected to produce similar nature of massive products and as such might not require the same level of marketing, branding, and strategy execution skills as required by the CEOs of a B2C company involved in selling to individual customers.

The Appendix Table 6.5 shows that the number of remuneration committee ‘meetings’ (RCM\_MEETING) have a statistically significant negative impact on the relative chief executive compensation for the ‘Group A’ sub-sample. However, with a p-value of 0.07, the inference is that the estimated marginal contribution is only noticeable at a 10 per cent confidence level. On the other hand, appendix table 6.6 shows that the number of remuneration committee meetings had an inconsequential impact on the relative CEO pay for firms in the ‘Group B’ industrial sub-sample. This statistical insignificance and positive correlation sign of Group B companies are in line with the regression results of the full sample presented in the previous chapter 5, and this suggests that the statistically insignificant result reported for the full sample is mainly because of the moderating impact of the firms in Group B. Furthermore, the statistically insignificant positive results of Group B are different than the statistically significant negative results of Group A, which are expected to be due to the differences in the meeting activity and contribution of remuneration committees in the two industrial groups. For example, remuneration committee meetings of Group A (B2C) companies might be able to make an impact on the compensation policies and are found to be successful in reducing the pay gap in such companies.

### 6.3.2 Audit Committee Variables

Appendix Tables 6.5 and 6.6 present the coefficient estimates for the relationship between audit committee variables and relative CEO pay for both Group A and B companies respectively. The statistically insignificant but positive coefficient for Group A's variable independence of audit committee (LN\_AC\_ID\_INDEP) implies that companies with a higher proportion of independent audit committee members usually have a higher CEO-to-other executive compensation ratio, showing a wider pay gap between the chief executive and other executives of the company. The reason for such a positive coefficient according to Słomka-Gołębiowska (2016) may be due to independent audit committee members being under the influence of the autocratic and influential executive directors. This may also be due to demographic similarities between committee members and CEOs (Westphal & Zajac, 1995). This positive correlation sign of Group A is also in line with the regression results of the full sample discussed in previous chapter 5. By contrast, the coefficient on the independence of the audit committee variable for the Group B companies is negative, albeit statistically insignificant. This negative correlation is consistent with the expectation and supports the fourth hypothesis (H4), as independent audit committees are expected to reduce the pay gap and inequality between the CEOs and other Executives of the company. However, the overall statistically insignificant results for both industrial groups imply that the independence of the audit committee does not play any differential influential role in setting the CEO compensation relative to other executives, for the PSX-listed companies of Pakistan.

Again, the slope coefficients for the audit committee financial expertise variable (AC\_EXPERTISE) for both Group A and Group B are statistically insignificant. This



statistically irrelevant relationship implies that the financial expertise of audit committees does not considerably influence relative CEO compensation. The insignificant results for both groups of firms confirm the estimates for our full sample presented in the previous chapter.

Appendix Table 6.5 shows that the number of audit committee meetings (ACM\_Meeting) held by firms in 'Group-A' has an insignificant negative influence on the relative CEO compensation. However, the statistically significant positive coefficient on the number of audit committee meetings variable for 'Group B' shown in Appendix Table 6.6 confirms the dispersion and diversity in the Group A and Group B companies. This implies that audit committee meetings in Group B (B2B) companies can make an impact on the executive compensation policy of the company. Presumably, this can also be due to demographic similarities between audit committee members and the CEO (Westphal & Zajac, 1995). This positive association is like the estimated coefficient sign for the full sample, even if this last was statistically insignificant. This suggests that the statistically insignificant result reported for the number of audit committee meetings for the full sample is mainly because of the moderating impact of the firms in Group A.

### **6.3.3 Control variables**

The multivariate regression model also includes control variables to account for the impact of other firm characteristics such as board independence etc. For ease of synthesis, the discussion on the impact of these control variables is grouped into two categories notably positively impact, and negatively impacting the dependent variable.

Positively impacting control variables: The control variables which boost relative CEO compensation for ‘Group A’ are board meetings, firm size, profitability, and market-to-book ratio. Other variables which also show positive coefficients but are statistically insignificant are CEO duality and leverage. Similarly, the control variables which are correlated to an increase in CEO relative pay ‘Group B’ are board meetings, the board size, CEO duality, firm size, and profitability, all of which are statistically significant.

Negatively impacting control variables: The board size is the only control variable which is significantly negatively correlated with a reduction in relative CEO compensation for ‘Group A’ Other variables which show negative but statistically insignificant signs are independence of the board and liquidity. By contrast, these two variables were reported to exert a statistically significant impact on relative pay for ‘Group B’ firms, along with other variables which show negative coefficients but are statistically unimportant such as leverage and market-to-book ratio.

The results in appendix tables 6.5 and 6.6 show that board Independence (LN\_B\_ID) has a negative impact on the relative CEO compensation for both the industrial groups, however, the slope coefficient is only statistically significant for Group B. The result implies that an increase in the proportion of independent directors decreases relative CEO pay for both the groups, although this outcome is only noticeable for Group B. This significant negative result is supported by a study by Gregory-Smith (2012). This result suggests that the independent directors on the boards of Group B companies can make an impact on the compensation policy discussions and in reducing the pay gap between the CEO and the average Executive of the company. The reason for this result is also explained with the help of agency theory which

suggests that firms with a higher proportion of independent directors on their boards have effective monitoring functions (Lee et al., 1992).

Concerning the number of board meetings (BM\_Bd\_Meeting), appendix tables 6.5 and 6.6 show that this variable has a statistically significant positive impact on relative CEO compensation. This positive link holds for both industrial Group A and Group B with p-values of 0.0003, and 0.001 respectively. A similar positive impact was also reported for the full sample; however, this was statistically insignificant. Nonetheless, these results suggest that companies with a higher number of board meetings usually have a higher CEO-to-other executive compensation ratio, showing a wider pay gap between the chief executive and other executives of the company. For example, this may be due to the presence of CEOs in the board meetings or even a strong influence of CEOs on the board members attending the board meetings.

Regarding board size (BS\_Size), appendix table 6.5 shows a negative slope coefficient for Group A, significant at the 1 per cent confidence level. By contrast, a significant positive coefficient is reported for Group B which is in line with the results of Chalmers et al. (2006). A similar positive but statistically insignificant result was also reported for the full sample presented in the previous chapter. The difference in the results of the two groups is presumably due to the diversity in companies and the contribution of the number of board members (i.e., board size) in these two groups. For example, larger-sized boards in Group A B2C model companies are presumably able to exert an influence in reducing the CEO-to-other executives' pay inequality in those companies.

The CEO Duality (DUALITY\_CEO) variable has a positive impact on relative CEO compensation for both the industrial groups, although the coefficient is only statistically significant for Group B. A similar statistically significant positive result was also reported for the full sample presented in the previous Chapter 5. The difference in the results of the two groups is presumably due to the differences in business and the influence of CEO Duality in the two groups. For example, companies with CEO-Duality in Group B seem to be more influential and powerful in comparison to Group A and are presumably able to exert an influence to get higher pay.

Firm size (FIRMSIZE\_LN\_TA) has a statistically significant positive impact on the relative CEO compensation for both industrial groups at the 1 per cent confidence level. A statistically significant negative result was found in the full sample presented in the previous chapter. However, the positive results found for the groups are in line with the results of Alkalbani et al. (2019); Chalmers et al. (2006); Cybinski and Windsor (2013); Gregory-Smith (2012); and Harymawan et al. (2020), who found a similar positive connection between firm size and CEO compensation. These studies suggest that large-sized companies have better resources available at their disposal to pay more to their CEOs.

Liquidity (LIQUIDITY\_CR) has a negative impact on relative CEO compensation for both industrial groups, however, this outcome is only statistically significant for Group B. This implies that liquidity leads to a decrease in pay inequality for both groups A and B. The difference in the significance and results of these two groups are presumably due to the differences in the nature of the companies included in the two groups. For example, to ensure better financial management and liquidity, companies in Group B seem to have a more robust

system of compensation by paying a more balanced pay with lesser inequality among CEOs and other executives of those companies.

Profitability (PROFITABILITY\_ROA) has a statistically significant positive impact on the relative CEO compensation for both industrial groups at the 1 per cent confidence level. The result implies that an increase in profitability is connected to higher pay inequality. A similar positive result was also shown in the results of our full sample as well. This result is supported by Alkalbani et al. (2019); Chalmers et al. (2006); Gregory-Smith (2012); Harymawan et al. (2020); and Kuo and Yu (2014). These authors suggest that the companies which have higher profits have the financial capacity to pay higher compensation to their CEOs.

Leverage (LEVERAGE\_DA) has a statistically insignificant impact on relative CEO compensation for both Group A and Group B. These results are mirrored by the outcome for the full sample. This is consistent with the findings of Al-Najjar (2017) who also found that leverage has no relationship with executive compensation which is suggested to be because of the lesser influence of leverage providers on the chief executive's compensation policy.

The market-to-book ratio (MARKET\_MKT\_BK) has a statistically significant positive impact only for Group A. The statistical significance and positive coefficient sign of Group A are consistent with the findings of Chalmers et al. (2006). The difference in the results of the two groups arises presumably due to the diversity in companies and their business strategies. For example, Group A consumer-goods-oriented companies might be paying more to their CEOs to increase their legitimacy and acceptability in the equity market.

#### **6.4 Additional analysis**

Using Sharia Compliant and Conventional companies in Pakistan:

Since this research is being conducted in the context of Pakistan, which has a majority Muslim population, it would be interesting to conduct an additional analysis of the data by dividing the companies into Sharia-compliant and Conventional company classifications. This additional analysis is also another novel contribution of my thesis because this is one of the initial studies being conducted to study this relationship, especially in the context of a developing country, such as Pakistan.

Islamic Finance today is a \$2.50 trillion industry, spread over 80 countries (GFMA, 2022). Likewise, the size of the Islamic Finance industry in Pakistan has recently crossed USD 42 Billion. Likewise, recently, the Islamic Financial system has also attracted the attention and interest of the Western world as well. According to the Bank of England (2022), anyone can use the available Islamic Finance products and services and it is not necessary to be a Muslim to use Sharia-compliant products and services. Considering the growing opportunities in Islamic Finance, the UK became the ‘first’ country outside the Islamic world to cement its position as the Western hub for Islamic Finance by issuing £200 million of Sovereign Sukuk Bonds on 25<sup>th</sup> June 2014 (GOV.UK, 2014). Additionally, after its successful maturity, the UK also recently issued the second Sukuk bond valued at £500 million.

According to the then UK’s Chancellor of the Exchequer, Mr George Osborne (2014):

*“Today’s issuance of Britain’s first sovereign Sukuk delivers on the government’s commitment to become the western hub of Islamic finance and is part of our long-term economic plan to make Britain the undisputed centre of the global financial system.”*

Business transactions in the Islamic system are characterized by ethical norms and social commitments rooted in the religious framework of *Shariah* (Ahmad, 2000; Mirakhor, 2000). The Sharia-compliant companies are those companies which are compliant with “Sharia principles in terms of its primary business and investments” and are based on the principles of the Islamic system (KASB, 2022). Islamic finance is defined by the Bank of England (2022) as a way to manage money and business that is in line with the moral principles of Islam. Another important idea that underpins Islamic finance is that it shouldn’t cause harm to self and others. For this reason, Sharia-compliant businesses do not invest in harmful products and services like tobacco, alcohol, *riba*, gambling etc.

According to Abu-Tapanjeh (2009), most of the conventional governance principles recommended by the OECD were already prescribed and well-existent in the Islamic Sharia guidelines since the early days of Islamic Civilization. However, the following are a few of the distinguishing features of the Islamic finance and governance system, like:

- A major ethical component of any economic activity in Islam is its basis on justice, fairness, equality, and honesty.
- Consideration of property (resources) as trusted by God. Hence the accountability is not only to the business stakeholders but also to the God, who is the creator and ultimate owner of all the resources.

- A strong belief in accountability both in this world and life hereafter (the day of judgement) has strong implications on business transactions (Abu-Tapanjeh, 2009), which creates an environment of extended and broader obligation for CEOs and managers of Sharia-Compliant companies, as compared to their conventional counterparts.
- Ensuring that all parties receive their due rights from a transaction. Unlike the Conventional governance principles which view the corporation as the property of the shareholders, the Islamic Sharia corporate governance principles stand more closely to the social entity and stakeholder views, subject to Islamic rules, which focus on the protection of rights of all the stakeholders rather than shareholders only (Abu-Tapanjeh, 2009; Buallay, 2019; Iqbal and Mirakhor, 2004).
- Sharia-compliant Islamic companies do not engage in non-Islamic business activities. Also, the creation of a sharia board to evaluate and ensure sharia rules in transactions (Buallay, 2019).
- Consideration of social welfare for the whole community. Equitable distribution of wealth and the creation of a support system for disadvantaged members in the form of Zakat and Sadaqah (Abu-Tapanjeh, 2009; Mollah and Zaman, 2015).

In this section, we divide our data into two groups namely, the Sharia-Compliant Islamic companies Group i.e., Group 1 having 208 firm-year observations, and the Conventional non-sharia-compliant companies Group i.e., Group 2 having 120 firm-year observations. Appendix

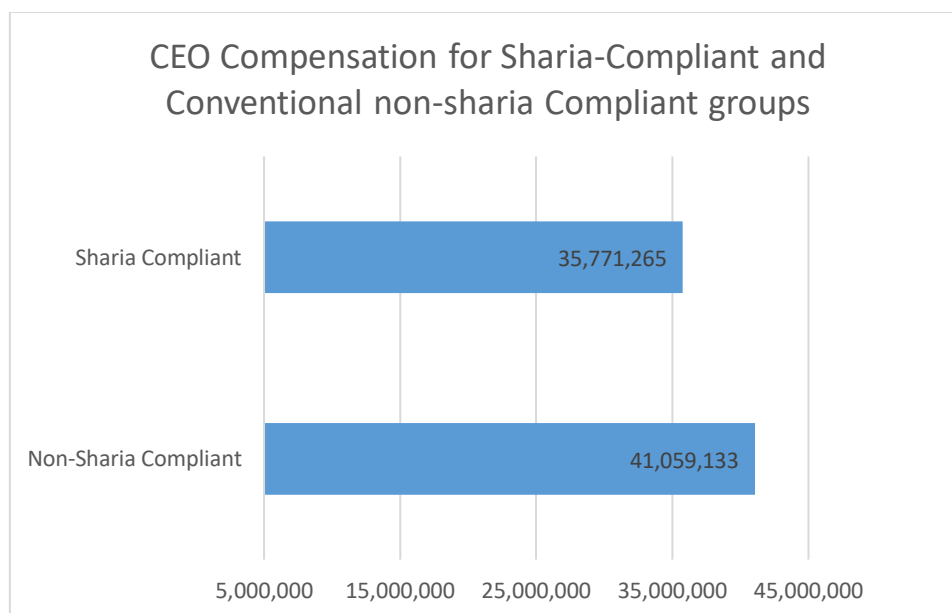


Table 6.6 presents the results of robustness tests for Group 1, and Appendix Table 6.7 presents the results for Group 2 respectively. The results are discussed below:

Graph 6.3 shows the CEO average compensation for both groups. The average CEO compensation of Group 1 (Sharia-Compliant) is shown to be Rs. 35,771,265; whereas the average CEO compensation of Group 2 (Conventional) is stated at Rs. 41,059,133. The formation of these groups and their data classification has already been discussed in full length in the previous Chapter 3 i.e., the data description of the study.

Graph 6.3:

CEO Compensation averages for the Sharia-Compliant and Conventional groups



Appendix Tables 6.6 and 6.7 present the regression results for the impact on relative CEO pay of remuneration and audit committees for Groups 1 and 2 respectively. Appendix Table 6.6 shows an adjusted r-squared of 0.63, indicating that 63 per cent of the variation in the relative

CEO pay was explained by the model. The p-value of the F-statistics for the regression model is less than 0.0001, which is shown to be significant at 1 per cent confidence level, hence confirming the statistical validity and collective significance of explanatory variables in the model. Similarly, Appendix Table 6.7 indicates an adjusted r-squared of 0.66, indicating that 66 per cent of the variation in the relative CEO pay was explained by the model. This shows that the regression model for the second group fits better than the first group, which might be due to more variation in the characteristics of the firms in group 2. This argument is also supported by the results of the standard deviation dispersion of the data. Further, the p-value of the F-statistic for both the regression models is highly significant at a 1 per cent confidence level, confirming the statistical validity of the model. Again, this validates the importance of the regression slope coefficients. Subsequent sections discuss the results of the regression models for each group. We note that the estimated slope coefficients measure the marginal contribution of the corresponding explanatory variable to the outcome variable (i.e., relative CEO pay), assuming all the other variables in the model remain unchanged.

#### **6.4.1 Remuneration committee variables**

The second column of Appendix Table 6.6 and 6.7 shows that the independence of remuneration committees (LN\_RC\_ID\_INDEP) for firms in both the groups i.e., Group 1 (Sharia-compliant companies) and Group 2 (Conventional companies) have a statistically significant negative impact on the relative CEO compensation. The estimated p-value for this variable indicates significance at a 1 per cent confidence level. The statistical significance and negative correlation sign of this variable are in line with the regression results of the full sample reported in the previous Chapter 5, showing that there is no difference in the results of the two

groups and the full sample. Moreover, the results are also consistent with the research study's expectations and support the study's first hypothesis (H1) that the companies with independent remuneration committees have relatively lower relative CEO compensation ratios. The results imply that the independence of the remuneration committee is important for both the groups i.e., Sharia-compliant, and Conventional companies and helps in reducing the pay gap in the organisations.

Appendix Tables 6.6 and 6.7 both show a positive impact on relative CEO compensation of the remuneration committee expertise (RC\_EXPERTISE) in Groups 1 and 2, however, this impact is only statistically noticeable for Group 2 (conventional companies). The estimated positive association between committee expertise and relative CEO compensation means that committees which have a large pool of members' expertise, will probably have a higher pay gap between their CEOs and other executives. This is presumed to be because committee experts in Group 2 (conventional companies) may be looking more closely at the skills of chief executives and may perceive the skills of a CEO to be more valuable and scarcer than other executives of the company. This is presumably because remuneration committees in conventional companies with expertise in a broad range of areas are more tuned to match the skills of a CEO to the intensity of their responsibilities and related work pressures compared with the other executives of the company. However, this positive relationship is not noticeable in Sharia-compliant companies, which is presumed to be due to compliance with the Sharia principles.

Similarly, appendix table 6.6 shows that remuneration committee meetings (RCM\_MEETING) have a statistically significant positive impact on the relative CEO compensation of 'Group 1'.

The p-value of the variable shows significance at a 1 per cent confidence level. This positive coefficient sign of Group 1 is in line with the regression results of the full sample presented in the previous Chapter 5. However, on the other hand, Appendix Table 6.7 shows that the remuneration committee meetings have a statistically significant negative impact on the relative CEO compensation of Group 2 companies. It is presumed that the differences in the results of these two groups may be due to the differences in the business principles based on the Sharia values and business nature, resulting in the differences in the committee activities and their contribution to the two groups. In the context of these results, it seems that frequent remuneration committee meetings in conventional companies (Group 2) can successfully make an impact in reducing the pay gap in such companies.

#### **6.4.2 Audit Committee Variables**

Appendix Table 6.6 presents the results of audit committee variables for ‘Group 1’ and the variable capturing the independence of the audit committee (LN\_AC\_ID\_INDEP) indicating that there is a statistically significant negative impact of audit committee independence on the relative CEO compensation. However, on the other hand, Appendix Table 6.7 shows that the independence of the audit committee has a statistically significant positive impact on the relative CEO compensation of ‘Group 2’ conventional companies, which also corresponds with our full sample results reported in the previous chapter 5. The negative coefficient sign for the Sharia-compliant companies implies that the independent audit committee members in such companies can reduce the pay gap between the CEO and other non-CEO executives, which might be due to compliance with Islamic Sharia principles, like fairness, honesty, and accountability.

The appendix tables 6.6 and 6.7 both show that audit committee financial expertise (AC\_EXPERTISE) has a negative impact on the relative CEO compensation for both groups, however, it is statistically significant for Group 1 (Sharia Compliant companies) only. The negative coefficient sign of both the groups corresponds to the findings of our original full sample presented in earlier chapter 5. The statistically significant negative result for Sharia-compliant companies implies that the financial expertise of audit committees has a considerable influence in reducing the pay inequality between the CEO and the other executives of the company, which may be due to their compliance with Islamic Sharia principles.

Appendix Table 6.6 shows that the number of audit committee meetings (ACM\_Meeting) for ‘Group 1’ has a statistically significant negative impact on the relative CEO compensation. However, on the other hand, Appendix Table 6.7 shows that the number of audit committee meetings has an insignificant positive impact on the relative CEO compensation of ‘Group 2’. This result of group 2 also corresponds with our earlier results of the full sample showing an insignificant positive impact reported in previous chapter 5. It is presumed that the differences in the audit committee meeting results of these two groups may be due to the differences in the business principles based on the Islamic Sharia principles and values, resulting in the differences in the committee activities and their contribution to the two groups. The statistically significant negative coefficient result in Sharia-compliant companies suggests that the audit committee meetings in such companies can play a role in reducing the pay gap between the CEO and other non-CEO executives, probably due to compliance with Sharia principles, like fairness, honesty, and accountability.

### 6.4.3 Control variables

The regression model also includes control variables to account for the impact of other firm characteristics such as board independence, the board size, board activity, CEO duality, leverage, firm size, liquidity, activity ratio, profitability, and market ratio. For better synthesis and discussion, the results of control variables have been grouped into two categories i.e., the control variables which have a positive impact, and the control variables which have a negative impact on the dependent variable.

*Positively impacting variables:* The control variables which lead to an ‘increase’ in relative CEO compensation for ‘Group-1’ are Board meetings, CEO duality, Firm size, and Profitability. Another variable which also shows a positive coefficient but is statistically insignificant is the Market-to-Book ratio. Similarly, the control variables which lead to an increase in CEO pay inequality for ‘Group-2’ are board meetings, the board size, firm size, and market-to-book ratio, all of which are statistically Insignificant.

*Negatively impacting variables:* On the other hand, the control variable which leads to a ‘decrease’ in relative CEO compensation for ‘Group-1’ is leverage and liquidity. Other variables which show negative coefficients but are statistically insignificant are the independence of the board and liquidity. Similarly, the control variable which leads to a decrease in CEO pay inequality for ‘Group 2’ are independence of the board, CEO duality and liquidity. The results of these control variables are discussed below:

The results in appendix tables 6.6 and 6.7 show that board independence (LN\_B\_ID) has a negative impact on the relative CEO compensation for both groups, however, it is statistically significant for Group 2 only. The result implies that an increase in the proportion of independent directors decreases relative CEO pay. This result is also in line with the results of Boyd (1994) as well as the agency theory which suggests that firms with a higher proportion of independent directors on their boards help in improving their monitoring function (Lee, Rosenstein, Rangan, and Davidson, 1992).

Concerning the number of board meetings (BM\_Bd\_Meeting), appendix tables 6.6 and 6.7 show that this variable has a statistically significant positive impact on the relative CEO compensation. This positive link holds for both groups; however, it is statistically significant only for Group 1. A similar positive but insignificant result was also reported for the full sample in the previous chapter. These results suggest that companies with a higher number of board meetings will have a higher compensation ratio, showing a wider pay gap between the chief executive and other executives of the company. This may be due to, for example, the presence of CEOs in the board meetings, or lesser monitoring and focus of board meetings on executive compensation. This might be because executive compensation is usually discussed in far more detail in the remuneration committee meetings, instead of board meetings.

Regarding board size (BS\_Size), appendix tables 6.6 and 6.7 both show a statistically insignificant impact on relative compensation. This insignificant result is also in line with our full sample results of board size. This implies that board size does not play a significant role in setting executive compensation.

Appendix Table 6.6 shows that the CEO Duality (DUALITY\_CEO) for ‘Group 1’ has a statistically significant positive impact on the relative CEO compensation. This result also corresponds with our full sample results reported in the previous chapter. Similarly, this result is also in line with the results of Boyd (1994) and Core et al. (1997). However, on the other hand, Appendix Table 6.7 shows that CEO Duality has a statistically significant negative impact on the relative CEO compensation of ‘Group 2’. The negative sign of the coefficient is consistent with the expectations that the increase in duality should lead to lower relative CEO compensation. This implies that the companies in which the positions of CEO and Chairman are held by different people, tend to have lower pay inequality between the Chief executive and other executives of the company.

Firm size (FIRMSIZE\_LN\_TA) has a statistically significant positive impact on the relative CEO compensation for both groups, however, it is statistically significant for Group 1 Sharia-compliant companies only. This suggests that large-sized Sharia-compliant companies (Group 1) have better resources available at their disposal to pay more to their CEOs, as compared to conventional companies.

Liquidity (LIQUIDITY\_CR) has a statistically significant negative impact on relative CEO compensation for both Groups. This implies that liquidity leads to a decrease in pay inequality for both groups 1 and 2, which may be to ensure better financial management and liquidity by paying a more balanced pay with lesser inequality among CEOs and other executives of those companies.

Profitability (PROFITABILITY\_ROA) has a statistically significant positive impact on the relative CEO compensation for both groups. The result implies that an increase in profitability



is connected to higher pay inequality. A similar positive result was also shown in the results of our full sample as well. This result is supported by Alkalbani (2019); Chalmers (2006); Gregory-Smith (2012); Harymawan (2020); and Kuo and Yu (2014). These authors suggest that the companies which have higher profits have the financial capacity to pay higher compensation to their CEOs.

Appendix Table 6.6 shows that Leverage (LEVERAGE\_DA) has a statistically significant positive impact on the relative CEO compensation for Group 1. This positive coefficient sign also corresponds with our full sample results presented in the previous chapter. However, on the other hand, Appendix Table 6.7 shows that leverage has a statistically significant negative impact on the relative compensation of Group 2. It is presumed that the differences in the results of these two groups may be due to the differences in the business principles based on the Islamic Sharia principles and values. The statistically significant negative result in conventional companies suggests that banks and leverage providers can play a role in monitoring and reducing the pay gap between the CEO and other non-CEO executives.

The appendix tables 6.6 and 6.7 show that the results for market-to-book ratio (MARKET\_MKT\_BK) for both groups 1 and 2 are statistically insignificant. These results also correspond to our full sample results, confirming the robustness of the results.

## **6.5 Summary**

Chapter 6 provides a discussion of the results of the robustness analysis. Firstly, the robustness analysis is performed using the Generalized Method of Moments (GMM) model. The GMM estimation model is used to remove potential endogeneity in the data. Most of the results were

in line with the earlier regression results. Secondly, the robustness analysis was also performed by dividing the data into two sub-sample groups, by classifying the firms based on the similarities in their business. It is presumed that the differences in the results across the two groups are presumably due to the differences in their business model and operations. Group A is composed of Business-to-Customer (B2C) consumables-related companies, whereas Group B is made up of Business-to-Business (B2B) related companies. The reason for deciding to divide the data into these two specific business groups is that both these groups have a different need for legitimacy. According to Bender (2017), the B2C type organizations usually have a bigger need for legitimacy and positive public image, as compared to a relatively less known B2B company.

The independence of the remuneration committee for Group A firms has a statistically significant negative impact on the relative CEO compensation. The statistical significance and negative correlation sign of this variable are in line with the regression results of the full sample. Moreover, the results are also consistent with the expectations and support the study's first hypothesis. Secondly, the remuneration committee expertise shows a statistically significant and positive impact on the relative CEO compensation. The number of remuneration committee meetings have a statistically significant negative impact on the relative chief executive compensation. This shows that the remuneration committee meetings in the B2C firms might be able to influence the executive compensation policies and are successful in reducing the pay gap in their companies. Regarding the Audit committees, the results for the impact of the independence of the audit committee on relative pay show a statistically insignificant but positive coefficient. This positive correlation sign is in line with the results of the full sample. The audit committee financial expertise variable and the number of audit committee meetings for Group A are statistically insignificant, which confirms the results of

our full sample. The independence of remuneration committees for Group B firms has a statistically insignificant impact on relative CEO compensation. The remuneration committee expertise shows a statistically significant negative impact on the relative chief executive compensation. The estimated negative association between committee expertise and relative CEO compensation is consistent with our expectations and supports the second hypothesis of this study. Presumably, this seems to be because the remuneration committees in this group might not be differentiating and discriminating between the work pressures of a CEO and other executives of the company. The reason for this negative coefficient result might be rooted in the B2B operational nature of the companies which are expected to produce similar nature of massive products and as such presumably might not require the same level of marketing, branding, and strategy execution skills as required by the CEOs of a B2C company involved in selling to individual customers. The number of remuneration committee meetings had an inconsequential impact on the relative CEO pay. This statistical insignificance and positive correlation sign are both in line with the regression results of the full sample. Regarding the audit committees, the audit committee's financial expertise is statistically insignificant which confirms the results for our full sample presented in the previous chapter. The number of audit committee meetings shows a statistically significant positive coefficient on the number of audit committee meetings variable.

## **Chapter 7: Conclusion**

### **7.1 Introduction**

The main aims of this study are to find the underlying executive compensation trends across different industries and to examine the impact on executive compensation of the independence, expertise, and activity of the remuneration and audit committees for the Pakistani companies listed on the stock exchange i.e., PSX-100. Both univariate and multivariate estimation methods were used to conduct the statistical analysis of the data. Previous Chapter 6 provided the empirical results of the robustness test and additional analysis. This chapter provides the overall conclusions about the work carried out in this study. The argument here is organised as follows: Section 7.2 summarizes the key points observable from each chapter in the thesis, followed by Section 7.3 which provides the policy implications and recommendations of the study, while Section 7.4 provides the limitations and suggestions for future research.

### **7.2 Summary of the key points observable from each chapter**

This section summarizes the key points observable from each chapter discussed in this research thesis and their associated suggestions:

Chapter 1 introduced the study. It outlined the motivation and background of the study, key contributions, research objectives and structure of the study. It discussed that executive compensation has currently become one of the most controversial topics in the corporate

governance literature and the main motivation for conducting this study is the serious concern regarding the skyrocketing and sometimes uncontrolled increase in the compensation of chief executives, which is far more than the increase in compensation of other executives of the company. To keep a check on chief executive compensation, the Greenbury (1995) committee advocated the formation of efficient and effective remuneration committees. In addition, the Cadbury committee suggested forming active audit committees to improve the monitoring function of the board. This chapter discussed the importance of independent boards, remuneration committees and audit committees which were also recommended by the SOX Act, as well as the code of corporate governance of Pakistan. This chapter also suggested three research objectives namely, the first research objective of the study was to find the underlying local trends in chief executive compensation across different industries listed on the PSX 100. This research objective was accomplished and discussed in full detail in chapter three. The second research objective of the study was to examine the impact on executive compensation of the independence, expertise, and activity of the ‘remuneration’ committees. The third research objective of the study was to examine the impact on executive compensation of the independence, expertise, and activity of the ‘audit’ committees. The last two research objectives were achieved and discussed in detail in chapter five of this study. The conclusions of these research objectives are also provided in their relevant chapter-wise paragraphs below.

Chapter 2 discussed the theoretical and empirical literature related to this research topic. Regarding theoretical literature, five main theories were discussed namely: agency theory, transaction cost economics, institutional theory, legitimacy theory, and stakeholder theory. These theories were used to understand and discuss the main theoretical concepts which underpin the supervisory function of the board and the remuneration and committee channels through which such roles affect executive compensation. For example, institutional and

legitimacy theories helped in providing support for confirming the results of the first research objective of the study regarding executive compensation trends. Al-Twajry et al. (2003) suggested that organizations typically try to achieve legitimacy by trying to embrace the characteristics of other organizations in that industrial sector and business community. Thus, larger companies might try to pay better compensation packages to their executives to achieve legitimacy in the business community and the overall Pakistani society. Hence, institutional and legitimacy theories can be used to understand pay and its variations in different industries in Pakistan. In addition, this chapter also provided empirical literature regarding previous quantitative research related to the topic. The empirical literature reviewed included studies done in the context of both developed and developing countries, with a separate section on Pakistan. The empirical literature review suggested mixed results in those studies concerning corporate governance and executive compensation, however, during the review it was identified that there is no or very little empirical research available on the exact selected topic of remuneration and audit committees and its impact on the executive pay gap, especially there was a substantial gap in the context of Pakistan.

Chapter 3 is the data description chapter which describes the data used in this study and in doing so also makes an important contribution to meeting the first research objective of this study. To recall, the first research objective of the study was to find the underlying local trends in chief executive compensation across different industries listed on the PSX 100 index. Currently, such trends are not readily available in Pakistan, hence one of the contributions of this study is to collect local data and identify the sector-wise chief executive compensation trends for these companies. The recent trend in developed countries is centred around industry-specific compensation benchmarking (Bender & Moir, 2006). The computation of industry-wise executive compensation trends can be used by the Pakistani remuneration committees and

executive pay consultants in benchmarking average executive compensation for a specific industry. The data described in Chapter 3 indicates that the top-3 industrial sectors which pay the highest executive compensation to their CEOs are the technology and communication, paper, and power generation sectors. The technology and communication sector pays the highest remuneration to its CEOs with an average compensation of Rs. 112,812,694. The reason for this high compensation in the technology and communication sector is presumably due to the digital boost in the country. This statement is supported by the governmental support and incentives offered by the Government of Pakistan to support its digital policy, which has helped in increasing the sector's sales. However, on the other hand, the Cable and electrical goods sector is shown to pay the lowest compensation to its chief executives averaging around Rs. 14,456,000. This lower executive compensation level is supported by the lack of governmental support for this sector. According to Shoukat (2016), the cable and Electrical Goods Industry is "stuck in a bit of a rut", which is presumably due to the downward trend in the manufacturing sectors due to the ongoing energy crisis in Pakistan.

Chapter 4 provides the research methods underpinning this study. It specified the empirical model and developed the hypotheses on the expected relationship between the dependent variable (i.e., chief executive compensation) and the independent variables (i.e., remuneration and audit committee variables) used in the regression model. The relative chief executive compensation was measured by dividing the CEO compensation by the average other executive compensation. The committee variables included independence, expertise, and activity of the remuneration and audit committees. The model also included control variables to account for other governance and firm characteristics such as board independence, the board size, board activity, CEO duality, leverage, firm size, liquidity, profitability, and market ratio. The chapter also discussed the potential econometric problems and the estimation methods that can be used

to resolve them. For example, Gujarati (2003) suggests that before using any multivariate data analysis technique, three key assumptions, which are also relevant to my work, need to be examined i.e., normality, heteroscedasticity, and linearity; all of which were tested in the next chapter 5 of the thesis.

Chapter 5 provides a discussion of the empirical results for remuneration and audit committee variables obtained using both univariate and multivariate statistical analyses. It focuses on understanding the quantitative impact of committee variables on chief executive compensation in the context of Pakistan. This chapter discussed that before assessing the impact of independent variables on the dependent variable, the tests for pairwise correlation, multicollinearity, normality, heteroscedasticity, and linearity needed to be which were performed and were found to be satisfactory. The chapter aimed to meet the remaining two research objectives of the study i.e., the second research objective of the study is to examine the impact on executive compensation of the independence, expertise, and activity of the ‘remuneration committees’ for the PSX listed companies. The reason for selecting these three key characteristics is because these three were emphasized by the SOX as well as the Code of Corporate Governance of Pakistan. There is a set of interesting findings regarding how the remuneration committee variables impact executive compensation. The independence of the remuneration committee shows a statistically significant negative impact on the relative CEO compensation. The negative correlation is consistent with the expectations and supports the first hypothesis of this study which was developed in chapter 4. This implies that the independence of remuneration committees can help in reducing the pay gap between the CEO and other executives of the company. This finding is also in line with the agency theory, which proposes that the appointment of autonomous directors helps improve the monitoring function of the board and its committees (Lee et al., 1992). The second remuneration committee variable



is the overall expertise of the remuneration committee. The result of regression analysis shows a statistically significant negative impact of the remuneration committee expertise. This implies that there is a noticeable impact of remuneration committee expertise on the relative CEO compensation in Pakistan. The estimated negative association between expertise and relative compensation is consistent with our expectations and supports the second hypothesis. This implies that the expertise of remuneration committees can help in reducing the pay inequality between the CEO and other executives of the company. Presumably, this may also be because remuneration committees not discriminating and differentiating between the work pressures of a CEO and other executives of the company. The third remuneration committee variable is the activity of the committee measured by the number of meetings held. The results show a statistically insignificant impact on the relative compensation of the remuneration committee meetings. This suggests that the increased number of remuneration committee meetings does not massively encourage the awarding of higher pay to CEOs.

The third research objective of the study was to examine the impact on executive compensation of the independence, expertise, and activity of the “audit committees”. The results suggest that there is a statistically significant positive impact of audit committee independence on the relative chief executive compensation. The significant positive coefficient shows that companies with a higher proportion of independent audit committee members have a higher CEO-to-executive compensation ratio, showing a wider pay gap between the chief executive and other executives of the company. The reason for this positive coefficient can be due to committee members being captured and/or under the influence of the CEO and other autocratic directors (Słomka-Gołębiowska, 2016). The results of audit committee expertise and the number of audit committee meetings however show a statistically insignificant impact on the CEO compensation. This insignificant relationship suggests that the expertise and audit

committee meetings do not considerably influence the relative CEO compensation and as such do not massively encourage the awarding of higher CEO pay. This also implies that only conducting committee meetings may not improve governance and efficiency unless they are regularly attended by all the members. Hence, a lack of a strict quorum monitoring mechanism, and attendance rates of committee members might be a reason for this insignificant result in the case of Pakistan.

Additionally, the empirical regression model also included control variables to account for the impact of other characteristics. The control variables which lead to a statistically significant increase in pay inequality are CEO duality and profitability. Concerning the variable CEO duality, the results show that there is a statistically significant positive impact of CEO duality on the relative CEO compensation. This implies that the companies in which the positions of CEO and Chairman are held by different people have a higher relative CEO compensation. The reason for this statistically significant influence in the case of Pakistan is presumably because the chances of misuse of power and collusion are higher, as compared to a developed country. Similarly, the coefficient on the profitability variable as measured by ROA is positive and statistically significant. This result implies that the most profitable companies have the highest CEO compensation-to-other executive pay ratios. This result is also supported by Alkalbani et al. (2019); Gregory-Smith (2012); and Harymawan et al. (2020), who found a similar positive link between profitability and CEO pay. They suggest that the companies which have higher profits have the financial capacity to pay higher compensation to their CEOs.

Whereas the variables which lead to a decrease in the pay gap are the board independence and the firm's size. Regarding board independence, the results show a statistically significant

negative impact on the relative CEO compensation. This result is also in line with Gregory-Smith (2012) who also found a similar negative link between board independence and compensation. In line with the agency theory, it is believed that the firms with a higher proportion of independent directors on their boards help in improving the monitoring function of the board (Lee et al., 1992) and help in making compensation-related decisions more independently. Similarly, the results concerning firm size show that there is a statistically significant negative impact on the relative CEO compensation. In the context of Pakistan, it is presumed that larger-sized firms have better staff and remuneration policies to help them in reducing the pay gap between their employees, including the CEO and other executives.

Chapter 6 provides the results of the robustness tests. It presented the results of remuneration and audit committee variables conducted using the GMM model. The results were very similar to the earlier regression results using OLS. Further, it re-runs the regression by dividing the data into two industrial groups. The results of these were discussed in full detail in chapter 6. The study divides the data into two sub-sample groups, by classifying the firms based on the similarities in their business model and industrial operations. It is presumed that the differences in the results across the 'two' industrial groups are presumably due to the differences in their business models, operations, and government support for the sectors which are of strategic importance to the country. Group A is mainly composed of Business-to-Customer (B2C) consumables-related companies, whereas Group B is made up of Business-to-Business (B2B) related companies. The reason for deciding to divide the data into these two specific business groups is that both these groups have a different need for legitimacy. According to Bender (2017), the B2C type organizations usually have a bigger need for legitimacy and positive public image, as compared to a relatively less known B2B company. This is because B2B companies are not in direct interaction with the public, so they are not covered in as many

details as they don't make sensational breaking news for the media. Therefore, people would be far more concerned about the top executive compensation of a leading chain of stores or FMCG brands (B2C). So, these B2C companies will usually try to pay executive payments which are in line with the industry practice and as such do not attract any kind of negative media coverage for them (Bender, 2017). The two groups are balanced and contain an equal number of 164 observations in each group totalling 328 observations in total. The average CEO compensation of Group A is shown to be Rs. 41,194,187, whereas the average CEO compensation of Group B is stated at Rs. 38,752,626. The conclusions from each of the two groups are given below:

*Group A - B2C companies:*

The independence of the remuneration committee for Group A firms has a statistically significant negative impact on the relative CEO compensation. The statistical significance and negative correlation sign of this variable are in line with the regression results of the full sample. Moreover, the results are also consistent with the expectations and support the study's first hypothesis. Secondly, the remuneration committee expertise shows a statistically significant and positive impact on the relative CEO compensation. The inference is that there is a noticeable unfavourable outcome when remuneration committees with a broad range of expertise are measured by the proxy of the number of the remuneration committee members i.e., committee size, and is engaged in the discussion on CEO compensation as compared with the compensation of average other executives of the company. This is presumably because committees with expertise in a broad range of areas are more adept at matching the skills of a CEO to the intensity of their responsibilities and related work pressures compared with the other executives of the company. The number of remuneration committee meetings have a statistically significant negative impact on the relative chief executive compensation. This shows that the remuneration committee meetings in the B2C firms might be able to influence

the executive compensation policies and are successful in reducing the pay gap in their companies. Regarding the audit committees, the results for the impact of the independence of the audit committee on relative pay show a statistically insignificant but positive coefficient. This positive correlation sign is also in line with the results of the full sample. The audit committee financial expertise variable and the number of audit committee meetings for Group A are statistically insignificant. This implies that the financial expertise and meetings of the audit committee do not have considerable influence over relative CEO compensation. These insignificant results also confirm the results of our full sample.

*Group B - B2B companies:*

The independence of remuneration committees for Group B firms has a statistically insignificant impact on relative CEO compensation. The second variable i.e., remuneration committee expertise shows a statistically significant negative impact on the relative chief executive compensation. The estimated negative association between committee expertise and relative CEO compensation is consistent with our expectations and supports the second hypothesis of this study. Presumably, this seems to be because the remuneration committees in this group might not be differentiating and discriminating between the work pressures of a CEO and other executives of the company. The reason for this negative coefficient result might be rooted in the B2B operational nature of the companies which are expected to produce similar nature of massive products and as such presumably might not require the same level of marketing, branding, and strategy execution skills as required by the CEOs of a B2C company involved in selling to individual customers. The third variable i.e., the number of remuneration committee meetings had an inconsequential impact on the relative CEO pay. This statistical insignificance and positive correlation sign are in line with the regression results of the full sample and suggest that the statistically insignificant result reported for the full sample might mainly be because of the moderating impact of the firms in Group B. Regarding the audit

committees, the independence of the audit committee shows a negative coefficient result, albeit statistically insignificant. This negative correlation is consistent with the expectation that independent audit committees are expected to reduce the pay gap and inequality between the CEOs and other Executives of the company. The audit committee's financial expertise is statistically insignificant. This statistically insignificant relationship implies that the financial expertise of audit committees does not considerably influence relative CEO compensation. The insignificant results confirm the estimates for our full sample presented in the previous chapter. The last variable i.e., the number of audit committee meetings shows a statistically significant positive coefficient on the number of audit committee meetings variable. This positive sign may presumably be due to demographic similarities between audit committee members and the CEO (Westphal and Zajac, 1995). This positive association is like the estimated coefficient sign for the full sample, even if this last was statistically insignificant.

### **7.3 Implications of the study**

The above-mentioned findings of the study have the following policy and theoretical implications which are discussed below:

Firstly, this study uncovers the recent trends in the chief executive's compensation across the main industrial sectors in Pakistan. To the best of my knowledge, this is one of the very few Pakistani studies in this regard. These results have implications for the board of directors, HR managers, executive head-hunters, tax authorities, as well as remuneration and management consultants as it can help them in understanding the current sector-wise trends in chief executive compensation in the context of Pakistan. This would also be helpful for future

managers and graduates who are keenly interested in finding the top paymasters i.e., sectors which pay higher compensation than others, which can help them in targeting sectors for their careers.

Secondly, one of the important contributions of this study is to examine the impact on executive compensation of the independence, expertise, and activity of the remuneration and audit committees for the PSX-listed companies. These characteristics are also the key priorities emphasized by the SOX Act, Cadbury Code, as well as the international and local codes of corporate governance. The findings of this study provide empirical evidence about the relevant characteristics which influence the executive pay gap. The first important policy outcome of this study is the statistically significant negative impact of the ‘independence’ of remuneration committees on the relative executive compensation. This result implies that the independence of remuneration committees can help in reducing the pay gap between the CEOs and other executives of the company. Further, this finding is also in line with the agency theory which proposes the appointment of autonomous directors. This has policy implications for the regulators and policymakers in Pakistan, like SECP; and can be operationalized by enacting regulations for promoting the appointment of majority independent directors on the remuneration committees. Further, this regulation can also be made part of the listing and indexing requirements of the Pakistan Stock Exchange (PSX), for any company wishing to be listed on the PSX 100 index. Initially, it is suggested that this policy of appointing majority independent directors on the remuneration committee can be voluntary, however, it can then be implemented more aggressively in future by making mandatory compliance for at least all listed companies.

Thirdly, another important outcome of this study is the statistically significant negative impact of the 'expertise' of the remuneration committee on relative compensation. The expertise was proxied by the size of the committee i.e., measured by the total number of members in the remuneration committee, as larger-sized committees can help in providing a better pool of expertise. This implies that the size of remuneration committees can help in reducing the pay inequality between the CEO and other executives of the company. The result has policy implications for the regulators and should discourage small-sized committees, for example, 2 member committees should not be allowed as they will not be able to easily access the required expertise. These findings can help policymakers in enhancing the current corporate governance guidance regarding the composition of remuneration and audit committees.

Additionally, the independence of audit committees is also shown to have a statistically significant positive impact on the relative chief executive compensation. This implies an increasing effect of the independence of audit committee members on the executive pay gap. The reason for this positive coefficient can presumably be due to the audit committee members being captured and/or under some influence of the CEO and other executive directors in the context of Pakistan, however, further qualitative reasons for it can be studied by future researchers. The findings of this study help in understanding the impact of the audit committees on the executive pay gap. To the best of my knowledge, this is one of the first studies in this regard, especially in the context of Pakistan. The audit committee is considered to be responsible for overseeing the reliability of financial reporting figures, which are then used as input in setting chief executive pay. The results of this study have implications for the committee members to be more mindful and careful about this influence, especially when evaluating the reliability of financial figures provided by managers.



Lastly, there are theoretical implications of this study as well, for example, the research findings provide strong support for the agency, stakeholder, institutional, and legitimacy theories and these theories specify the relationship between board committees and executive pay with different perspectives and situations as already discussed in chapter 2 of this study. Regarding agency theory, the results suggest using independent directors which can be helpful for monitoring and reducing agency conflicts. The outcomes of this study confirm that independent directors have a significant impact on the remuneration of chief executives and help in reducing the pay gap between the CEO and other executives of the company. Therefore, to decrease agency conflicts, companies need to increase the appointment of independent directors on their boards and committees. In addition, the statistically significant relationship between the corporate boards and executive pay provides support for the institutional and stakeholder theory, as they suggest that institutions and stakeholders have the capability and power to impact executive pay decisions. Furthermore, the results of this study show that there is a significant relationship between firm size and executive remuneration. These findings provide support for the institutional and legitimacy theory, which means that larger companies pay more to their CEO to achieve acceptance and legitimacy in that society. Al-Twajry et al. (2003) suggested that organizations typically try to achieve legitimacy by trying to embrace the characteristics of other organizations in that industrial sector and business community. Thus, larger companies might try to pay better compensation packages to their executives to achieve legitimacy in the business community and the overall Pakistani society.

Overall, these findings have implications for regulatory bodies, policymakers, external auditors, boards, committee members, and researchers to help them understand the role and structure of remuneration and audit committees in influencing executive pay, and hence the need for them to be more alert and sceptical about the firm's financial figures reported by

managers due to their inherent risk of vulnerability to manipulation. It is also suggested that the stakeholders must pay serious attention to these board committees. Lastly, the findings of this study may also be helpful for future researchers and academicians working on the data and context of Pakistan to further expand this existing research along the lines suggested in the next section 7.3.

#### **7.4 Limitations and suggestions for Future research**

The study has made a significant effort to achieve the research objectives, however, like all other research, it has a few limitations, which present opportunities for future research.

Firstly, the data required for conducting this study was not readily available on the leading databases. So, for conducting this study, a significant amount of time and effort has been invested to locate, identify, extract, and then cross-check the required data for the executive compensation, remuneration committee, audit committee, and board variables. More importantly, all this information was collected laboriously and manually, by hand, using the annual reports of each company. Future research can be conducted by using a more expanded data set. A comparative study can also be done for comparison of Pakistan and other South Asian countries like India and Bangladesh. This will be interesting because most of these follow the Anglo-Saxon model. This will also serve as an additional robustness check of results across the countries. Furthermore, future researchers can also make a comparison between Pakistan and countries with different governance cultures i.e., not having an Anglo-Saxon model like Germany having a stakeholder model. These are indeed interesting opportunities for future researchers.

Secondly, we have not accounted deeply for religion because religious compliance was not the focus of this study. However, religious values and religiosity can be impactful in countries where religion plays an important role in business decisions, such as investment and borrowing decisions, as well as decisions about who sits on the board of the company. So the impact of religiosity can also be investigated in the future as well.

Thirdly, the issue of endogeneity was checked, and no issue of endogeneity was found in the independent variables used in the model. By construction our independent variables are exogenous, however, control variables were not tested as they are not the primary focus of this study, however, future research can be done considering them as well. Further, currently, we do not have enough data to create instruments for using the 2SLS model and using it would be at the cost of losing the explanatory power of the model. However, in future, this model can also be applied if more data is available for further research.

Additionally, there are some limitations of the data, for example, the remuneration and audit committees can work together in solving business problems, however, the data for committee overlap was not available which can be used in the future for expanding the research when more data is available. Further, due to the limitation of data, the companies were classified using the industrial classification used by the PSX, however, in future, SIC classification codes can also be used when data for more companies and industrial sectors are available.

Lastly, the study has been conducted in the context of listed companies in Pakistan, so the findings may not be applicable or generalised to other countries. Additionally, the sample excluded financial institutions from it so the results may not apply to financial institutions.

Therefore, it would be an interesting avenue for future researchers to also investigate the relationship in the context of financial institutions, as well as apply the model in the context of other countries as well.

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## Appendices

**Appendix Table 2.1:**

Table of relevant studies done in Pakistan.

Authors along with the year	Data	Research objective	Key Findings
Shah et al. (2009)	Companies listed on the Karachi Stock Exchange 100 from 2002 to 2006.	This paper investigated the determinants of CEO compensation in Pakistan.	Board size is positively related to the CEO compensation. Whereas board independence has a negative impact on executive compensation. Additionally, they also found that the size of the firm has a significant positive correlation with compensation.
Anjam (2010)	Collected data of 83 firms listed on the Lahore LSE for the period of 2007-2009.	Examines the relationship between firm size, board composition and CEO compensation.	The size of the firm is a major determinant of CEO compensation. However, board size, independent directors, duality, and performance do not affect compensation.
Yasser et al. (2011)	Sample of 30 Pakistani listed firms for the period of 2008-2009.	This paper examines the relationship between governance mechanisms like board size, composition, CEO duality, and firm performance.	The findings provide evidence of a positive significant relationship between ROE and PM and corporate governance mechanisms like board size and its composition.

Hussain et al. (2014)	Examined the data of 15 Pakistani listed companies from 2008 to 2010.	CEO compensation determinants.	The authors concluded that CEO compensation and firm performance have an insignificant relationship. Whereas firm size is the major determinant of CEO compensation.
Usman et al. (2015)	Companies listed on the 81 companies listed on the KSE for the year 2007-2011. The sample was then filtered the financial and companies whose data was not found were removed.	The research investigates the influence of board effectiveness and performance on CEO compensation.	The results suggest that firm size is the major determinant of CEO compensation. Board effectiveness was shown to have a negative influence on CEO compensation. Further, opposite to agency theory, they have found a negative association between firm performance and CEO compensation, which they suggest is due to poor corporate governance structure in Pakistan.
Iqbal and Kakakhel (2016)	Studied the data of 110 national and multinational companies.	This paper examines the relationship between corporate governance and the profitability of the pharmaceutical-related sector in Pakistan.	Firm's financial performance has a positive correlation with the existence of a board remuneration committee. In addition, they also found that the presence of independent directors, the size of the board, and the size of the firm have a significant impact on the profitability of firms.



Iftikhar et al. (2019)	Analysed data from 24 commercial banks for the period of 2005-2014 in Pakistan.	This study examined the influence of corporate governance on the commercial banks.	Compliance with the corporate g-overnance code has a positive relationship with the efficiency of banks.
Aslam et al. (2019)	The final sample consists of 50 non-financial companies listed on the PSX from 2009 to 2016.	This study investigates the interrelationship between pay and performance of CEOs/directors.	They found that executive pay is related to the performance of the firm, hence providing support to the agency theory. Board size, existence of committees, and non-executive directors have a positive association with executive compensation and firm performance.
Khan et al. (2020)	The study was conducted on the sample of the year 2014 for 160 observations.	Examined the presence of female directors in the board remuneration committee to improve its objectivity.	The paper concluded that female directors in the board remuneration committee do not have any significant relationship.
Ismail et al. (2021)	This study analysed data from 13 firms for 2012-2020 listed on the PSX.	Investigated the impact of corporate governance on the performance of food and beverage sector firms in Pakistan.	They found that CEO duality has a negative effect on the firm performance. They also found that non-executive directors and board meetings also have a negative impact on the company's performance.

**Source:** Table created by the author.

**Appendix Table 3.1:**

Descriptive Statistics - CEO Compensation

	CEO_RELATIVE_COMP_EXEC_PAY	CEO_TOTAL_COMP
Mean	10.822	39124547
Median	7.608	29243000
Maximum	210.038	381888000
Minimum	0.000	0.000000
Std. Dev.	17.531	41653452
Skewness	7.974	4.171
Kurtosis	76.255	25.035
Jarque-Bera	80301.52	33955.63
Probability	0.000	0.000000
Observations	328	328

**Appendix Table 3.2:** Descriptive Statistics of remuneration committee variables

	RC_INDEP_RELATIVE_ TO_COM_SIZE	RC_NO_MEETINGS	RC_EXPERTISE_PROXY_ LOG_O_SIZE
Mean	24.18046	2.286585	1.266762
Median	25.00000	2.000000	1.098612
Maximum	100.0000	11.00000	2.079442
Minimum	0.000000	0.000000	0.000000
Std. Dev.	20.89364	1.885938	0.272391
Skewness	0.800922	2.018310	0.392790
Kurtosis	4.130401	7.524381	4.598206

Jarque-Bera	52.53069	502.4459	43.34245
Probability	0.000000	0.000000	0.000000
Sum	7931.190	750.0000	415.4981
Sum Sq. Dev.	142750.0	1163.061	24.26241
Observations	328	328	328

**Appendix Table 3.3:** Descriptive statistics of audit committee variables

	AC_INDEP_RELATIVE_T O_COM_SIZE	AC_MEETINGS	AC_FIN_EXPERTISE_ RELATIV
Mean	38.11556	4.399390	39.61745
Median	33.33333	4.000000	33.33333
Maximum	100.0000	10.00000	100.0000
Minimum	0.000000	0.000000	0.000000
Std. Dev.	19.75651	0.977859	25.51801
Skewness	1.132694	2.120801	0.660972
Kurtosis	4.468191	11.85955	3.078668
Jarque-Bera	99.59670	1318.599	23.96755
Probability	0.000000	0.000000	0.000006
Sum	12501.90	1443.000	12994.52
Sum Sq. Dev.	127634.6	312.6799	212932.2
Observations	328	328	328

**Appendix Table 4.1:** Definition of Variables

<b>Variables</b>	<b>Definition of variables</b>
<b>Dependent variable</b>	
CEO_RELATIVE_COMP	Measured as the relative compensation of the CEO in relation to other executives. It is measured as the pay ratio of the CEO to other executives of the company.
<b>Independent variables</b>	
<i>Remuneration Committee</i>	
RC_INDEP_RELATIVE	The proportion of independent remuneration committee members
RC_MEETINGS_ACTIVITY	The log of the total number of remuneration committee meetings in a year
RC_EXPERTISE_LOG_SIZE	The pool of experts available in the remuneration committee proxy through the log of total members
<i>Audit Committee</i>	
AC_INDEP_RELATIVE	The proportion of independent audit committee members
AC_MEETINGS_ACTIVITY	The total number of audit committee meetings in a year
ACC_FINANCIAL_EXPERTISE	The proportion of audit committee members with financial expertise
<i>Control variables</i>	
BOARD_INDEPENDENCE	The proportion of independent directors in relation to total
BOARD_MEETINGS_ACTIVITY	The activity of the board proxy through the total number of board meetings in a year
BOARD_SIZE	The total number of directors serving on the board
CEO_DUALITY	CEO duality i.e., independence from the chief executive officer.
INDUSTRY	The industrial classification of the company
FINANCIAL_LEVERAGE	Total liabilities divided by total assets
FIRM_SIZE	Natural logarithm of total assets
LIQUIDITY_CURRENT_RATIO	Current assets divided by current liabilities
PROFITABILITY	Return on assets i.e., ROA
GROSS_OPPORTUNITY	Market-to-book ratio

## Appendix 5.1: Correlation Analysis

Covariance Analysis: Ordinary

Sample: 2016 2019

Included observations: 328

Correlation	LN_RCOMP_RELATIVE	LN_RC_ID_INDEP	RC_EXPERTISE	RCM_MEETING	LN_AC_ID_INDEP	ACM_MEETING	AC_EXPERTISE	LN_B_ID	BM_MEETING	BS_SIZE	DUALITY_CEO	LEVERAGED	LIQUIDITY_CR	PROFITABILITY_OA	MARKET_SHARE_MKT_BK	FIRM_SIZE_LN_TA	INDUSTRY_GROUP_IND_EX
LN_RCOMP_RELATIVE	1.000000 -----																
LN_RC_ID_INDEP	-0.222154 0.0000	1.000000 -----															
RC_EXPERTISE	0.134941 0.0145	0.178599 0.0012	1.000000 -----														
RCM_MEETING	0.090954 0.1001	0.205282 0.0002	0.427450 0.0000	1.000000 -----													
LN_AC_ID_INDEP	-0.246411 0.0000	0.361137 0.0000	-0.103081 0.0622	0.106881 0.0531	1.000000 -----												
ACM_MEETING	0.074032 0.1811	0.182285 0.0009	0.290669 0.0000	0.357281 0.0000	0.009448 0.8646	1.000000 -----											
AC_EXPERTISE	-0.028275 0.6099	0.086354 0.1186	-0.011938 0.8295	0.082525 0.1358	0.188469 0.0006	0.070098 0.2054	1.000000 -----										
LN_B_ID	-0.303951 0.0000	0.462496 0.0000	0.036991 0.5044	0.192202 0.0005	0.755205 0.0000	0.114897 0.0375	0.216574 0.0001	1.000000 -----									
BM_MEETING	0.192783 0.0004	0.086634 0.1174	0.431480 0.0000	0.569135 0.0000	0.011845 0.8308	0.404915 0.0000	-8.52E-05 0.9988	0.116621 0.0348	1.000000 -----								
BS_SIZE	0.115204 0.0370	0.160855 0.0035	0.452565 0.0000	0.328791 0.0000	0.001188 0.9829	0.274724 0.0000	0.134953 0.0144	0.035483 0.5219	0.338925 0.0000	1.000000 -----							
DUALITY_CEO	0.031604 0.5684	0.204266 0.0002	0.145899 0.0081	0.073316 0.1853	-0.046948 0.3967	0.024166 0.6628	-0.086978 0.1159	-0.000588 0.9915	-0.002929 0.9579	0.098991 0.0734	1.000000 -----						

LEVERAGE_DA	0.052240	0.105528	0.093954	0.206144	-0.053135	0.237146	-0.011873	-0.024924	0.235856	0.231567	0.090558	1.000000						
	0.3456	0.0562	0.0893	0.0002	0.3374	0.0000	0.8304	0.6529	0.0000	0.0000	0.1016	-----						
LIQUIDITY_CR	-0.141912	0.030365	-0.072361	-0.000302	0.143474	-0.109387	-0.060802	0.134598	-0.046110	-0.079500	-0.110251	-0.599005	1.000000					
	0.0101	0.5837	0.1911	0.9957	0.0093	0.0478	0.2722	0.0147	0.4052	0.1508	0.0460	0.0000	-----					
PROFITABILITY_R OA	0.197116	-0.172117	-0.005751	-0.090428	-0.026181	-0.114476	0.013142	-0.070322	-0.154560	0.020087	-0.116393	-0.413954	0.295438	1.000000				
	0.0003	0.0018	0.9174	0.1021	0.6366	0.0383	0.8126	0.2040	0.0050	0.7170	0.0351	0.0000	0.0000	-----				
MARKET_MKT_BK	0.090310	-0.121749	-0.092767	-0.070956	0.013752	-0.056967	-0.166602	-0.039753	-0.100717	0.057665	0.021211	0.176122	-0.078207	0.179918	1.000000			
	0.1025	0.0275	0.0935	0.1999	0.8040	0.3037	0.0025	0.4731	0.0685	0.2978	0.7019	0.0014	0.1576	0.0011	-----			
FIRMSIZE_LN_TA	0.282939	0.008318	0.154290	0.269581	-0.054171	0.194039	0.196272	-0.080661	0.456071	0.391757	-0.009753	0.175392	-0.101486	-0.097558	-0.016843	1.000000		
	0.0000	0.8807	0.0051	0.0000	0.3281	0.0004	0.0003	0.1449	0.0000	0.0000	0.8603	0.0014	0.0664	0.0777	0.7612	-----		
INDUSTRY_GROU P_INDEX_	0.019782	0.040432	0.024765	0.158667	0.108741	0.121780	0.182288	0.166873	0.274967	0.213152	-0.016935	0.249596	-0.192832	-0.113135	-0.179134	0.394679	1.000000	
	0.7211	0.4655	0.6550	0.0040	0.0491	0.0274	0.0009	0.0024	0.0000	0.0001	0.7599	0.0000	0.0004	0.0406	0.0011	0.0000	-----	

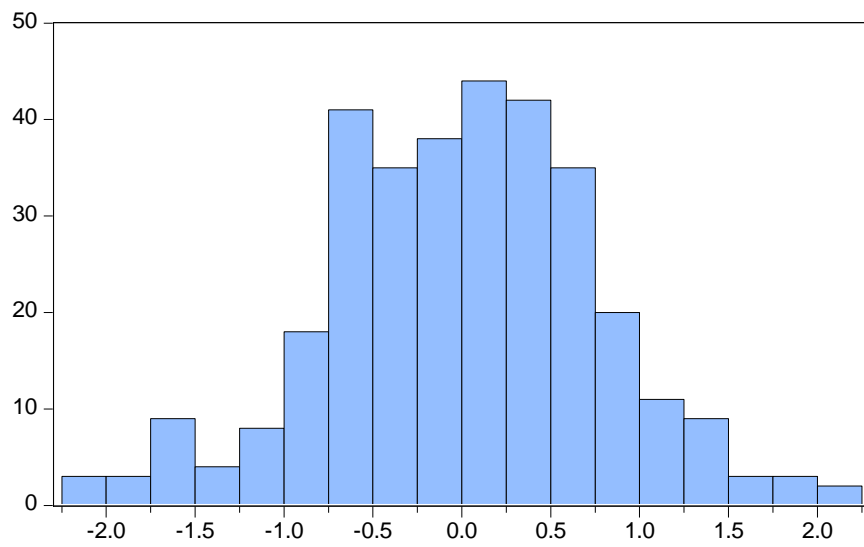
## Appendix 5.2:

### Collinearity test

Variance Inflation Factors	
Minimum possible value = 1.0	
Values > 10.0 may indicate a collinearity problem	
LN_RC_ID_INDEP	1.505
RC_EXPERTISE	1.694
RCM_Meeting	1.720
LN_AC_ID_INDEP	2.494
AC_EXPERTISE	1.261
ACM_Meeting	1.317
LN_B_ID	2.915
BM_Bd_Meeting	2.138
BS_Size	1.620
DUALITY_CEO	1.126
LEVERAGE_DA	2.317
LIQUIDITY_CR	1.752
PROFITABILITY_ROA	1.485
FIRMSIZE_LN_TA	1.751
MARKET_MKT_BK	1.315
INDUSTRY_GROUP_INDEX	1.472
VIF(j) = $1/(1 - R(j)^2)$ , where R(j) is the multiple correlation coefficient between variable j and the other independent variables	

### Appendix 5.3:

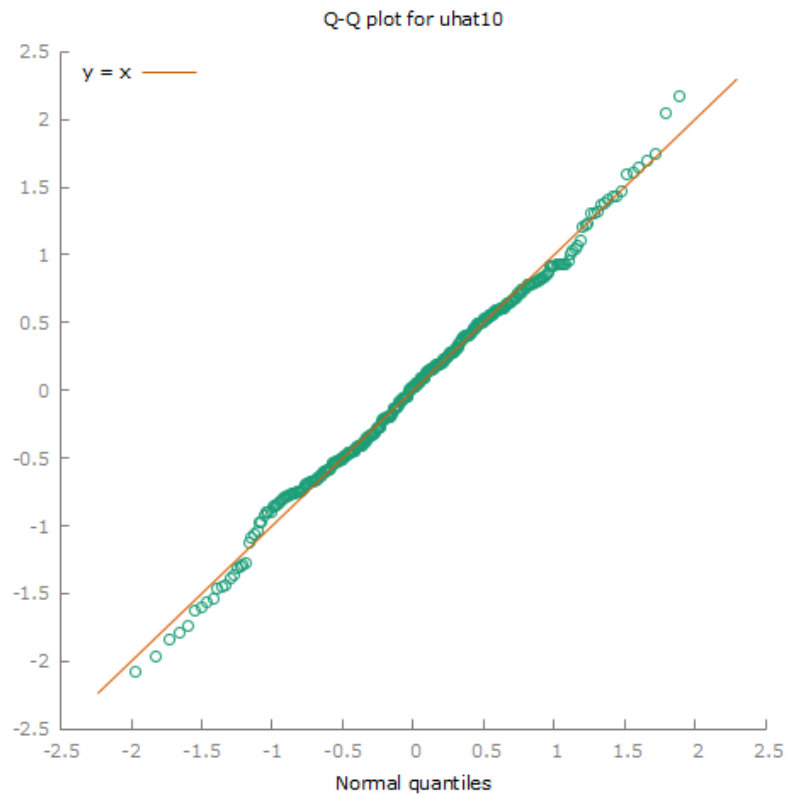
#### Normality test



Jarque-Bera test = 1.604, with a p-value of 0.448

### Appendix 5.4:

#### Linearity test: Q-Q plot graph





## Appendix 5.5:

### Hausman test statistics

H = 42.9492 with p-value = prob (chi-square (16) > 42.9492) = 0.000284411

A low p-value counts against the null hypothesis, in favour of the Fixed effects model. Hence, the Fixed effects model is suitable for this study.

## Appendix 5.6:

### Fixed Effects

Model: Fixed effects, using 328 observations  
Included 82 cross-sectional units  
Time-series length = 4  
Dependent variable: LN\_RCOMP\_RELATIVE  
Robust (HAC) standard errors

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	13.0570	3.62210	3.605	0.0005	***
LN_RC_ID_INDEP	-0.0425673	0.0208688	-2.040	0.0446	**
RCM_Meeting	0.0128031	0.0274683	0.4661	0.6424	
RC_EXPERTISE	-0.137386	0.0541952	-2.535	0.0132	**
LN_AC_ID_INDEP	0.0798265	0.0385945	2.068	0.0418	**
ACM_Meeting	0.0241636	0.0312486	0.7733	0.4416	
AC_EXPERTISE	0.239460	0.250394	0.9563	0.3418	
LN_B_ID	-0.190930	0.0715879	-2.667	0.0092	***
BM_Meeting	0.0201257	0.0228476	0.8809	0.3810	
BS_Size	0.0438085	0.0325309	1.347	0.1818	
DUALITY_CEO	0.650002	0.276468	2.351	0.0211	**
FIRMSIZE_LN_TA	-0.497007	0.159013	-3.126	0.0025	***
LIQUIDITY_CR	0.00273875	0.00867133	0.3158	0.7529	
PROFITABILITY_ROA	1.14993	0.369399	3.113	0.0026	***

LEVERAGE_DA	0.748867	0.458673	1.633	0.1064
MARKET_MKT_BK	-0.000883484	0.00233453	-0.3784	0.7061

Mean dependent var	1.962707	S.D. dependent var	0.883837
Sum squared resid	28.21123	S.E. of regression	0.349466
LSDV R-squared	0.889559	Within R-squared	0.281588
Log-likelihood	-63.07170	Akaike criterion	320.1434
Schwarz criterion	688.0657	Hannan-Quinn	466.9340
Rho	-0.113205	Durbin-Watson	1.686375

### Appendix Table 5.7:

#### Summary table of results

Variables	Results	Hypothesis accepted/rejected
Independence of remuneration committee	The relative chief executive compensation is negatively related to the independence of remuneration committees in Pakistani listed companies.	Hypothesis accepted
Expertise of remuneration committee	The relative chief executive compensation is negatively related to the expertise of remuneration committees in the Pakistani listed companies.	Hypothesis accepted
The activity of the remuneration committee	The relative chief executive compensation is negatively related to the activity of remuneration committees in the Pakistani listed companies.	Hypothesis rejected
Independence of audit committee	The relative chief executive compensation is negatively related to the independence of audit committees in the Pakistani listed companies.	Hypothesis rejected

Expertise of the audit committee	The relative chief executive compensation is negatively related to the expertise of audit committees in the Pakistani listed companies.	Hypothesis rejected
Activity of the audit committee	The relative chief executive compensation is negatively related to the activity of audit committees in the Pakistani listed companies.	Hypothesis rejected

**Appendix Table 5.8:**

Additional analysis for the Remuneration Committee of companies:  
 Model: Fixed effects, using 328 observations.  
 Included 82 cross-sectional units.  
 Time-series length = 4  
 Dependent variable: LN\_RCOMP\_RELATIVE  
 Robust (HAC) standard errors

	<i>Coefficient</i> <i>t</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	11.4017	3.34429	3.409	0.0010	***
LN_RC_ID_INDEP	-0.0366518	0.0218350	-1.679	0.0971	*
RCM_Meeting	0.0290002	0.0270783	1.071	0.2874	
RC_EXPERTISE	-0.132844	0.0544220	-2.441	0.0168	**
LN_B_ID	-0.147640	0.0653437	-2.259	0.0265	**
BM_Bd_Meeting	0.0170396	0.0244176	0.6978	0.4873	
BS_Size	0.0525452	0.0298877	1.758	0.0825	*
DUALITY_CEO	0.694832	0.299728	2.318	0.0230	**
FIRMSIZE_LN_TA	-0.404443	0.142939	-2.829	0.0059	***
LIQUIDITY_CR	-0.0033079	0.00733123	-0.4512	0.6530	
PROFITABILITY_ROA	0.866143	0.334449	2.590	0.0114	**
MARKET_MKT_BK	-0.0003517	0.00253165	-0.1389	0.8898	

Mean dependent var	1.962707	S.D. dependent var	0.883837
Sum squared resid	29.16757	S.E. of regression	0.352303
LSDV R-squared	0.885815	Within R-squared	0.257235
Log-likelihood	-68.53902	Akaike criterion	323.0780
Schwarz criterion	675.8283	Hannan-Quinn	463.8154
rho	-0.077554	Durbin-Watson	1.616364

**Appendix Table 5.9:**

Additional analysis for Audit Committee of companies:

Model: Fixed effects, using 328 observations.

Included 82 cross-sectional units.

Time-series length = 4

Dependent variable: LN\_RCOMP\_RELATIVE

Robust (HAC) standard errors

	<i>Coefficien t</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
const	14.2559	3.57957	3.983	0.0001	***
LN_AC_ID_INDEP	0.0825565	0.0449057	1.838	0.0697	*
ACM_Meeting	0.0167340	0.0356806	0.4690	0.6403	
AC_EXPERTISE	0.0104745	0.257420	0.04069	0.9676	
LN_B_ID	-0.278317	0.0655386	-4.247	<0.0001	***
BM_Bd_Meeting	0.0189784	0.0256503	0.7399	0.4615	
BS_Size	0.0410387	0.0293716	1.397	0.1662	
DUALITY_CEO	0.607549	0.310980	1.954	0.0542	*
FIRMSIZE_LN_TA	-0.536032	0.151282	-3.543	0.0007	***
LIQUIDITY_CR	0.00207583	0.00779297	0.2664	0.7906	
PROFITABILITY_ROA	0.946973	0.358290	2.643	0.0099	***
MARKET_MKT_BK	-0.0016371	0.00233691	-0.7006	0.4856	

Mean dependent var	1.962707	S.D. dependent var	0.883837
Sum squared resid	30.50130	S.E. of regression	0.360268
LSDV R-squared	0.880594	Within R-squared	0.223271
Log-likelihood	-75.87175	Akaike criterion	337.7435
Schwarz criterion	690.4938	Hannan-Quinn	478.4809
rho	-0.109275	Durbin-Watson	1.702972

### Appendix Table 6.1:

Generalized Method of Moments - GMM:

Dependent Variable: LN\_RCOMP\_RELATIVE

Method: Panel Generalized Method of Moments

Transformation: Orthogonal Deviations

Date: 11/07/22 Time: 12:20

Sample (adjusted): 2018 2019

Periods included: 2

Cross-sections included: 82

White period instrument weighting matrix

White period standard errors & covariance (d.f. corrected)

Instrument specification: @DYN(LN\_RCOMP\_RELATIVE, -1)

LN\_RC\_EXPERTISE(-1) RC\_ID(-1) RCM\_MEETING(-1)

LN\_AC\_ID\_INDEP(-1) AC\_EXPERTISE(-1) ACM\_MEETING(-1)

Constant added to instrument list

Variable	Coefficien t	Std. Error	t-Statistic	Prob.
LN_RC_ID_INDEP	-0.198902	0.114523	-1.736791	0.0844
RCM_MEETING	-0.237977	0.228371	-1.042064	0.2990
RC_EXPERTISE	-1.049687	0.575572	-1.823728	0.0701
LN_AC_ID_INDEP	0.644369	0.341591	1.886378	0.0611
ACM_MEETING	0.457437	0.531075	0.861342	0.3904
AC_EXPERTISE	2.768379	2.622416	1.055660	0.2927

#### Effects Specification

Cross-section fixed (orthogonal deviations)

Mean dependent var	0.131181	S.D. dependent var	0.372551
S.E. of regression	0.755538	Sum squared resid	90.19224
J-statistic	3.283992	Instrument rank	11
Prob(J-statistic)	0.656293		

### Appendix Table 6.2:

Frequency distribution for Industry\_Group:

Observations 1 - 328

Groups	Frequency	rel.	cumulative
0	164	50.00%	50.00%

1	164	50.00%	100.00%
<i>Total</i>	328		

**Appendix Table 6.3:**

Summary statistics for Group A - 164 valid observations

Variable	Mean	Median	S.D.	Min	Max
RCOMP_Relative_CEO_Comp	9.28	7.73	6.34	0.000	27.8
LN_RCOMP_RELATIVE	1.98	2.05	0.767	0.000	3.33
LN_RC_ID_INDEP	2.46	3.36	1.66	0.000	4.38
RCM_Meeting	2.59	2.00	2.30	0.000	11.0
RC_EXPERTISE	3.71	3.00	1.29	0.000	8.00
LN_AC_ID_INDEP	3.54	3.51	0.626	0.000	4.61
ACM_Meeting	4.52	4.00	1.16	0.000	10.0
AC_EXPERTISE	0.443	0.333	0.263	0.000	1.00
LN_B_ID	3.09	3.22	0.645	0.000	4.32
BM_Bd_Meeting	6.62	5.00	3.57	4.00	23.0
BS_Size	8.95	8.00	2.24	5.00	14.0
DUALITY_CEO	0.963	1.00	0.188	0.000	1.00
FIRMSIZE_LN_TA	24.8	25.0	1.54	19.9	27.4
LIQUIDITY_CR	1.58	1.25	1.13	0.146	7.35
PROFITABILITY_ROA	0.0767	0.0817	0.0811	-0.296	0.331
LEVERAGE_DA	0.551	0.527	0.245	0.174	1.48
MARKET_MKT_BK	2.02	1.46	2.21	-9.13	11.4

**Appendix Table 6.4:**

Summary statistics for Group B - 164 valid observations

Variable	Mean	Median	S.D.	Min	Max
RCOMP_Relative_CEO_Comp	12.4	7.55	23.9	0.000	210
LN_RCOMP_RELATIVE	1.95	2.02	0.989	-0.355	5.35
LN_RC_ID_INDEP	2.33	3.22	1.64	0.000	4.61
RCM_Meeting	1.99	1.00	1.29	1.00	8.00
RC_EXPERTISE	3.66	3.00	0.896	2.00	6.00
LN_AC_ID_INDEP	3.38	3.51	0.875	0.000	4.61
ACM_Meeting	4.28	4.00	0.731	3.00	8.00
AC_EXPERTISE	0.350	0.333	0.239	0.000	1.00

LN_B_ID	2.85	2.74	0.786	0.000	4.05
BM_Bd_Meeting	5.11	5.00	1.14	4.00	8.00
BS_Size	8.15	8.00	1.35	6.00	12.0
DUALITY_CEO	0.970	1.00	0.172	0.000	1.00
FIRMSIZE_LN_TA	23.6	23.7	1.17	20.6	26.1
LIQUIDITY_CR	2.24	1.66	2.11	0.0583	19.5
PROFITABILITY_ROA	0.0968	0.0730	0.0957	-0.135	0.434
LEVERAGE_DA	0.431	0.407	0.221	0.0153	0.988
MARKET_MKT_BK	6.71	2.18	16.7	0.0241	133.

**Appendix Table 6.5:**

Robustness test for sub-sample i.e., Group A:  
Dependent variable: LN\_RCOMP\_RELATIVE, using 164 observations

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	-1.70270	0.954087	-1.785	0.0764	*
LN_RC_ID_INDEP	-0.116011	0.0233690	-4.964	<0.0001	***
RCM_Meeting	-0.0532172	0.0295485	-1.801	0.0737	*
RC_EXPERTISE	0.189686	0.0365824	5.185	<0.0001	***
LN_AC_ID_INDEP	0.0936931	0.0909153	1.031	0.3044	
ACM_Meeting	-0.0692624	0.0427838	-1.619	0.1076	
AC_EXPERTISE	-0.190274	0.176677	-1.077	0.2833	
LN_B_ID	-0.0339346	0.0929775	-0.3650	0.7156	
BM_Bd_Meeting	0.0642366	0.0172463	3.725	0.0003	***
BS_Size	-0.114038	0.0247880	-4.601	<0.0001	***
DUALITY_CEO	0.137076	0.285537	0.4801	0.6319	
FIRMSIZE_LN_TA	0.148304	0.0332155	4.465	<0.0001	***
LIQUIDITY_CR	-0.0175485	0.0348528	-0.5035	0.6154	
PROFITABILITY_ROA	3.23898	0.712795	4.544	<0.0001	***
LEVERAGE_DA	0.101016	0.256796	0.3934	0.6946	
MARKET_MKT_BK	0.0439170	0.0234461	1.873	0.0630	*

Statistics based on the weighted data:

Sum squared resid	362.5026	S.E. of regression	1.565037
R-squared	0.469524	Adjusted R-squared	0.415760
F(15, 148)	8.732985	P-value(F)	3.56e-14
Log-likelihood	-297.7455	Akaike criterion	627.4909

Schwarz criterion            677.0888            Hannan-Quinn            647.6258

Statistics based on the original data:

Mean dependent var            1.980165            S.D. dependent var            0.766943  
 Sum squared resid            75.50891            S.E. of regression            0.714280

**Appendix Table 6.6:**

Robustness test for sub-sample i.e., Group B:  
 Dependent variable: LN\_RCOMP\_RELATIVE, using 164 observations

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	-2.76224	1.05462	-2.619	0.0097	***
LN_RC_ID_INDEP	0.0152655	0.0403776	0.3781	0.7059	
RCM_Meeting	0.0609163	0.0411278	1.481	0.1407	
RC_EXPERTISE	-0.227617	0.0446260	-5.101	<0.0001	***
LN_AC_ID_INDEP	-0.0549278	0.0654841	-0.8388	0.4029	
ACM_Meeting	0.151403	0.0895602	1.691	0.0930	*
AC_EXPERTISE	-0.372247	0.274776	-1.355	0.1776	
LN_B_ID	-0.357163	0.129279	-2.763	0.0065	***
BM_Bd_Meeting	0.133337	0.0409975	3.252	0.0014	***
BS_Size	0.0994169	0.0385169	2.581	0.0108	**
DUALITY_CEO	0.588810	0.240443	2.449	0.0155	**
FIRMSIZE_LN_TA	0.175438	0.0408800	4.292	<0.0001	***
LIQUIDITY_CR	-0.0993921	0.0208793	-4.760	<0.0001	***
PROFITABILITY_ROA	2.01609	0.544585	3.702	0.0003	***
LEVERAGE_DA	-0.216051	0.356613	-0.6058	0.5455	
MARKET_MKT_BK	-0.00188709	0.00253922	-0.7432	0.4586	

Statistics based on the weighted data:

Sum squared resid            412.7127            S.E. of regression            1.669910  
 R-squared            0.675481            Adjusted R-squared            0.642590  
 F(15, 148)            20.53728            P-value(F)            5.74e-29  
 Log-likelihood            -308.3825            Akaike criterion            648.7650  
 Schwarz criterion            698.3629            Hannan-Quinn            668.8999

Statistics based on the original data:

Mean dependent var            1.945249            S.D. dependent var            0.989097  
 Sum squared resid            102.0518            S.E. of regression            0.830385



**Appendix Table 6.7:**

Additional Analysis for Sharia-Compliant Islamic Companies:  
Dependent variable: LN\_RCOMP\_RELATIVE, using 208 observations

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	-0.710574	0.964017	-0.7371	0.4620	
LN_RC_ID_INDEP	-0.0666178	0.0266831	-2.497	0.0134	**
RCM_Meeting	0.0495176	0.0171198	2.892	0.0043	***
RC_EXPERTISE	0.0225123	0.0346429	0.6498	0.5166	
LN_AC_ID_INDEP	-0.188859	0.0844541	-2.236	0.0265	**
ACM_Meeting	-0.0796233	0.0422808	-1.883	0.0612	*
AC_EXPERTISE	0.456171	0.142282	3.206	0.0016	***
LN_B_ID	-0.0971249	0.0618228	-1.571	0.1178	
BM_Bd_Meeting	0.0548749	0.0150953	3.635	0.0004	***
BS_Size	-0.00309682	0.0233702	-0.1325	0.8947	
DUALITY_CEO	0.827378	0.384125	2.154	0.0325	**
FIRMSIZE_LN_TA	0.146205	0.0325487	4.492	<0.0001	***
LIQUIDITY_CR	-0.236253	0.0510194	-4.631	<0.0001	***
PROFITABILITY_ROA	1.97960	0.555041	3.567	0.0005	***
LEVERAGE_DA	-1.55626	0.362313	-4.295	<0.0001	***
MARKET_MKT_BK	0.0197474	0.0199679	0.9890	0.3239	

Statistics based on the weighted data:

Sum squared resid	663.5221	S.E. of regression	1.858990
R-squared	0.635521	Adjusted R-squared	0.607046
F(15, 192)	22.31863	P-value(F)	2.39e-34
Log-likelihood	-415.7817	Akaike criterion	863.5634
Schwarz criterion	916.9641	Hannan-Quinn	885.1559

Statistics based on the original data:

Mean dependent var	2.024935	S.D. dependent var	0.855361
Sum squared resid	102.6162	S.E. of regression	0.731067

**Appendix Table 6.8:**

Additional analysis for Conventional companies:  
Dependent variable: LN\_RCOMP\_RELATIVE, using 120 observations

	<i>Coefficient</i>	<i>Std. Error</i>	<i>t-ratio</i>	<i>p-value</i>	
Const	-0.0859477	1.76101	-0.04881	0.9612	
LN_RC_ID_INDEP	-0.0924564	0.0318179	-2.906	0.0045	***
RCM_Meeting	-0.141514	0.0433398	-3.265	0.0015	***
RC_EXPERTISE	0.207550	0.0845191	2.456	0.0157	**
LN_AC_ID_INDEP	0.417902	0.137800	3.033	0.0031	***
ACM_Meeting	0.0667952	0.0928607	0.7193	0.4736	
AC_EXPERTISE	-0.310993	0.228487	-1.361	0.1764	
LN_B_ID	-0.352457	0.146909	-2.399	0.0182	**
BM_Bd_Meeting	0.0205227	0.0348808	0.5884	0.5576	
BS_Size	0.00479809	0.0441161	0.1088	0.9136	
DUALITY_CEO	-0.483395	0.243786	-1.983	0.0500	*
FIRMSIZE_LN_TA	0.0468543	0.0700405	0.6690	0.5050	
LIQUIDITY_CR	-0.0883110	0.0171409	-5.152	<0.0001	***
PROFITABILITY_ROA	1.88888	0.767789	2.460	0.0155	**
LEVERAGE_DA	0.664638	0.324522	2.048	0.0431	**
MARKET_MKT_BK	0.00208135	0.00388261	0.5361	0.5931	

Statistics based on the weighted data:

Sum squared resid	286.6226	S.E. of regression	1.660116
R-squared	0.665184	Adjusted R-squared	0.616893
F(15, 104)	13.77453	P-value(F)	1.75e-18
Log-likelihood	-222.5131	Akaike criterion	477.0262
Schwarz criterion	521.6261	Hannan-Quinn	495.1384

Statistics based on the original data:

Mean dependent var	1.854845	S.D. dependent var	0.924867
Sum squared resid	73.14176	S.E. of regression	0.838622