

**INTERACTIONS BETWEEN CORPORATE  
GOVERNANCE, EARNINGS QUALITY  
ATTRIBUTES AND VALUE OF FIRM:  
EMPIRICAL ANALYSIS FROM NON-FINANCIAL  
SECTOR OF PAKISTAN**



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**Reg. No. 44-FMS/PHDFIN/S-12**

A thesis submitted in partial fulfillment of the requirements for the Degree of Doctor of  
Philosophy in Management with specialization in Finance at

the Faculty of Management Sciences

International Islamic University,

Islamabad

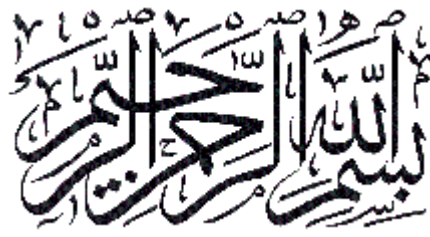
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In the name of Allah, the most merciful and beneficent

## **DEDICATION**

I dedicate this thesis to my parents (late), my wife, my children, my brother and my supervisors whose support has enabled me to complete this research study successfully.

(Acceptance by the Viva Voce Committee)

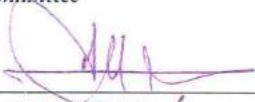
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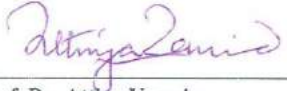
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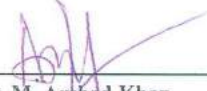
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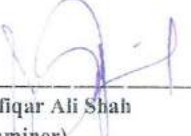
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## Abstract

The existing literature concerning governance-value relationship is inconclusive as it assumes that the association is direct. A theoretical argument suggests that the effective corporate governance reduces the information asymmetry through better financial reporting quality. This serves as a tool to reduce this information risk. Following the argument, this study is an attempt to investigate the mediating role of earnings quality, a measure of financial reporting quality, in governance-value association. For estimation, panel data of 214 non-financial listed firms in Pakistan for the period 2003-2014 is considered and one-way random effect estimator for the SUR system is employed, as suggested by Biørn (2004). This study uses principal component analysis to measure the overall corporate governance; and to measure the financial reporting quality, five dimensions are considered to capture the reliability and relevancy characteristics of financial reporting. Value of firm is measured through return on assets and Tobin's-Q. The findings of the study show that the corporate governance effectively improves the earnings quality and value of the firm, which approves the monitoring role of corporate governance mechanism. Moreover, earnings quality contributes positively in maximizing the value of the firm and the results demonstrate that better earnings quality partially mediates the governance-value association. It is concluded that corporate governance not only improves the value of the firm directly, but also indirectly through the channel of earnings quality. The findings may be of interest to the academic researchers, practitioners and regulators who are interested in discovering the quality of corporate governance practices in Pakistani context. The findings also provide the Pakistani business community insights concerning the quality of corporate governance and corporate reporting. Also, this research helps to inform regulators about the benefits of disclosure of more transparent information to stakeholders and to the firm.

**Keywords:** Earnings quality, channel effect, overall corporate governance, SUR, channel effect, value of firm.

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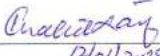
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## DECLARATION

I, KHALID LATIF Son of ABDUL LATIF certify that the thesis entitled, "Interactions between Corporate Governance, Earnings Quality Attributes and Value of Firm: Empirical Analysis from Non-Financial Sector of Pakistan", being handed over to the competent authority has not already been submitted or published and shall not in future be submitted by me for obtaining any degree from another university or institution.

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Khalid Latif

## FORWARDING SHEET

The thesis entitled “Interactions between Corporate Governance, Earnings Quality Attributes and Value of Firm: Empirical Analysis from Non-Financial Sector of Pakistan” submitted by Khalid Latif as partial fulfillment of PhD. degree in Management Sciences with specialization in Finance, has completed under our guidance and supervision. The changes advised by the external and the internal examiners have also been incorporated. We are satisfied with the quality of student’s research work and allow him to submit this thesis for further process as per IIU rules and regulations.

Dr. Arshad Ali Bhatti

Dr. Abdul Raheman

Date: 09<sup>th</sup> January, 2018

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## Abbreviations

AC	Audit Committee
EQ	Earnings Quality
FRQ	Financial Reporting Quality
H	Hypothesis
IAS	International Accounting Standards
IFRS	International Financial Reporting Standards
LVG	Leverage
NI	Net Income
NOA	Net Operating Assets
OLS	Ordinary Least Square
OCG	Overall Corporate Governance Index
OCL	Other Current Liabilities
PAT	Positive Accounting Theory
OCG	Overall Corporate Governance Index
SECP	Securities and Exchange Commission of Pakistan
SUR	Seemingly Unrelated Regression
$t$	Current period
$t - 1$	Prior period
$\alpha_{it}$	Intercept in a Regression Analysis
$\beta_{it}$	Beta
$\Delta$	Change
Var	Variance
T	Time
N	Number in samples



# CHAPTER 1

## INTRODUCTION

In this age of information, individuals have quick access to required information through the internet, social media and print media etc., living in any part of the world. However, the presence of a larger amount of information does not exactly match the quality or transparency of the information. If this is fundamentally true for various facets of our life then this fact is also present in capital markets as well. In Pakistan, market scandals like Islamic Investment Bank, various Housing Cooperative Societies, Taj Company, Mehran Bank, KASB Bank and Exact prove this fact true. In these large organizations, the reported financial information could not help the shareholders, regulatory bodies, financial analysts and investors to predict and forecast the financial scandals and irregularities. The insufficient explanatory power of financial information leads to the capital market indiscretions (Kiernan, 2005). It may seem a bit ironic but in these cases it could be said that even living in the informative society, there is asymmetric information between principals and their agents, and these corporate bankruptcies and scandals gradually weakened the stakeholders' confidence in the reported financial data.

Capital markets act as intermediaries between parties, having surplus funds. When capital markets work well and effectively, means same information is available to every investor, then allocation of funds becomes more efficient. In this way both parties (investors and analysts) are expected to be benefitted (Agustiningsih, 2014).

Nita (2007) argues that the information is a significant component of capital markets and the internal accountability of a firm is presented to the stakeholders and capital market participants in the form of financial statements. To disseminate the

financial information to stakeholders for their economic decision making is the key objective of financial reporting (Board, 2010). However, the reported earnings is a key source of financial statements for investors, market analysts and managers, and, is used as important factor in dividend policy determination, investment guideline, firm's performance measuring device, prediction of future earnings, credit risk and risk involved in investment (Kirschenheiter & Melumad, 2002; Francis, Schipper, & Vincent, 2003). Also, earnings is considered a key element of financial statements in capital markets (Schipper & Vincent, 2003), and a major determinant of enhancing the efficiency of capital market (Brüggemann, Hitz et al. 2013).

Prospective investors have faith in earnings as compared to other factors (Liu & Wysocki, 2008). Investors not only consider financial statements and earnings figure, but they also evaluate the procedure adopted for tailoring the earnings information. On the other hand, market analysts are also the consumers of accounting information and play an important role as mediators in capital markets (Schipper, 1991). Market analysts' stock recommendations, reports, target pricing and earning forecasting are important for stock price foundation (Salerno, 2013). Studies also show that analysts' stock recommendations, reports, target pricing and earning forecasting are important for stock price foundation (Brav & Lehavy, 2003; Asquith, Mikhail, & Au, 2005) and lower earnings quality level diminishes the financial analyst's accuracy (Salerno, 2013).

Managers of the firm have to disseminate useful information to attract capital investments and they use these funds in projects which increase the stockholders' wealth. Investors are willing to invest only if expected returns from such investment matches with the risk of that security. Managers also need information regarding future cash flows and the associated risks for assessment of expected return. Analysts

are interested into maximize the investors' portfolios. A range of corporate decisions are affected by managers and they have divergent decision making styles. But firm managers have several incentives to "meet the numbers" and also certain discretions to influence the earnings figure. This opportunistic behavior of managers towards reported earnings affects the stakeholder relationships, corporate reputation and hence the value of the firm (Rodriguez-Ariza, Martinez-Ferrero, & Bermejo-Sanchez, 2016). These biases are recognizable, measureable and create fabrication in earning figure.

During the valuable decision making process regarding a firm, the key factors of accounting information are reliability, usefulness and relevance. The existence of these factors influences the user of accounting information to confirm or correct the past decisions or to make predictions (DeFond, 2010). The accounting information is considered valuable and reliable if it is presented without any bias. Market participants have great interest in the level of earnings quality to do better financial decisions (Gaio & Raposo, 2011). Furthermore, poor earnings quality delivers misleading information to the stakeholders (Ismail & Elbolok, 2011).

However, in emerging economies, high levels of earnings management and fabrication are experienced, as compared to developed economies. Hence, investors lose confidence in reported earnings (Leuz, Nanda, & Wysocki, 2003; Pincus, Rajgopal, & Venkatachalam, 2007). To mitigate the effect of discretionary accounting, corporate governance system can play an effective role (Chen, Kao, & Tsao, 2010). Majority of studies to examine the association between corporate governance and earnings quality are conducted in the context of developed economies like US and Europe. In emerging economies, especially in China, significant research is in process. These studies are based on western theories to explain the empirical findings. But a question arises, that whether these theories are applicable in emerging

economies as well. Sometimes, the results are explainable by western theories and sometime not. The reasons behind the inability of western theories to explain empirical results in emerging economies are the macroeconomic, microeconomic differences between developed western and emerging eastern economies. Richardson, Tuna and Wysocki (2010) conduct a comprehensive literature review which states that only few papers are found which examine the globally generalization of accrual anomaly and results of these studies are inconclusive. Firms having different domicile use the domestic accounting principles for the preparation of financial reports and this makes international dataset a challenge. Kaserer and Klingler (2008) disapprove the past studies relating to investigation of accrual mispricing in countries having different domicile, as these studies pool different countries with different accounting procedures, which is not justifiable. Praveen Bhasa (2004) argues that corporate governance practices are not uniform around the world due to differences in political, cultural and legal system among countries and both states of economies and these differences are major hurdle in the uniformity of corporate governance system.

Claessens and Yurtoglu (2013) assert that in emerging economies, corporate governance faces a number of challenges, for example concentrated ownership structure, low level of institutional ownership and non-existing or underdeveloped markets for debt and equity. Such differences create a difficulty for explaining the emerging economies research findings based on developed economies models. Carney, Gedajlovic and Yang (2009) describe that Anglo-US governance system perform efficiently in UK and US but may not provide efficient and effective results in emerging economies. Gaio and Raposo (2014) are in the opinion that the country effect is also important for explaining the impact of corporate governance

mechanisms on earnings quality. For developed economies, this association is stronger than that of those developing.

In the Pakistani context, a number of studies have been conducted to explore the effects of corporate governance and various firm characteristics which can be categorized into four groups. First group of scholarly studies, for example, Shah and Butt (2009); Wajid and Shah (2017) has explored the relationship between the various corporate governance attributes and the cost of equity among non-financial sector of Pakistan. Second group of prior studies, for example, Mirza and Azfa (2010); Batool and Javid (2014) has investigated the association among the different mechanism of corporate governance and dividend payout policy. The third group of past studies, for example, Azeem, Hassan et al.(2013); Ullah, Ali et al. (2017) has tested the effect of various corporate governance mechanisms and firm performance of non-financial listed firm in Pakistan. And the fourth group of studies, for example, Kamran and Shah (2014); Latif and Abdullah (2015) highlights the relationship among corporate governance and earnings management in the non-financial firms listed in Pakistan.

This study is distinctive from prior studies in various ways. Firstly, this study explores the governance-value relationship from a new perspective, that is, the role of earnings quality as a mediating variable in the determination of governance-value relationship, which is the main objective of the study. Secondly, in Pakistani context, corporate governance index is being constructed using Principal Component Analysis (hereafter PCA), a statistical technique. The third dimension is that there is no evidence of studies in Pakistan regarding earnings quality measurement and reaction of firm value to earnings quality. Another dimension is that the study uses five dimensions of measures of earnings quality for the detection of reliability and relevancy of financial statements. Lastly, in this study, recent data is being used in the

context of Pakistan that enables to address the issue with an experimental setting with larger sample period and quantity of firms.

The findings of the study show that, the corporate governance has a positive impact on the value of the firm and it serves as a monitoring role in improving the reliability and relevancy of financial reporting in Pakistan. Both dimensions are measured through five attributes. As regard to mediating effect of these attributes of earnings quality in the governance-value association, the results indicate that reliability and relevancy of financial reporting are significant contributing factors in the association between corporate governance and value of the firm. Testing the mediating role of earnings quality has been found distinct in the context of Pakistan. In short, corporate governance effects the financial reporting actions of the managers, as a result, quality of earnings information improves, which reduces the information asymmetry and eventually increase the value of firm.

### **1.1 Corporate governance and financial reporting in Pakistan**

The significance of good corporate governance is highlighted over the last few years due to certain reasons. First reason is that huge impact of corporate scandals around the world stimulates the researchers, regulators and other stakeholders. Many corporate collapses and scandals raised the importance of corporate governance. These mishaps arise due to conflict of interest among stakeholders, managerial opportunistic behaviors and greed, managerial irresponsibility, corporate dishonesty, frail internal control system, ethical failures and weak risk assessments. The other reason reflects the belief of researchers that good corporate governance has an impact on return on investment, firm performance and cost of capital, and protects the interests of stakeholders. The discussion regarding corporate governance has become popular in developed and developing economies but the ways to organize the

corporate governance varies from country to country due to political, economic and social variations.

Corporate governance is vastly and fluently discussed in the literature, but there is lack of agreement regarding the definition of this term (Rezaee, 2009). Corporate governance mechanism deals with the ways which guaranteed the finance providers for their return on investment (Shleifer & Vishny, 1997). Also, the legal protection of investors' rights and ownership concentration helps to constrain the managerial discretion as a result investors could realize return on their investment (Allen, 2005).

According to OEC<sup>1</sup> (2008), "Corporate governance is an instrument which is helpful to control the organizations. It chalks out the rights, duties and responsibilities among stakeholders of an organization and also drafts the rules and regulations for decision making". OEC defines the corporate governance on the basis of five principles which emphasize on (1) shareholder's rights and basic functions related to ownership, (2) the equitable and unbiased dealings with the shareholders; (3) stakeholders role in the corporate governance process; (4) board of director's duties, and (5) disclosure and ensure the transparency. It can be deducted from the above definitions, that corporate governance ensures the integrity, reliability, impartiality, transparency and disclosing the necessary decisions of all business operations and hold the corporations to be accountable and answerable towards shareholders.

Following are the important highlights in respect of evolution of corporate governance and financial reporting system in Pakistan:-

- 1) In August 1947, after independence, Pakistan implemented the Indian Companies Act 1913 (ICA 1913) and Auditor Rules 1932.

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<sup>1</sup> Organization for Economic Cooperation & Development

- 2) In 1952, Pakistan Institute of Accountants (PIA) was formed. This initiative was taken by the practicing accountants in Pakistan. The purpose of this institute to raise accountants' issues before the Government and to protect the private interests of the members.
- 3) A new body named "Institute of Chartered Accountants of Pakistan" was formed in 1961 on the demand of above stated Pakistan Institute of Accountants. This formation was considered a key post-independence development in the field of financial reporting.
- 4) A next step forwards towards institutional development, in 1966 the establishment of the "Institute of Cost and Management Accountants of Pakistan (ICMA)". The objective of this institute to standardize the cost and management accounting in Pakistan.
- 5) A semi-autonomous organization called "Securities and Exchange Authority" was formed in 1970. This body develops the rules for the improvement in financial reporting practices. For listed companies, the publication of semi-annual reports was made compulsory in Pakistan. Also the disclosure requirement of transactions among accompanying companies was made compulsory.
- 6) In 1974, The International Accounting Standard Committee (IASC) was constituted and Pakistan becomes a member of this body in the same year. Now ICAP starts encouraging its members (chartered accountants) to suggest their clients for the preparation of financial statement in the lines of International Accounting Standards. However, this practice was not mandatory till the promulgation of Companies Ordinance, 1984.



- 7) Under Section 234 of Companies Ordinance, 1984, the compliance of IAS declared mandatory.
- 8) With the introduction of new international accounting standards in 1990 and adoption of most of these International Accounting Standards (on the recommendations of ICAP), there was improvement in financial reporting of listed companies. Also in 1990's through financial reforms, structural changes were made in corporate governance area. These structural reforms influence the dividend policy pattern, corporate governance compliance pattern, capital structure pattern.
- 9) On March 28, 2002, SECP introduces the corporate governance code in Pakistan. Its implementation is considered a key device for the improvement of financial reporting in Pakistan. Most of the clauses of the said code are assembled for the improvement in financial reporting and auditing system in Pakistan. With the implementation of this code, listed companies have to report un-audited quarterly financial statements accompanied by the director's review of these quarterly activities. Before the implementation of this code, companies were bound to report the unaudited half yearly reports. As concerned to annual reports, listed as well as non-listed companies are obligatory to circulate the audited annual financial statements within the four months from the close of financial year.
- 10) With private-public partnership, SECP establish a body named "Pakistan Institute of Corporate Governance (PICG)". The aim of this organization is to build sound corporate governance framework and awareness of better corporate governance practices in Pakistan.

11) In 2012, SECP has improved the corporate governance code to enhance the market confidence, strengthen and support the governance and secure the stakeholder's interests.

In Pakistan, like the other developing economies, controlling shareholding exists in the shape of one or other groups like institutional ownership, managerial ownership, block holders etc. The large shareholding not only holds the control of the firm but also involves in the management functions of the organization. The concentrated ownership gets involved in managing financial information of its own interests; therefore this issue needs more attention (Javid, 2012). This study examines the role of various corporate governance mechanisms in the determination of firm's value and earnings quality in the context of Pakistan. For this purpose, corporate governance is taken as a monitoring system to disclose the internal accountability of firms to stakeholders and safeguard the interest of stakeholders.

## **1.2 Statement of the research problem**

As the shareholders and debt holders have limited access to the managerial information, therefore they have to rely upon reported financial statements. This higher dependency creates incentives for managers to manipulate the earnings in the line of their private benefits. However, stakeholders consider reporting earnings a key device (Wild, 1994), as of being good indicator of expected cash flows and firm performance (Dechow, Kothari, & Watts, 1998). For making valuable decisions with respect to a particular firm, relevance and reliability of reported financial accounting information are the key features. To capture the reliability and relevancy of financial reporting, earnings quality is taken as a measure. Ismail and Elbolok (2011) posit that "low quality earnings submit the distorted information to the financial market which deceives the investors and stakeholders."

Despite the importance of reliable and relevant accounting information, the users of accounting information are not clear whether the reported financial information depicts the true and fair picture of what they purport to portray and the lack of accuracy in the financial results. These irregularities and misstatements lead the stakeholders to wrong judgments and decisions. Different corporate frauds raise the question of reliability of reported financial statements and earnings. Jung and Walter (2009) emphasize that institutional structures are often costly for East Asian companies to adhere to international governance standards, leading to firms applying different levels of superficial or "false" compliance. Wang and Wu (2011) posit that financial reporting quality is low in developing countries like China as compared to US market which is a developed and matured market. In developing countries, different market mechanisms could not prevent the earnings restatements. In Pakistan, like other developing economies, concentrated ownership and weak regulations as compared to developed economies result in different agency problems (Bozec & Bozec, 2011). This raises the question of whether corporate governance mechanisms contribute to improve the quality of financial reporting. In a recent study, Habib and Jiang (2015) suggest that a higher financial reporting quality contributes towards firm's value in three ways: (1) support to select or reject the good or bad projects, (2) reduction of misappropriations of the managers and (3) reduction of information asymmetry among managers and investors. In their survey based study, the authors theorize that the prior studies regarding the association between corporate governance and value of the firm are conducted without the crucial role of financial reporting quality which is an important output of effective corporate governance mechanism. In the light of the stated importance, it is desirable to do empirical analysis in the area of

corporate governance and earnings quality, and their effect on firm's value with reference to Pakistan.

### **1.3 Objectives of the study**

In this study, listed companies in Pakistan are taken into consideration in order to get a clear picture of corporate governance, earnings quality attributes strength and examine the influences of corporate governance mechanisms and earnings quality attributes on firm's value. Following are the key objectives of the study:

1. To investigate the direct impact of corporate governance mechanism on firm's value.
2. To study the direct impact of corporate governance mechanism upon various earnings quality attributes.
3. To examine the impact of each attribute of earnings quality on firm's value.
4. To investigate the mediating/indirect effect of every earnings quality attribute in governance-value relationship.

### **1.4 Research questions**

The below stated research questions are being discussed in this study:

1. What is the relationship between corporate governance and value of firm?
2. What is the relationship among corporate governance mechanism and earnings quality attributes?
3. What is the relationship between earnings quality attributes and value of firm?
4. Does earnings quality mediate the association among corporate governance and firm's value?

### **1.5 Significance of the study**

In financial reporting system, earnings quality is most significant feature, and high level of earnings quality is an indicator of improvement of market efficiency.

Therefore, stakeholders are interested in high earnings quality level. Now a days, researchers' focus is on earnings quality rather than only earnings figure. Researchers are trying to develop mechanisms to obtain desired level of earnings quality so that conflict of interest be mitigated and lower the information asymmetry, so that all stakeholders' interest could be protected and there is increase in confidence in capital market (Gonzalez & Meca, 2014).

In literature, substantial studies are available either on the relationship between corporate governance and value of firm (e.g. Shah and Butt, 2009; Hassan et al., 2013; Batool and Javid, 2014; Kamran and Shah, 2014; Latif and Abdullah, 2015; Wajid and Shah, 2017; Ali et al. 2017), or on earnings quality and value of firm relationship (e.g. Aboody, Hughes, & Liu, 2005; Francis, Nanda, & Olsson, 2008; Iliev, 2010; Bhattacharya, Ecker, Olsson, & Schipper, 2011; Kim & Sohn, 2013) or on the combined effect of corporate governance and earnings quality on value of firm (Siregar et al. 2013). However, to the best of our knowledge, no significant study is available on the mediating role of earnings quality for the effect of corporate governance on value of firm using the panel data of non-financial firms particularly in the Pakistani context. Therefore, this study is an attempt to explore the impact of corporate governance on value of firm using earnings quality as a channel variable. In this study, five aspects (persistence, predictability, smoothness, accruals quality and value relevance) are used contrary to single dimension used by most of the empirical studies. In this way, each attribute is investigated regarding its magnitude and contribution in firm value.

## **1.6 Contribution of the study**

### **1.6.1 Contribution to theory**

The crux of the agency theory is the misalignment of interests between

principals and agents (Di Pietra, Grambovas et al., 2008). Agency theory concerns with the two problems, that is, conflict of interest between managers and external stakeholders, and the cost of monitoring the agents for the prevention of wrongdoings. Wang (2013) posits that the corporate governance may help to deter the agency conflict. However, the corporate governance mechanisms of the developed economies are different from developing economies (Shan & McIver, 2011). This study is an attempt to investigate the effectiveness of corporate governance in deterring the agency conflict in the developing economies like Pakistan

Positive accounting theory explains and predicts the positive or negative reaction of a firm to a particular accounting method or policy (Watts & Zimmerman, 1990). This theory affirms that the financial reporting of higher quality is a sign of lesser earnings management that results in the reduction of asymmetric information among the managers and external stakeholders (Gonzalez & Meca 2014). The lesser information risk improves the value of firm (Yunos, Smith et al. 2010). Implementation of effective corporate governance is expected to improve the market's perception of the quality of corporate profits. With reference to developed economies, much empirical evidence is available. The findings of this study can provide a better understanding on whether PAT declaration is supported in an emerging economy like Pakistan. By comparing the effects of governance attributes on corporate earnings figure and value of firm, this study contributes to the existing literature. Contrasting the direct impact of corporate governance on the value of firm as suggested by agency theory, this study investigates the indirect effect of corporate governance on value of firm not only promotes an empirical research on corporate governance of listed firms in Pakistan, but also helps to add breadth and depth in the Pakistani financial market research activities.

### **1.6.2 Contextual contribution**

The interactions among corporate governance mechanisms and corporate earnings quality theoretically and empirically has not been investigated in previous studies for Pakistan market. This study is an attempt to contribute in the literature as: First it involves different research streams together, because no previous theoretical and empirical study among corporate governance and earnings quality exists. Secondly, this study provides direct evidence of the economic impact of the quality of information, as influenced by the structure and form of governance. Additionally, the association between corporate governance, earnings quality attributes and firm's value is examined using seemingly unrelated regression (SUR). Also in this study, mediation model, direct and indirect effects are tested.

### **1.6.3 Practical contribution**

Corporate financial and investment decision makers need to meet the needs of shareholders and to attract the potential investors. By analyzing the impact of corporate governance the decision makers are able to evaluate the role of corporate governance in enhancing shareholders' perception of the reliability of financial reports. Once shareholders are able to obtain reliable information about corporate performance, their response to financial performance measures becomes larger. The findings of this study opened a new door to investors to improve the decision-making process. By measuring the various aspects of corporate governance, investors can pay attention to the ability of management to manage the accounting earnings for their private benefits. The findings of the study provide guidance to market participants in

analyzing the key factors to take into account while assessing annual financial reports. Also, the findings of this study assist the stakeholders in taking the essential provisions when interpreting the information extracted from financial statements. Also, understanding the association between corporate governance and earnings quality allows investors to make better investment choices by favoring investments when earnings quality is high or by taking risk-mitigating actions when earnings quality is poor. Creditors will also benefit from the findings because comprehending factors that contribute to lower earnings may assist them in evaluating their client effectively.

#### **1.6.4 Regulatory contribution**

Regulatory authorities involved in framing the corporate governance mechanisms can use this research as an empirical tool for regulatory and advisory development. The stock exchanges can use the findings of this study to assess the prevailing disclosure requirements of implemented corporate governance practices. The findings provide an evidence to support the continuous regulatory activities with an aim to monitor the financial reporting process. Additionally, this study also helps to confirm the effectiveness and efficiency of corporate governance in refining the quality of earnings.

#### **1.7 Organization of the thesis**

The remainder of this thesis is arranged as follows. In the next chapter, theoretical literature of corporate governance mechanism, earnings quality and value of firm, and the literature review regarding the interactions between corporate governance, earnings quality attributes and value of firm is outlined. In chapter three, data and methodology is explained to meet the objectives and answer the research questions. Chapter four reports the results and findings of this study. This chapter



leads to chapter five, which outlines the conclusions, recommendations and future directions.

## **CHAPTER 2**

### **LITERATURE REVIEW**

This chapter describes the literature concerning the research questions mentioned in Chapter 1 regarding the association among corporate governance mechanism, various attributes of earnings quality and firm's value. The objective of this chapter is to recognize the potential gaps on the prior studies concerning the interactions between corporate governance, earnings quality attributes and value of firm after integrating the underlying theories.

This chapter starts with the definition of financial reporting quality and various aspects of earnings quality. Theoretical and empirical literature in the field the corporate governance, earnings quality attributes and value of the firm followed by the development of hypotheses explaining the association among three stated variables. Then theoretical framework is outlined and in the last section gaps in the existing literature is presented.

#### **2.1 Financial reporting quality**

In literature, there are number of definitions of accounting and these definitions have changed over the period of time as the accounting environment changed. American Accounting Association (hereafter termed as AAA) defines and explains the term accounting as the process of identifying the origin of transactions, its measurement, and communication of information having economic value to

stakeholders for the use in their decision making process. In the first part, this definition explains the purpose of accounting, in the second part, explains that there are number of components of accounting, and third part describes information has worth in decision making process. Financial reporting is considered a key tool of communication for management, debt providers and shareholders, and also plays an important role in evaluating the managerial efficiency and insuring investor protection (Kouser, Makki, & Qureshi, 2012).

The statement of Financial Accounting Concept No. 1 of FASB<sup>2</sup> explains the objectives of financial reporting is to disseminate the information to various stakeholders for their decision making process regarding rational investment, financing and other decisions. This information should be comprehensive and understandable to those who have reasonable understanding of business activities and are ready to study the information with due diligence (Tasios & Bekiaris, 2012). Thus the financial reporting role is broader and aims to provide unbiased financial and other information and assists the stakeholders for efficient and effective utilization of limited resources of market. For useful decision making, the concept of financial reporting quality is therefore broad, and consists of financial information, non-financial information and disclosure (Tasios & Bekiaris, 2012). Pounder (2013) posit that the quality is a factor that determines the worth of financial reporting. DeFond (2010) advocates that there is plenty of evidence that quality of financial reporting has major contribution in policy making and has influence the stakeholders in the policy making process.

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<sup>2</sup> Financial Accounting Standard Board

However, quality of financial reporting quality is not an indicator that could be easily quantifiable as it could not be directly observable. According to SFAC<sup>3</sup> No.2, the qualitative characteristics that ensure the accounting information a useful one for users are: understandability, relevance, reliability and comparability. But it is difficult to measure understandability and comparability (Barua, 2005; Achim & Chiş, 2014) so these are not considered in this study. For relevance and reliability, Schipper and Vincent (2003) argue that both are not mutually exclusive and difficult to be separately measured.

**Relevance:** According to SFAC No. 2, relevancy of accounting information means that accounting information should be capable of making a difference in decision making process, and provides support not only for prediction of future trends of the business and also for confirming and rectifying the past predictions. In short, accounting information should be such that the stakeholders need it and this information is expected to have expected to affect the decision process.

**Reliability:** SFAC No.2 states that accounting information reliability refers to the material accuracy of financial information, and consistent use of accounting information by stakeholders with faithfulness. If decision makers have not trust on accounting information, then it is useless.

In short, financial accounting information, to be reliable, should be faithful and objective and thus should provide financial information users with assurance of financial information that accurately represents the transactions of the firm.

## **2.2 Earnings quality as a measure of financial reporting quality**

However, the financial reporting quality is not an indicator that could easily be quantifiable because it could not be directly observed. In literature, five ways/proxies

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<sup>3</sup> Statement of Financial Accounting Concept

are adopted to measure the financial reporting quality: (1) Standard and poor's transparency index; (2) Auditor's litigation; (3) Analyst reporting (4) Auditor's opinion and (5) Earnings quality. In a study, based on U.S.A. data, to measure the quality of financial reporting, Frost, Gordon, and Pownall (2005) use the S&P transparency and disclosure index score. This score is calculated as the percentage of disclosure items from a list of 35 items in annual reports. For example if 30 of the 35 items appear, then respective firm has "decile rank" of 9 (85% rounded up to 90, and then divided by 10). As higher audit quality improves the financial reporting credibility by deterring opportunistic behavior of managers and decreasing the litigation risk for fake and fraudulent financial reporting, auditor litigation may be a proxy to measure the quality of financial reporting (Skinner & Srinivasan, 2012). The other proxy to measure the quality of financial reporting is the analyst's rating of disclosure. Perotti and Wagenhofer (2014) observe and report that the several items in financial statements like big lease obligations, high goodwill, debt level and growth in revenue from non-operating items serve as inverse measures of financial reporting quality. Martínez and Meca (2014) consider the auditor's opinion as a proxy to measure the quality of financial reporting. In this study, the auditor's report is considered to be informative for stock returns. In case of a qualified report, dummy variable 1, otherwise 0 is taken.

Another proxy to measure the quality of financial reporting is the earnings quality, which is considered as a broader measure of financial statement quality (Gaio & Raposo, 2014; Achim & Chiş, 2014; Kim, Lee, & Chung, 2015). Also, Conceptual framework of reporting Financial Accounting Standard Board, deals with the qualitative features of valuable and useful information. According to SFAC No.2, understandability, relevance, reliability and comparability are the qualitative

characteristics that ensure the usefulness of financial accounting information for users. But it is difficult to measure understandability and comparability (Barua, 2005; Achim & Chiş, 2014), so these features are not considered in this study. Also, individual users have different perceptions of the usefulness of the information and their perception of quality can vary so the assessment usefulness cannot be directly observed (Braam & Beest, 2013). For relevance and reliability, Schipper and Vincent (2003) posit that both are not mutually exclusive and difficult to be separately measured. Also degrees of reliability and relevancy can fluctuate, and there is no threshold for relevancy and reliability. But if anyone of the quality is missing, then accounting information is not useful, and both qualities impinge on another. Therefore, in this study earnings quality is taken to measure the relevancy and reliability of financial reporting in accordance with the directions/guidelines of FASB.

Dechow, Ge, and Schrand (2010) rank the earnings quality into three categories: (1) the reported earnings should reflect the current performance, (2) the reported earnings should be a good indicator of future performance, and (3) it should annuitize the intrinsic value of the firm. In this study, the quality of financial reporting is measured through the quantitative measures which focus on reliability and relevancy of financial reporting ( Gray, Turner, Coram, & Mock, 2011; Palea, 2013). On the basis of relevancy and reliability, financial reporting is considered useful and valuable to stakeholders in their decision making process. For reliability dimension, persistence, predictability, and value relevance is taken into account. For relevancy dimension, accrual quality and smoothness are taken into account (Dechow, Ge, & Schrand, 2010; Gaio & Raposo, 2014). Lyimo (2014) argues that there is no complete consistency among various techniques of measuring earnings quality and therefore

investors, analysts and market participants should not be dependent upon only one measure of earnings quality.

On the other hand, Francis, LaFond, Olsson and Schipper (2004) categorize the earnings quality in to two groups i.e. Accounting-based attributes of earnings quality and market based attributes of earnings quality. Predictability, persistence and smoothness and accrual quality are taken as accounting based attributes, while accrual quality and value relevance are considered as market-based attributes.

In literature, most of the studies concentrate on one dimension or attribute of earnings quality which leads to misleading conclusions in respect of earnings quality (Velury & Jenkins, 2006). To mitigate this problem, five earnings quality attributes (for relevancy and reliability dimensions) are considered in this study to examine the interactions among corporate governance, various earnings quality attributes and firm's value. Cahan, Emanuel and Sun (2009) argue that earnings quality is not uniform across the countries, and, also countries with lesser investor protection have lower earnings quality as compared to those with higher investor protection. So, this study is also interested to examine the stability and consistency among five attributes in the context of Pakistan.

### **2.2.1 Persistence**

Persistence refers to the current earnings to be reoccur in future, means that the level of sustainability of earnings reported in financial statements of a firm (Penman & Zhang, 2002). Beneish and Vargus (2002) define the term persistence as the quality of earnings that is sustainable in future. Schipper and Vincent (2003) describe that higher persistence income is considered by stakeholders and investors as sustainable and less volatile. Persistence/sustainability is taken as a measure of earnings quality in various studies like Penman and Zhang (2002); Ahmed, Billings

and Morton (2004); Richardson, Sloan, Soliman and Tuna(2005). Also, Bodie, Kane and Marcus (2002) consider the sustainability as a measure of earnings quality and defined the term earnings quality as the degree of sustainability of reported earnings which investors expect i.e. high quality of earnings shows it can be sustainable for a longer period of time. Penman and Zhang (2002) explain that sustainable earnings mean “earnings quality” and often used by stakeholders in financial analysis. Peterson, Schmardebeck and Wilks (2015) investigate the methods of consistency and argue that greater consistency results leads to reduction in asymmetric information which results decrease in cost of capital.

### **2.2.2 Predictability**

The predictability of earnings is the ability of the historical earnings to forecast the future earnings (Barua, 2005; Van der Meulen, Gaeremynck, & Willekens, 2007; Dorata, Barragato, & Markelevich, 2008). By developing anticipation about future earnings, earnings predictability can affect the decision making. Thus stock market performance validates the importance of predictive value. On the other hand, in many studies, the ability of historical earnings to predict the future cash flows is taken as a tool to measure the earnings quality (Schipper & Vincent, 2003; Van der Meulen et al., 2007; Dorata et al., 2008).

In investment decisions, predictability of earnings and cash flows plays a substantial role. Investors are in need of information about expected future cash flows, as their investment is valued on the basis of present value of future cash flows. Also, market value of equity is based on capacity of firm to generate earnings as well as cash flows. Therefore, predictive power of earnings and cash flows help to estimate stock returns. The more predictability of future earnings/cash flows is a sign of higher quality of earnings.

### 2.2.3 Value Relevance

To support the investors for investment decisions is the basic objective of financial reporting. In this connection, the accounting information is quite crucial. Value relevance research empirically investigates that how the accounting information about a company is related to value and by extension, relevance. In financial reporting quality literature, earnings quality is measured through its value relevance to investors for equity valuation and market returns (Beaver, 2002; Leuz, et al., 2003; Lang, Raedy, & Wilson, 2006; Cheng, Hsieh, & Yip, 2007; Liu & Liu, 2007; Kamarudin & Ismail, 2014). Value relevance is also an ability of financial reporting quality that has an impact on value of firm (Barth, Beaver, & Landsman, 2001; Beisland, 2010; Omokhudu & Ibadin, 2015). In these studies, earnings figure is considered directly related to stock prices or value of firm and this relationship recommends the reliability and relevancy of earnings figure. However, Hellstrom(2006) argues that for developing/transitional economies the value relevancy of financial accounting information is lower as compared to developed economies. Additionally, the level of value relevancy enhanced with the progress in transition.

Barua (2006) finds higher explanatory power ( $R^2$ ) in return-earnings or price-earnings regressions for relevancy than reliability, which indicate there is preference for relevance over reliability for investment decision process. If accounting information is used in the valuation process then it is expected that there is high relationship among accounting numbers and the value of stock, which shows the relevancy of accounting information in equity valuation (Barth, et al., 2001). In order to be value relevant, accounting numbers must be related to current company value.



This can be considered as the basic objective of financial reporting. Therefore, value relevancy is a significant feature of higher earnings quality.

#### **2.2.4 Accrual quality**

Cash flow from operations and total accruals are the two components of net earnings. To make accounting information more relevant, accruals are used to recognize expenses and revenues.. However, manager's opportunistic behavior leads to manipulation in accruals, as probability of manipulation in cash flows is less (Dechow & Dichev, 2002). Managers involve in managing the earnings due to three reasons: (1) to maximize their wealth- Bonus plan hypothesis (Shrieves & Gao, 2002; Sun, 2012; Nurdiniah & Herlina, 2015), (2) to minimize political cost-political cost hypothesis (Beatty & Weber, 2003; Nikolaev, 2010; Butt, et al., 2014), and (3) to avoid the breach of debt convent-debt covenant hypothesis (Ajit, et al., 2013; Franz, et al., 2014; Mohamed, et al., 2014). When earnings figure is managed by managers, then the stakeholders are misguided. Generally higher earnings management results in lower quality of earnings. The earnings-cash flow gap is due to accruals, and accruals are considered of higher quality, when accruals rapidly transform into future cash flows.

In literature, accrual quality is extensively used to evaluate the market consequences of earnings quality attributes (Hashim & Devi, 2007; Klai & Omri, 2011; Aksu, Muradoglu, & Tansel Cetin, 2013; Korkmaz, 2015; Lyu, Yuen, & Zhang, 2016) and accrual quality models have been used to trace the earnings manipulations (Dechow, Ge, Larson, & Sloan, 2011). Also these studies posit that high accrual quality results in higher earnings quality that is significant in attracting stakeholders' confidence.

### **2.2.5 Smoothness**

It is a specific form of earnings management. Comiskey and Mulford (2002) argue that the income smoothing is “a practice of earnings management forms to eliminate the earnings volatility by leveling off the earning peaks over a number of years”. In other words, smoothening of earnings is lessening the volatility in the reported earnings figure over the time. Francis, Olsson and Schipper (2008) posit that there are two conflicting views regarding smoothening of earnings as indicator of earnings quality (1) relevant fluctuation in cash flows are smooth out by managers which result in poor earnings quality. This view is based on the argument that managers respond to negative cash flows by improving accruals and vice versa (Barth & Schipper, 2008); and (2) transitory and irrelevant fluctuations in cash flows are smooth out by managers-indicator of higher earnings quality.

Managers involve the smoothening of earnings due to two reasons; first incentives, and second, raise in investors’ expectations of cash flows due to positive earnings, as a result there is increase in share price (Kirschenheiter & Melumad, 2002). Second view is based on the assumption that managers involve in the smoothening of earnings figure to reveal their private information regarding firm performance (Francis, et al., 2004). In Short, income smoothing has both positive and negative aspects. The positive aspect provides information to the stakeholders of firm and negative aspect misleads the stakeholders and users of financial reports. Dechow, Ge and Schrand (2010) argue that opportunistic smoothening of earnings is common in various economies.

### **2.3 Theoretical literature**

This section presents the theoretical background of this study which includes agency theory, stewardship theory, asymmetric information, positive accounting

theory. This section discusses the most appropriate theories that trigger the corporate governance mechanism to improve the financial reporting quality and value of firm. These theories help to develop the hypotheses, explanation of the findings. There are multidimensional theories which explain the role of corporate governance mechanism as a contributor in firm characteristics (Filatotchev and Boyd 2009). These theories are: Agency Theory, Stewardship Theory, Asymmetric information and Positive Accounting Theory. The choice of these theories is based on a direct relationship between the concept of corporate governance and the use of these theories of prior research and seems to better match the relationship between corporate governance, earnings quality and value of firm.

### **2.3.1 Agency theory, stewardship theory and asymmetric information**

Company is separate legal entity with the set of agreements which allow the principals to appoint agents for the execution of designated services on the behalf of principals (Jensen & Meckling, 1979). Agency theory describes the overall relation among various stakeholders as employees, managers, shareholders and bondholders (Eisenhardt, 1989). The base of agency theory is the contractual relationship which may or may not be in written form. This contract depicts the implied terms and conditions that how the principals suppose the agents (managers) to act. However, agency theory assumes that agents are focused for their own interests and the principals expect that the managers are involved in the activities of their own interest (Hill & Jones, 1992). Jensen and Meckling (1979) describe the agency problem as “if both principal and the agent are utility maximizers, then there is a good reason that both parties interests are misaligned”.

Managers have superior information regarding firm’s future performance (Watts & Zimmerman, 1990). When one group has better information than the other

participating group, then problem of asymmetric information occurs (Kubota, Suda, & Takehara, 2010; Connelly, Certo, Ireland, & Reutzel, 2011). If inside information is obstructed by managers for outsiders, then information asymmetry level is increased. (Richardson, 2000) tests the effect of information asymmetry on earnings management and posit that as the level of information asymmetry rises, stakeholders have not sufficient resources to detect the earnings manipulation and monitor the managerial actions.

Stewardship theory is another theory that is relevant to principal-agent relationship. This theory states that managers are considered stewards instead of agents. Refuting the assumption of misalignment of principal-agent interest, this theory asserts that both have interest in maximization of long term stewardship of company and are therefore their interests are aligned (Lambright, 2009). Instead of conquering the personal interest as prescribed in agency theory, a steward acts in accordance with the interest of firm (Davis, et al., 1997). For stakeholders, earnings management either is effective or opportunistic. If agents act accordingly with agency theory, their opportunistic behavior leads to misleading information. And if managers act according with steward theory, with additional information disclosure, then earnings management is beneficial for stakeholders.

### **2.3.2 Positive accounting theory**

Normative and Positive are considered two major streams of accounting theories. According to normative, the objective is to inform the managers that what should be, and positive means that the objective is to forecast what will be (Vorster, 2007). The ultimate objective of positive science is; to develop theory or hypothesis; to provide meaningful and effective predictions; and to induce about a phenomenon which is not yet detected (Friedman, 1953). Consistent with this argument Watts and

Zimmerman (1986) defined the Positive Accounting Theory as “ *PAT is a theory that concerned with the explanation and prediction of accounting choices and what is the response of agents fort new accounting standards or policies.* ” PAT argues that the accounting figures helps the contracting parties and results in the reductions of the information asymmetry and agency conflicts. Accounting numbers get popularity due among the stakeholders due to two reasons (Lambert, 2003). First reason is that there is existing framework of preparation of financial statements which reduces the substantial costs associated to individual frameworks for each performance measure. The other reason is that audited and publically available accounting information is considered more reliable and transparent.

There are three hypothesis in connection with PAT which explain and predict the positive or negative reaction of a firm to a particular accounting method or policy (Watts & Zimmerman, 1990). These hypotheses are:-

2.3.2.1 The Bonus plan hypothesis

2.3.2.2 The debt covenant hypothesis

2.3.2.3 The political cost hypothesis

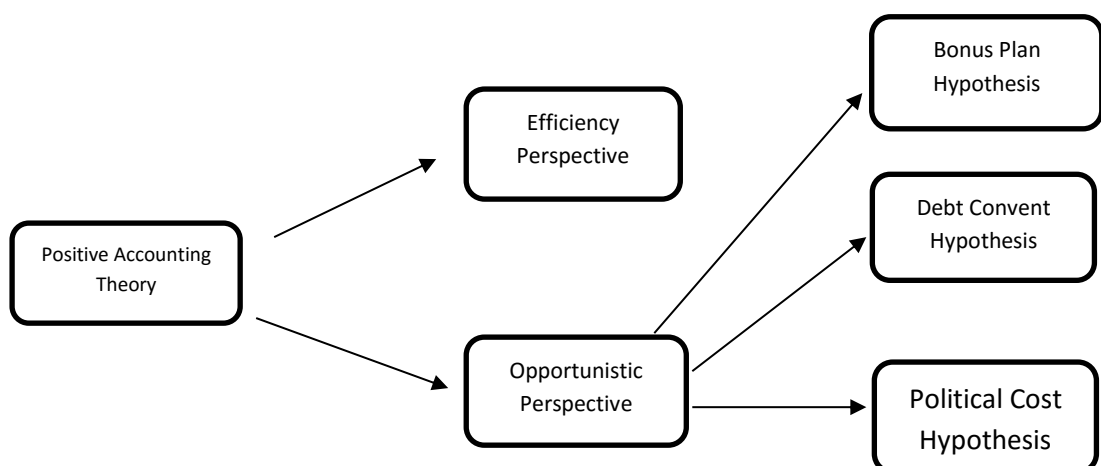


Figure 2.1: Positive Accounting Theory

### **2.3.2.1 The bonus plan hypothesis**

Under bonus plan hypothesis, managers select accounting policies to shift future income to current period income. In this way they can increase current year bonuses. PAT assumes that managers' reward system is based on accounting numbers, and managers have incentive to manipulate the earnings figure. Healy and Wahlen (1999) infer that managers use their discretions in the recording of financial transactions, to amend the financial reports, to mislead any stakeholder or to influence the contractual result based on accounting data. However, Fields, Lys, and Vincent, (2001) document that the short term bonuses are associated with accounting numbers and long term compensation is usually determined on the stock performance basis.

Shrieves and Gao (2002) point out that managers involve in manipulation of current period earnings to realize numerous benefits for themselves or for their firm. Kwon and Yin (2006) find the positive relationship between bonus and discretionary accruals when earnings before discretionary accruals are lower than the mean earnings forecast. Sun (2012) concludes that CEOs are supposed to have incentives to manage the earnings if managerial compensation is strongly connected with firm performance. Nurdiniah and Herlina (2015) investigate the association among managerial bonuses and earnings management in Indonesia, and the results depict that there is no association between two stated factors which is different from bonus plan hypothesis.

### **2.3.2.2 The debt covenant hypothesis**

Debt covenant is the function of financial ratio(s) which is (are) mutually decided by borrower and lender. This agreement enables the lender to place certain boundaries on payoff patterns, accounting ratios, payments of dividend, debt variables (debt ratio) and issuance of new debts. This agreement enforces the borrowing firm to

maintain the agreed prescribed range of the above stated features. But if the prescribed values deviate from the threshold level, then it is a sign of technical default of loan agreement. By the selection from available accounting choices, managers move earnings to current period to avoid the breach of debt covenant. In the presence of debt covenants, management has opportunity to receive incentive by deflating the liabilities or by inflating the assets to maintain the desired level of debt ratio (Christie, 1990). Dichev and Skinner (2002) empirically confirm that a firm avoids violating the predefined debt covenants. Beatty and Weber (2003) find that if debt covenant is based on accounting performance or dividend restriction, then borrower influences the accounting choices to attain the required results. Dyreng (2009) argues that the firms which are nearer to cross the threshold level, are engage in the earnings management and earnings smoothness. Butt, Chamberlain, and Sarkar (2014) find that managers involve in earnings manipulations activities in successive quarters to raise reported earnings. Franz, HassabElnaby, and Lobo (2014) document that firms which are close to violation of the debt covenant, are engage in higher level of accounting earnings management. In the Indian context, Ajit, Malik, and Verma (2013) come to the conclusion that there is a negative association among leverage and discretionary accruals. Using large sample of quarterly data, Jha (2013) find that managers involve in managing the earnings in the quarters preceding the debt covenant violations and when violations occur, they do lower earnings management and this behavior of downward earnings management continues till the recovery of debt covenant.

### **2.3.2.3 The political cost hypothesis**

Large firms are sometimes under scrutiny by government, media, consumers, employees, labor unions and regulatory bodies. The political cost hypothesis states that such firms are likely to involve in deferring the current earnings in future periods

to reduce the taxes and other regulatory cost. The greater the political cost associated to a firm, the managers are more likely to involve in such accounting policies which defer the current earnings to future periods (Makar & Alam, 1998).

(Ajit, et al., 2013) conduct a study by taking the Indian firms and document that earnings management in Indian firms is higher than US firms. This study also depicts that small Indian firms are involved more in earnings management as compared to large firms. Mohamed, Faouzi, and Olfa (2014) describe that image projection activities of a firm lead the management to manipulate the earnings and there is positive association between selection of managerial choices and social disclosure.

## **2.4 Theoretical framework**

Jensen and Meckling (1979) describe the agency problem as “if both principal and the agent are utility maximizers, then there is a good reason that both parties’ interests are misaligned”. Agency theory assumes that the manager’s interest are not fully aligned with the principal’s interest and this factor induces the managers to behave opportunistically while preparing the financial reports (Davis, Schoorman, & Donaldson, 1997). When one group has better information than the other participating group, then problem of asymmetric information occurs (Connelly, Certo, Ireland, & Reutzel, 2011). To reform the corporate governance in Pakistan, Government has taken several steps as discussed in subsection 1.1 in chapter one. Similar to corporate governance codes of the other countries, the Pakistani Code of Corporate Governance also developed with the expectation of lessening the agency conflicts among principals and their agents and as a result increases in the transparency, internal accountability and responsibility of the firms. This phenomenon is important in the Pakistani setting because of concentrated and family ownership. This concentrated



ownership has significant adverse effect on the interests of the minority shareholders because of the conflict of interest among majority and minority shareholdings (Baydoun et al., 2012). This conflict of interest raises the importance of agency theory in the Pakistani context for the interpretation and explaining the findings of this study.

Along with agency theory, various theories have been established for explaining the relationship between corporate governance and value of firm. For example, Ross (1977) explains the association among information asymmetry and financial disclosures and capital structure. He posits that, by issuing debt the firm sending positive signals to the market participants and stakeholders. The outsiders take it as a corporate governance mechanism and hence increase in the value of firm because this signal show that the managers will work hard for the payment of the interest and principal amount borrowed in the future. Theoretically, having good corporate governance mechanism, a firm spread a signal to the stakeholders that the internal management is working in the interest of the principals and working to maximize the shareholder's wealth. Financial disclosure in the annual reports positively signals to stakeholders regarding the good governance practices also it leads to decrease in the information asymmetry among principals and agents, and ultimately, it can raise the share price (Black et al., 2006). Since the implementation of Corporate Governance Code in 2002, it is expected to improve the disclosure and transparency which reduces information asymmetry.

However, refuting the assumption of misalignment of principal-agent interest, stewardship theory asserts that both have interest in maximization of long term stewardship of company and are therefore their interests are aligned (Nicholson & Kiel, 2007; Lambright, 2009). Positive accounting theory explains and predicts the positive or negative reaction of a firm to a particular accounting method or policy

(Watts & Zimmerman, 1990). This theory affirms that the financial reporting of higher quality is a sign of lesser earnings management that results in the reduction of asymmetric information among the managers and external stakeholders (Gonzalez & Meca 2014). The lesser information risk improves the value of firm (Yunos, Smith et al. 2010). Implementation of effective corporate governance is expected to improve the market's perception of the quality of corporate profits.

To mitigate the agency problem and associated information asymmetry, certain devices can be used. One device is that the effective corporate governance system can play an important role (Dharwadkar, George, & Brandes, 2000; Sivaramakrishnan & Yu ,2008). First aspect of this study is to investigate the impact of overall corporate governance on the value of firm. Due to this control mechanism, it is expected that the misalignment of principal-agents interests reduced. Also, impact of corporate governance upon financial reporting quality is investigated in this study. A better corporate governance mechanism is likely to curb the managerial opportunist behavior, minimizes the information risks related to financial reporting quality (Akileng, 2014; Kachouri & Jarboui, 2017).

The other device is the use of accounting to aid in the efficient contract among principal and agent (Watts & Zimmerman, 1990). Sufficient disclosure in financial reporting can diminish the information asymmetry among various participants of market and hence lower the cost of capital (Diamond & Verrecchia,1991; Darmadi & Sodikin, 2013). To investigate the impact of financial reporting quality measured by earnings quality upon the value of firm is another objective of this study. However, this solution works appropriately in developed economies having strong governance as compared to emerging economies having weak governance system (Dharwadkar, George, & Brandes, 2000; Claessens &

Yurtoglu, 2013). This study also investigates the mediating role of earnings quality on the effectiveness of corporate governance in the determination of value of firm. It is expected that the firms with effective corporate governance mechanism would produce the higher quality of earnings which results in information symmetry and hence increase in the value of firm. Fig 2.2 shows the research framework of this study.

**Independent Variable**

**Dependent variables**

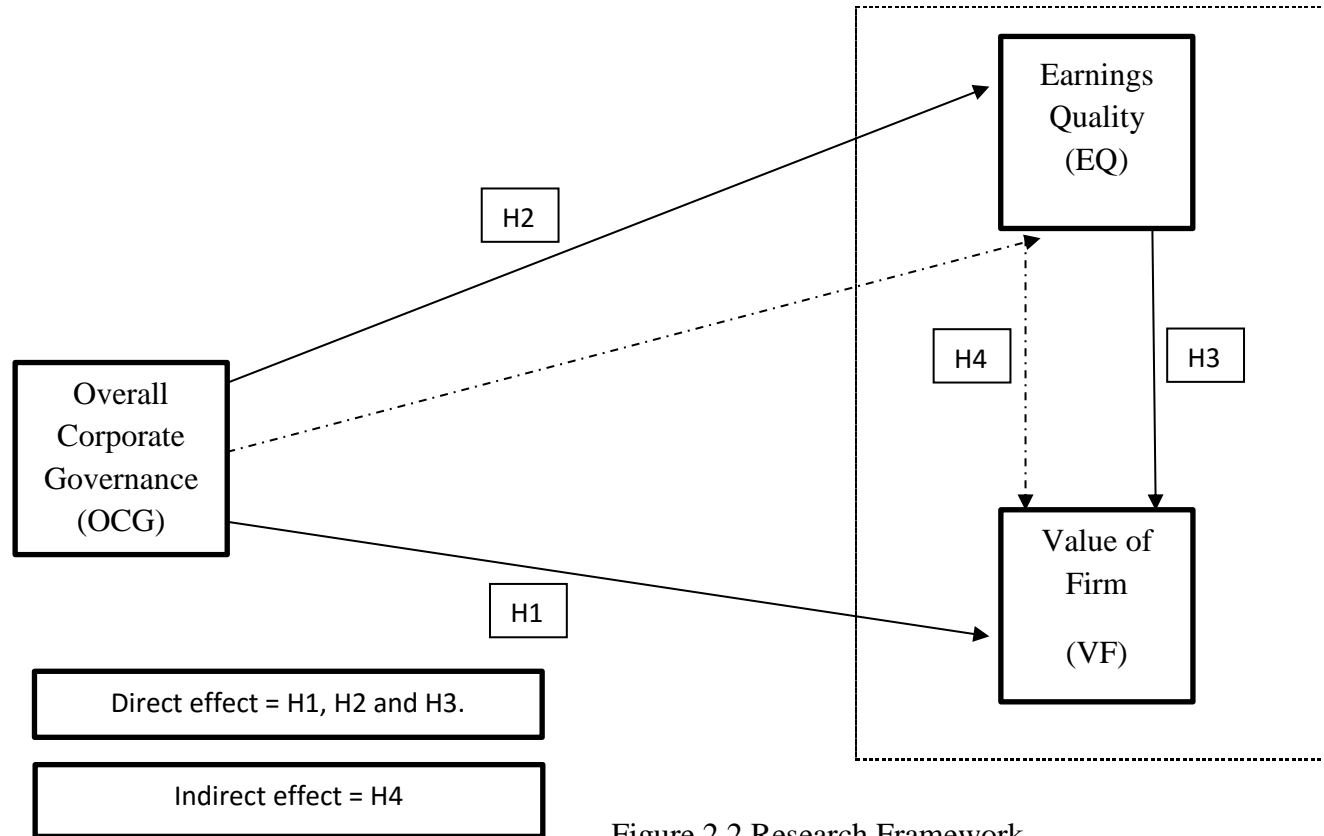


Figure 2.2 Research Framework

Interactions between Corporate Governance, Earnings Quality Attributes and Value of Firm: Empirical Analysis from Non-Financial Sector of Pakistan

## **2.5 Empirical literature and development of the hypotheses**

In this section, the empirical literature is presented and related hypotheses are developed to answer the research questions of whether the corporate governance has an impact on value of firm, whether corporate governance is associated with earnings quality, whether, earnings quality effects the value of firm, and whether the earnings quality has a mediated effect in the association between corporate governance and value of firm. In section 2.4, the argument and rationale for the hypothesis relating to association between overall corporate governance mechanism and value of firm, are provided. Section 2.6, the development of hypothesis relating to relationship between overall corporate governance and earnings quality attributes is outlined.

Section 2.7 explains the development of hypothesis relating to earnings quality and Value of firm. Section 2.8 provides the explanation and rationale for the development of hypothesis concerning the mediating role of earnings quality in the corporate governance and value of firm relationship.

### **2.5.1 Components of corporate governance and value of firm**

As discussed in the introduction, there are a number of internal as well as external corporate governance components which are helpful in the reduction of firm's agency cost and hereby increase the financial reporting quality as result value of firm is positively affected. In this study nine internal and external corporate governance components are used for the construction of corporate governance index. Following Rezaee (2007); Chen and Rezaee (2012); Siddiqui (2015), managerial ownership, large shareholdings, institutional ownership, board size , board meetings, CEO duality, audit committee independence and audit committee meetings are taken as internal corporate governance components. The external corporate governance component consists of audit quality. A

brief explanation of each corporate governance component and its impact on value of firm is described below:-

#### **2.5.1.1 Managerial ownership and value of firm**

Managers are persons who have authority to take decisions in respect of firms' policies and strategies. If managers hold below 100% of the residual claims, then conflict of interest may arise among shareholders and managers (Jensen & Meckling, 1979). Due to this reason, managers attempt to enhance their private profits/interests and employ less effort in the efficient management of firm's resources. This wastefulness can be condensed, if managers own the reasonable fraction of firm's shares. In short, considerable managerial ownership helps to align the interest of both the parties and increase the value of the firm. However empirical studies regarding the relationship among managerial ownership and value of firms, reflect the ambiguous results. Chen, Guo and Mande (2003) examine the relationship among managerial ownership and firm's performance (measured through Tobin's-Q), by taking 123 Japanese firms level data ranging from 1987 to 1995. Applying ordinary least square, the results show that there is positive relationship among high level of managerial ownership and value of firm. These results suggest that, as the managerial ownership increases, there is greater alignment of interest among shareholders and managers.

Hu and Zhou (2008) examine the impact of director's ownership and firm's performance by analyzing the data of Chinese firms. Comparing the various firms, the results of this study show that firms with larger managerial ownership outperform the firms with lower managerial ownership. Also the results show that this relationship is non-linear and this relationship becomes negative at managerial ownership is or above 50%. According to these results, when managerial ownership attains a certain level, then

managers have greater freedom to safe their own interests without any fear, and hence decrease in the value of firm.

Similarly, Ruan, Tian and Ma (2009) analyze the relationship among managerial ownership and firm's performance, measured by Tobin-Q. They consider 723 firms year observations of 197 Chinese listed firms ranging from 2002 to 2007. The non-linear relationship was reported in this study and further describe that firm performance increases as managerial ownership increases until ration reaches to 18%. Then it decreases until managerial ownership reaches to 64%. Firm performance increases slightly as managerial ownership rises above 64%. However, Chen and Yu (2012) study the 98 Taiwanese listed firms to investigate the relationship among managerial ownership and firm performance. The findings show that the Taiwanese firms have higher managerial ownership as compared to European and USA firms. And they suggest that, above the Inflection level of 33.17%, the managers start to seek their private gains/profits.

For American Firms, there is significant negative change in director ownership for every year. When respective firms are performing good, managers are likely to decrease their ownership and when firms are not performing well, then are likely to increase their ownership (Fahlenbrach & Stulz, 2009). Ahmed Sheikh, Wang and Khan (2013) analyze the sample of 770 firm year observations of 154 non-financial firms listed in Karachi Stock Exchange, Pakistan ranging from 2004 to 2008 to investigate the relationship between internal corporate governance attributes and firm performance. Pooled ordinary least square was used to examine the relationship. The results show that there is negative association among managerial ownership and performance. The authors conclude that, in Pakistan, the situation is reversed and large managerial ownership tends to safe their personal benefits and firm performance is affected negatively. Also, Ali Shah and Butt (2009) examine the association between various corporate governance attributes and cost

of equity of 114 listed companies in Karachi stock exchange over the period 2003 to 2007. They use simple ordinary least square and fixed effect model to test the panel data and assert that there is negative relationship between managerial ownership and cost of equity. In summary it is predicted that managerial ownership is an important corporate governance attribute for the determination of firm performance and value of the firm.

#### **2.5.1.2 Large shareholdings and value of firm**

In literature, two types of ownership structure are widely discussed i.e. dispersed and concentrated ownership. Nature of ownership structures is dispersed in most developed countries whereas, in developing economies, the nature of ownership is concentrated. In concentrated ownership, a few shareholders hold a substantial portion of total equity shares. Such type of shareholders is more efficient than small shareholders in management monitoring, as they have large voting rights to safeguard their investment (Jensen & Meckling, 1979). However, empirical studies regarding the relationship between ownership concentration and firm performance yield ambiguous results.

Lehmann and Weigand (2000) measure the variation in firm performance due to the presence of concentrated ownership. In this study the data of 361 German listed firms was analyzed and found that there is negative association among both the variables. On the other hand, Ehikioya (2009) tests the relationship between corporate governance structures and firm performance (measured through Return on assets, price-earnings ratio and Tobin's-Q) in Nigerian context by taking 107 listed firms ranging from 1998 to 2002. The results of the study show that ownership concentration is positively associated with ROA and price-earnings ratio but negatively associated with Tobin's-Q. On the other hand, Becker, Cronqvist and Fahlenbrach (2011) report the positive relationship among both variables.



Santos, Moreira and Vieira (2013) study the impact of block holders on value of firm (Tobin-Q) for a sample of 1,066 listed firms, 5330 firm-years observations, in 13 Western European countries for the period 2002 to 2006. Using GMM, results show that, for countries with low investor protection, this relationship is “U-shape” and for countries with high investor protection, this relationship is about to linear.

However, Tsegba, Herbert and Ene (2014) explore the association among ownership concentration and firm performance. They analyze the data of 420 observations of 70 Nigerian firms ranging from 2002 to 2007. Using ordinary least square, the results show that there no significant relationship between ownership concentration and firm performance.

With reference to Pakistan, Javid and Iqbal (2008) analyze the relationship between ownership concentration and firm performance for the sample of 60 listed firms ranging from 2003 to 2008. The results show that ownership concentration has positive influence on profitability. Similar findings were derived in various studies (see for instance Abdullah, Shah, & Khan, 2012; Ahmed Sheikh, et al., 2013; Hassan, Karim, & Salamuddin, 2016). In summary it is predicted that ownership concentration is associated with the value of the firm which is generally consistent with the prediction of agency theory.

### **2.5.1.3 Institutional ownership and value of firm**

Past studies gave importance not only to ownership concentration, but also there is evidence for the importance of institutional ownership for the determination of firm performance. Ho (2005); Burns, Kedia and Lipson (2010) argue that the existence of institutional ownership positively affect the firm performance as institutional ownership increases the board monitoring and efficiency. In current age, role of institutional

shareholders play an important role in effective monitoring and to deliver the better firm's corporate governance (Tsai & Gu, 2007).

Institutional ownership compels the managers to align with the interest of shareholders. Cornett, Marcus, Saunders and Tehranian (2007) explain the effect of institutional ownership on value of firm by taking 676 firms year observations of firms listed in S&P 100 for the period ranging from 1993 to 2000. This study posits the significant positive association among institutional ownership and firm performance and demonstrated that institutional ownership increases the board vigilance and has ability to influence the managers.

However, Pucheta-Martínez (2015) examine the impact of various corporate governance aspects (for instance board independence, institutional ownership, board size, board meetings and CEO duality) on firm performance (measured by market to book ratio and ROA) in the context of Spain. The findings of this study posit that board size and frequency of board meetings have positive impact on firm performance. It is also argued that board size positively affect the firm performance up to a certain level of board size. While, found no impact of board independence, institutional ownership and CEO duality on firm performance. Elyasiani and Jia (2010) find the positive association between institutional ownership and firm performance. They consider 8370 firm year observations of 1532 firms over the period 1992 through 2004.

In Pakistani context, Abdullah, et al. (2012) examine the association between ownership structure and its effect on firm performance by taking sample of 183 non-financial firms listed in Karachi Stock Exchange over the period 2003 through 2008. According to authors, institutional ownership has significant positive association with firm performance. Similarly Rehman and Shah (2013) examine the association between ownership structure and firm performance by taking the 80 listed firms for the period

2005 to 2009. For data analysis, common effect model was used and results show a positive association among both the variables.

Chung, Liu, Wang and Zykaj (2015) investigate the institutional investment horizon effect on firm's value on the 72,193 firm-years observations over the period 1980 to 2010 in U.S.A. To measure the overall financial strength, F-score was developed by taking into account nine accounting variables. 2SLS technique is used for estimation and analysis, and results show that long term institutional shareholdings contribute positively in overall strength of the firm. In summary, for the assessment of the governance and value of firm association, institutional ownership plays a key role for elevating the value of firm.

#### **2.5.1.4 Board size and value of firm**

Board is the highest decision making forum in an organization. According to economic theory, board of directors is a vibrant part of firm's governance structure and the board size is connected to director's managerial ability to control, instruct and monitor the senior managers. The number of board of directors varies from country to country and company to company. Some studies show the positive impact of board size on firm's performance (see for instance, Chiang & Chia, 2005; Haniffa & Hudaib, 2006; Jackling & Johl, 2009; Ehikioya, 2009; Kumar & Singh, 2013). The findings of the stated studies are consistent with the expectations of resource dependence theory and argued that larger board can do monitoring efficiently as such board consists of more expertized persons.

In contrast, according to Firth, Fung and Rui (2007), large board size are not so effective as there are certain difficulties relating to task coordination, communication problems and also agency problems. Lipton and Lorsch (1992) argue that when board size is larger, then it becomes less effective as some directors enjoy free ride on the struggle of other directors. Cheng (2008) investigates the relationship among board size and firm

performance in USA by taking 1,252 firms and 6,869 firm years observations. The results of the study depict that there is negative relationship between board size and monthly stock returns, annual ROA and Tobin's-Q. However, Ali Shah and Butt (2009) test the relationship between various corporate governance attributes and cost of equity of 114 listed companies in Karachi Stock Exchange over the period 2003 to 2007. They use simple ordinary least square and fixed effect model to test the panel data and found that there is negative relationship between board size and cost of equity. They argue that, these results could be due to transition phase as the corporate governance code was implemented in Pakistan in 2002.

Christensen, Kent and Stewart (2010) take up a study to investigate the relationship between various corporate governance attributes and firm performance measured through ROA and Tobin's-Q in the Austrian context by taking a sample of 1039 firms. The results of the study show that there is negative relationship between board size and ROA and positive association with Tobin's-Q. Similar finding were derived in another study conducted in the Nigerian context. Dabor, Isiavwe, Ajagbe and Oke (2015) investigated the impact of corporate governance on firm performance by taking sample of 248 firms. Corporate governance attributes include board size, independence, and ownership composition while firm performance was measured through ROE and ROA.

Ahmed Sheikh, et al. (2013) investigate the relationship between internal corporate governance attributes and firm's performance. For this purpose, 154 firms listed in Karachi Stock Exchange over period of 2004 to 2008 were taken into account. Using pooled ordinary least square, the results of the study reveals that board size is positively associated with firm performance.

Martínez (2015) examines the impact of various corporate governance aspects (for instance, board independence, institutional ownership, board size, board meetings and CEO duality) on firm performance (measured by market to book ratio and ROA) in the context of Spain. The findings of this study reveal that board size and frequency of board meetings have positive impact on firm performance. They also argue that board size positively affect the firm performance up to a certain level of board size. While, also found no impact of board independence, institutional ownership and CEO duality on firm performance. Similarly, Manna, Sahu and Gupta (2016) examine the impact of board size, board structure, ownership structure, CEO duality and CEO tenure on firm performance by taking 42 Indian firms for the period of 2009 to 2013. Using panel data base regression, it was found a positive association among board size and firm performance.

#### **2.5.1.5 Board meetings and value of firm**

The frequency of board meetings in a year is considered a metric of board activity and number of board meetings in a year is another aspect of corporate governance mechanism. Firms routinely report such board activity in the form of frequency of board meetings and details of attendance in annual reports. Frequency of board meetings is considered as a tool to improve the effectiveness of board because more the frequency of meetings more the discussion on problems and substitutes (Conger & Lawler, 2009). Agency theory proposes that more frequent board meetings lead to better vigilance and management, and Ntim and Osei (2013) find a positive relationship between the frequency of board meetings and firm performance in South African context. Brick and Chidambaran (2010) also find a positive relationship between board activity and firm performance for 5,228 firm year observations over the period 1999 to 2005 in USA.

In Pakistan, according to Code of Corporate Governance (2002), that board should meet at least should meet once in a quarter. It is requirement that the board should disclose the details of minutes and attendance of meeting. Hashmi, Irshad, Kausar and Nazir (2015) conduct a study to investigate the association among board characteristics and firm performance by considering a random sample of 100 non-financial firms listed in Karachi Stock Exchange over the period 2007 to 2012. They apply pooled dummy regression model to analyze the data and results depict that there is positive association among frequency of board meeting and firm performance. In Indian Context, Sahu and Manna (2013) examine the impact of board composition and board meeting on firm performance. Corporate performance is measured through net sales, net income, ROCE, EPS, EVA and Tobin's-Q. The results of this study depict that frequency of board meeting has positive association with firm performance measures.

On the other hand, it is also argued that, the large frequency of board meetings increase the travelling allowances of members, management time, administrative and logistic cost etc. this may affect the firm activities as such resources are involved in less productive matters. In an Australian study, Christensen, et al. (2010) find a negative relationship between frequency of board meetings and firm performance which is measured though ROA and Tobin's-Q and argue that the markets perceive the large number of meetings as an indicator of inefficiency and ineffectiveness and also there may be potential negative matters at the managerial side. Similarly, Johl, Kaur and Cooper (2013) examine the relationship between corporate governance attributes ( board activity, board size, board independence and director's expertise) and firm accounting performance by taking sample of 700 listed firm in Malaysia for the year 2009. The findings of the study show that board activity is negatively associated with firm performance. Hussein and Venkatram (2013) examine the impact of corporate

governance attributes (Board size, board meetings and board composition) and firm performance (measured by Tobin's-Q) by taking the sample of 64 firms listed in Bombay Stock Exchange over the period of 2007 to 2011. The results of the study depict that the board size has positive relationship with firm performance while board composition and board meetings have no significant relationship with firm performance. Ilaboya and Obaretin (2015) also report the similar findings in the Nigerian Stock Market context by considering sample of 166 firms over the period from 2005 to 2012 and log of profit after tax as the measure of firm performance.

#### **2.5.1.6 CEO duality and value of firm**

Another board composition aspect is CEO duality. When Chief Executive Officer (role of decision management) also holds the position of the chairman (role of decision control) of the board, it is called CEO duality. There are two theories regarding the board compositions. According to agency theory, this situation diminishes the effective vigilance of board over the managerial opportunism. If both the roles are performed by a single person, then a single person dominates the board and monitoring becomes ineffective (Fama & Jensen, 1983). On the other hand, according to stewardship theory, managers are the best stewards of the firms and CEO duality could be helpful in the promotion of a strong management and leadership. So combining the both roles in to a single person would result in prompt and optimal decision making which results in positive effect on firm performance. But in real world, there is no sole ideal board leadership composition and firms models are dependent upon firm own characteristics and environments (Brickley, Coles, & Jarrell, 1997; Aguilera, Desender, Bednar, & Lee, 2015).

Empirical studies in respect of association between CEO duality and firm performance depict the ambiguous results. Haniffa and Hudaib (2006) examine the role

of CEO duality in the determination of financial performance by considering the sample of 347 firms listed in Kuala Lumpur Stock Exchange over the period from 1996 through 2000. The results show that CEO duality and firm performance are positively associated and results are consistent with stewardship theory. Kumar and Singh (2013) also derived the same results in Chinese context.

Similarly, Pham, Oh and Pech (2015) investigate the data of 188 firms listed in Vietnam over the period 2004 through 2013. By using 2 SLS, the results of the study show that CEO duality has significant positive impact on performance and argue that due to strict political and regulators, CEOs have less incentive for managerial opportunism. However, by taking sample of 204 listed firms in Turkey between the period 2009 to 2010, Mesut Dogan, Elitas, Agca and (2013) investigate that whether CEO duality have an impact upon firm performance (Tobin's-Q, ROA and ROE). Using multiple regressions, the findings show the negative association among CEO duality and firm performance and the results are stable with agency theory. Hashmi, et al. (2015) studied the relationship among board characteristics and firm performance. Random sample of 100 listed firms in Pakistani Stock Market ranging from 2007 to 2012 was taken into account. Firm performance is measured through Tobin's-Q and ROA. Pooled dummy regression is adopted to analyze that data. The results show that CEO duality has adverse impact on firm performance. However, Arslan, Zaman, Malik and Mehmood (2014) could not find significant relationship between CEO duality and firm performance.

Varshney, Kaul and Vasal (2013) investigate the corporate governance mechanisms and firm performance in Indian context by taking data consisting of 105 firms listed in National Stock Exchange of India. The findings of the study show an insignificant relationship between CEO duality and firm performance. Similarly, Martínez (2015) examines the impact of various corporate governance aspects (board



independence, institutional ownership, board size, board meetings and CEO duality) on firm performance (measured by market to book ratio and ROA) in the context of Spain. The findings describe that board size and frequency of board meetings have positive impact on firm performance, and also argue that board size positively affect the firm performance up to a certain level of board size.

#### **2.5.1.7 Audit committee independence and value of firm**

To protect the shareholders interest, audit committee role is important and audit committee is considered an internal control mechanism which is helpful to enforcement of effective corporate governance (Lin & Hwang, 2010). The audit committee success depends upon its independency from firm's management to attain its objectives (Ismail, Dunstan, & Zijl, 2009). The existence of audit committee independency confirms that auditors have capacity to monitor the management in well manner as they have no personal association with the managers (Darus & Mohamad, 2011) and there is no conflict of interest among both sides (Siagian & Tresnaningsih, 2011).

If non-executive directors are more than the executive directors, then audit committee is considered an independent committee and several studies prove that an independent audit committee ensures the true and fair picture of business financial reporting. Lin and Hwang (2010) document the negative relationship between audit committee independence and earnings management, and conclude that the existence of an independent audit committee reduces the fraud and misleading financial reporting and enhance the investors' confidence in shares of firm which lead to increase in value of firm.

Studies have been conducted to investigate the relationship between audit committee independence and firm performance. In Australian context, Christensen, et al. (2010) explore the relationship between independent audit committee and firm

performance (measured through ROA and Tobin's-Q) by taking sample of 906 listed firms. Using Ordinary Least Square, the results show the positive association between audit committee independency and both firm performance measures. In the same vein, Bouaziz and Triki (2012) find the positive association in Tunisia. In this study, firm performance is measured by ROE and ROA. Ilaboya and Obaretin (2015) also document the significant positive relationship between AC independency and firm performance in Nigeria by taking sample of 166 firms over the period from 2005 through 2012 and log of profit after tax as the measure of firm performance.

Afza and Nazir (2014) examine the impact of audit quality, audit committee independence and frequency of audit committee meetings on firm performance. Firm performance was measured by Tobin's-Q and ROA. By considering sample of 124 listed companies in Karachi Stock Exchange, the findings of panel data estimation show that there is no relationship between audit committee independency and firm performance. In India, Bansal and Sharma (2016) investigate the contribution of independent AC to the firm performance by taking sample of 235 firms listed in NSE 500 for the time period from 2004 to 2013. ROA, Tobin-Q, ROE and market capitalization as measures of financial performance are considered and fixed effect estimation technique was used analyze the data. The findings of the study show no association among audit committee independence and firm performance.

#### **2.5.1.8 Audit committee meetings and value of firm**

Audit committee activity is another tool to gauge the audit committee effectiveness and efficiency to monitor the internal control and to provide true and fair information to stakeholders (Xie, Davidson, & DaDalt, 2003). Regular audit committee meetings could reduce the agency problem and information asymmetry (Al-Mamun, Yasser, Rahman, Wickramasinghe, & Nathan, 2014) and frequent audit committee

meetings are helpful to protect from fraud (Abbott, Parker, & Peters, 2004). Like independent audit committee, audit committee meetings also show inconclusive results. Kyereboah-Coleman (2008) finds positive association among audit committee meetings and firm performance. Firm performance is measured through ROA, ROE and Tobin's-Q. In this study sample of 103 firms from Ghana, South Africa, Nigeria and Kenya are taken for the period 1997 to 2003.

In Pakistan, Afza and Nazir (2014) examine the impact of audit quality, audit committee independence and frequency of audit committee meetings on firm performance. Firm performance is measured by Tobin's-Q and ROA and sample of 124 listed companies in Karachi Stock Exchange was considered. The findings of panel data show that there is no relationship between frequency of audit committee meetings and firm performance. In the same vein, Bist, Ghimire, Dhimal, Pokharel and Singh (2014) find no association among frequency of AC meetings and firm performance in Nepal.

Also, Bansal and Sharma (2016) investigate the contribution of audit committee activity to the firm performance in India by taking sample of 235 firms listed in NSE 500 for the time period from 2004 to 2013. They use ROA, Tobin's-Q, ROE and market capitalization as measures of financial performance and use fixed effect model to analyze the data. The findings of the study show no association among audit committee meetings and firm performance. However, Darko et al. (2016) find negative association among frequency of audit meetings and firm performance in Ghana, and argue that the larger number of AC meetings increases the cost of committee meetings and hence decrease in the value of firm.

#### **2.5.1.9 Audit quality and value of firm**

Principal and agent relationship is explained in agency theory. In this relationship, there are at least two major problems: managerial compensation and information

asymmetry. The agency problem (managerial compensation) can be resolved through negotiations and managerial stock ownership incentive. However, the other agency problem (information asymmetry) can be mitigated through quality of audit service (Willenborg, 1999). Agency problem created the demand for external auditor (Gerayli, Yanesari, & Ma'atoofi, 2011). The role of external auditor should contribute significantly in the firm performance as external auditor should provide reasonable declaration to stakeholders that the financial statements/reports are free from any material misstatement, bias and are in accordance to prevailing accounting standards. Similarly, comprehensive audit should strengthen corporate governance and internal control, which results in increase of firm performance. So audit quality is an important aspect of external corporate governance.

In literature, Big-*N* is vastly used as a measure to quantify the quality of external audit. In the context of U.S.A., Francis and Yu (2009) examine the association between large auditors (Big 4) and audit quality by taking sample of 6568 firm years observations and 285 big-4 audit firms over the period through 2003 to 2005. The findings of this study reveal that large audit firms provide higher audit quality. Also other studies (see for instance, Choi, Kim, Kim, & Zang, 2010; Francis, 2011; Wahab, Haron, Lok, & Yahya, 2011; Sirois & Simunic, 2011; Lawrence, Minutti-Meza, & Zhang, 2011; Knechel, Niemi, & Zerni, 2013; Sawan & Alsaqqa, 2013) suggest that that big audit firms (Big 4 or Big 5 audit firms) provide higher quality of audit .

The relationship between audit quality and firm value has received attention from researchers. Jusoh, Ahmad and Omar (2013) explore the association between audit quality and firm performance. Big4 (auditor size) is taken as a proxy to measure audit quality and for firm performance; ROA and Tobin's-Q are used. They take sample of 730 Malaysian listed firms and 2190 firms' year observation ranging from 2007 to 2009. The

results show that audit quality has positive effect on both firm performance measures and argue that external audit serves as monitoring device which reduces the information asymmetry. Cheong, Teh, Ong and Hong (2015) find the same results in another study in Malaysian context. Afza & Nazir (2014) assess the association between audit quality and firm performance. Audit quality is measured by Big4 audit firms and firm performance was measured through Tobin's-Q and ROA by taking sample of 124 listed companies in Karachi Stock Exchange. The findings of panel data show that there is positive relationship between audit quality and firm performance

### **2.5.2 Associations between overall corporate governance index and value of firm**

This section elaborates the literature relating to corporate governance and value of firm which is helpful in construction of hypothesis for first research question. Better corporate governance mechanism is likely to improve the overall firm's performance, because better governance improves the effective monitoring of the managerial actions, which results in lower cost of capital and higher return on equity through better labor practices, well-organized management, better allocation of resources and other efficiency improvements (Love, 2010). Also Sivaramakrishnan and Yu (2008) find that if corporate governance is effective in reduction of agency problems, then there would be higher earnings quality. Three attributes of earnings quality i.e. Accrual quality, persistence and predictability were examined, and authors used Gompers's Index for corporate governance.

Two questions arise in the discussion regarding governance-value relationship. First, is there any association among corporate governance and firm's performance? Second, if so, then what type of relationship exists among two proportions? Although plenty of international and local research has been conducted to examine the governance-

value relationship, but empirical findings provide the inconclusive and contradictory results.

Also, it is argued that examining the each corporate governance attribute in isolation can yield an inadequate examination of the determinants of value of firm. Most of the recent studies use the composite measure of corporate governance. In these studies, multiple numbers of individual corporate governance attributes are condensed into a single measure (e.g. Gompers, Ishii, & Metrick, 2003; Mintz, 2005; Durnev & Kim, 2007; Brown, Beekes, & Verhoeven, 2011; Varshney, Kaul, & Vasal, 2012; Bhandari, Lamba, & Seth, 2014).

### **Studies that discover the positive association in governance-value relationship**

One of the primary studies, Klapper and Love (2004) consider the firm level data of 14 emerging stock markets (Chile, Hong Kong, Brazil, Indonesia, Pakistan, Taiwan, India, Philippines, Malaysia, Singapore, South Africa, South Korea, Thailand and Turkey) with Tobin's-Q and return on assets as proxies of firm's performance measure, and found a significant positive link among corporate governance mechanism and firm's performance. The findings also show that there is extensive discrepancy in firm level corporate governance among various economies and corporate governance level is lower in economies having weaker legal system. A country's corporate governance status plays a vital important role in appealing and holding the investors, their confidence building and construction of vigorous capital market (Ahmed, Alam, Jafar, & Zaman, 2008). Similarly, for 17 emerging economies, Chen, Chen and Wei (2009) examine the relationship between corporate governance and cost of equity and found that corporate governance is inversely associated with cost of capital.

Ammann, Oesch and Schmid (2011) explore the nature of governance-value relationship by taking 22 developed countries data on 6,663 firm-year observations

ranging 2003 through 2007. Three corporate governance indices were developed and Tobin's-Q is taken to measure firm performance. For every corporate governance index, this study found a significant positive association between corporate governance and firm value.

Substantial studies also exist in which single country data is used to investigate the relationship between corporate governance and value of firm. Regardless of variations in countries and methodologies adopted, most of the studies depict the positive association governance-value relationship. Brown and Caylor (2006) investigate the relationship between corporate governance and value of firm on a sample of 1868 firms for the period 2003 to 2006. The authors regress corporate governance score, three control variables and Tobin's-Q. The results of the study show positive relationship among both variables. Larcker, Richardson and Tuna (2007) examine the relationship between corporate governance and accounting outcome in U.S.A. using a sample of 2,106 firms. In this study corporate governance index was developed using principal component analysis. The results of this study depict that corporate governance index has positive affect upon the operating performance of the firm.

Bhagat and Bolton (2008) explore the relationship among corporate governance mechanism and firm performance by sample period ranging from 1990 to 2004. Two corporate governance indices (GIM and BCF) were constructed, and to measure firm performance, ROA and Tobin's-Q were used. Two stage least squares and three stage least squares are used to estimate system of equation and to address the endogeneity. They found significant positive association among both corporate governance indices and firm performance. Sami, Wang and Zhou (2011) evaluate the data set of 245 Chinese firms ranging from year 2001 to 2003 to explore the governance-performance relationship. In this study factor analysis was used to construct corporate governance

score and ROA, ROE (short term measures of performance) and Tobin-Q (long term measure of performance) as taken as dependent variables. Regression analysis results show that constructed corporate governance score has significant positive impact on ROA and ROE.

Similarly, Azeem, Hassan and Kouser (2013) explore the relationship between corporate governance mechanisms and firm performance in Pakistan. Using 50 largest companies (based on market capitalization) listed in Karachi Stock Exchange, to measure the corporate governance, an index was constructed, and to measure firm performance; earnings per share as well as market-to-book ratio were used. Fixed effect estimation method was used and findings of the study that the corporate governance has significant positive effect on value of the firm.

Similar results were found in a recent study. Javaid and Saboor (2015) investigate the role of corporate governance in the determination of firm performance. In this study sample of 58 manufacturing companies listed in KSE ranging from year 2009 to 2013 was considered and constructs a corporate governance index using 21 various dimensions. Firm performance is measured through Tobin's-Q and ROE. The results reveal that there is positive association among CG-index and firm performance measures. Keeping in view the results of the stated studies, it can be assumed that corporate governance has significant role in the firm performance improvement.

### **Studies that argue opposite to the positive association of governance-value relationship**

Some of studies question the positive governance-value relationship and claim that this relationship is not so strong. Adjaoud, Zeghal and Andaleeb (2007) effort to explore the relationship between four board characteristics (board composition, compensation to board members, disclosure and shareholder right) and various



accounting based and value creation based measures of performance. For this purpose, 219 Canadian firms from various sectors of the economy were taken as sample and used univariate and multivariate analysis for the testing of the determinants. The results of this study show that no relationship exists between corporate governance score and accounting based measures of firm's value (ROE, ROI and EPS), while there is significant positive relationship among corporate governance score and economic value added (value creation based measure of firm performance).

Core, Guay and Rusticus (2006) construct a G-index using 24 provisions followed by Gompers, Metrick and Ishii (2003) to examine the impact of corporate governance mechanism on firm's performance on the sample of 9,917 firm-years observations for the period 1999 to 2003 and found insignificant relationship between corporate governance index and ROA.

Arcot and Bruno (2007) study the impact of overall corporate governance on firm performance measured by ROA. Using eight provisions, governance index was constructed for the sample of 245 non-financial firms listed in U.K. for the period 1998 to 2004. The findings show that, it is not always true that better governance leads to better firm performance, and argue that as firms are not homogenous, therefore, flexibility in corporate governance plays an important role.

Epps and Cereola (2008) estimate the association among corporate governance index and firm performance by taking a sample of 273 firms during the years 2002 to 2004. Corporate governance rating based on 8 categories of governance was developed and ROA & ROE are used to measure the firm performance, and found that there is insignificant relationship among CG-score and firm performance.

Similarly, Gupta, Kennedy and Weaver (2009) explain the governance-value relationship for a sample of 270 firms over a span of time 2002 to 2005. To construct

corporate governance score, four sub categories (board composition, shareholder rights, board and CEO compensation and disclosure) were taken into account. Maximum score of the composite corporate governance is 100. ROA and Tobin-Q are used to measure the firm value. The findings of the study reveal that neither the composite nor the sub category of corporate governance has any association with value of firm.

Velnampy (2013) assess the relationship between corporate governance and value of firm in Sri Lankan market on the basis of 28 manufacturing companies using the data ranging from 2007 to 2011. Board structure, board committee, number of board meetings, board size and non-executive directors taken as the determinants of corporate governance and ROE & ROA were used as proxies to measure firm performance. Regression analysis results depict that there is no relationship among dependent and independent variables.

By using Pakistani listed companies, Ali Shah and Butt (2009); Javeed and Yaqub (2015) find mixed results in respect of various corporate governance mechanisms and firm performance. Azeez (2015) analyze the association among corporate governance and performance relationship in the context of Sri Lanka for the period ranging from 2010 through 2012. Data was extracted from 100 listed companies on Colombo Stock Exchange. CEO duality, board size and proportion of NED are taken as the mechanisms of corporate governance, while ROE, EPS and ROA are taken as three firm performance measures. Regression results show that that board size has negative impact on firm performance. Further, CEO and chairman separation has positive impact on all firm performance measures and existence of NED on the board has no relationship with all firm performance measures. Moreover, other studies Makki and Lodhi (2013); El-Faitouri (2014) finds no association among governance-performance relationship.

Another recent study conducted in the context of U.K., Akbar, Hughes, Faitouri and Shah (2016) study the impact of overall corporate governance upon firm

performance. Tobin's-Q and ROA are used to measure the firm performance. Corporate governance index was constructed to investigate the relationship for the sample of 435 firms (3,875 firm-years observation) over the period 1999 to 2009. Five control variables are considered in this study i.e. size of firm, leverage, R&D expenditure, year dummy and industry dummy. Using GMM, the findings show insignificant association between CG-score and performance. It is also argued that, previous studies mostly do not account for potential endogeneity problems and their results may be biased. The existing literature transmits mixed results regarding the linkage among corporate governance mechanism and firm's financial performance. And this study is an attempt to cover research gap by providing more empirical investigation in the context of Pakistan. On the basis of foregoing studies, this study formulates the following hypothesis to be tested:

*H1: Other things being equal, stronger Corporate Governance mechanism leads to higher value of firm.*

### **2.5.3 Components of corporate governance and earnings quality**

As discussed in the introduction, there are a number of internal as well as external corporate governance components which are helpful in the reduction of firm's agency cost and hereby increase the financial reporting quality as a result value of firm is positively affected. In this study nine internal and external corporate governance components are used for the construction of corporate governance index. Following Rezaee (2007); Chen and Rezaee (2012); Siddiqui (2015), managerial ownership, large shareholdings, institutional ownership, board size, board meetings, CEO duality, audit committee independence and audit committee meetings are taken as internal corporate governance components. The external corporate governance component consists of audit quality. A brief explanation of each corporate governance component and its impact on earnings quality is described below:-

### **2.5.3.1 Managerial ownership and earnings quality**

Managers are considered as a prime source of information regarding current and future firm operations and performance. In literature two views concerning the relationship between managerial ownership and financial reporting quality i.e. alignment of interest hypothesis and management entrenchment hypothesis (Lennox, 2005). Under alignment of interest hypothesis, when managerial ownership increases, it is predicted that managers with large shareholdings have incentives to align their interest with shareholder's interest and agency cost is condensed (Jensen & Meckling, 1976). This alignment of interest is expected to be more effective with the increase in managerial ownership which curbs the managerial opportunistic behavior in financial reporting. Under management entrenchment hypothesis, managers with large shareholdings have great interest in their private benefits as managers are in a dominant position. Managers have more incentives for the use of available accounting discretions in financial reporting process which distort the financial reporting quality.

Empirical studies regarding the impact of institutional ownership on financial reporting quality are inconclusive. In Singapore using 490 firm year observations, Yeo, Tan, Ho and Chen (2002) assert non-linear relationship between managerial ownership and earnings quality, and argue that this relationship is positive and linear up to a low level of managerial shareholdings and this relationship becomes negative to concentrated managerial shareholdings. Limpaphayom and Manmettakul (2004) endeavor to find the impact of managerial ownership upon earnings in-formativeness in Thailand on a sample of 69 firms (207 firm-year observations) during the period 1998 to 2000. The findings of the study depict the negative association among both variables and argue that concentrated managerial ownership leads to increase in agency conflict in Thai firm. Hashim and Devi (2007) study the impact of corporate governance characteristics (board

independence, managerial ownership, family ownership and institutional ownership) and financial reporting quality for a sample of 280 non-financial firms listed on Bursa Malaysia's Main Board for the year 2004. Accrual quality as a proxy of earnings quality is adopted in this study and posit that the managerial ownership have significant positive impact on earnings quality. Considering the previous studies, it is predicted that managerial ownership is a key determinant of financial reporting quality.

### **2.5.3.2 Large shareholdings and earnings quality**

Theories relating to relationship between ownership concentration and earnings quality are classified into two categories i.e. alignment theory and opportunistic theory. Under the alignment theory, it is predicted that that owners in a concentrated ownership have incentives to align their interest with shareholder's interest and agency cost is condensed (Jensen & Meckling, 1976). This alignment of interest is expected to be more effective with the increase in ownership concentration which leads to curb the managerial opportunistic behavior in financial reporting. Persons (2006) posits that large shareholders can affect the board structure and decision with their hefty voting rights. Under opportunistic theory, large shareholdings have great interest in their private benefits as they are in a dominant position. They have more incentives for the use of available accounting discretions in financial reporting process.

Concentration ownership is discussed in literature as a tool to mitigate the agency problem among shareholders and managers (Cronqvist & Fahlenbrach, 2009). The existence of block holders discourage the managerial opportunistic behavior which results in higher level of financial reporting quality (Cascino, Pugliese, Mussolino, & Sansone, 2010; Dou, Hope, Thomas, & Zou, 2016). In contrast, DeAngelo and DeAngelo (2000) advocate that large shareholders may involve in private benefits and have greater motivation in earnings management which distort the earnings quality-entrenchment

effect. In literature, studies are based on the assumption that block holders are a homogenous group (Chung, Firth, & Kim, 2002). However, Demiralp, D'Mello, Schlingemann and Subramaniam (2011); Dou, Hope, Thomas and Zou (2013) state that block holders are not homogenous in their abilities, skills and beliefs and this heterogeneity is still unexplained. Aksu, et al. (2013) study the impact of ownership concentration on earnings quality in Turkey using sample of 316 listed firms on Istanbul Stock Exchange over the period 2002 to 2008. Earnings persistence, smoothness and earnings management are used as proxies to measure earnings quality. The results show that block holders is a hurdle for the earnings quality as it encourages the earnings management. Existence of block holders results in worse earnings persistence and higher earnings management.

Korkmaz (2015) studies the impact of block holders on earnings quality measures by discretionary accruals for 1,450 firm-years observation over the period 2009 to 2011. Firm size, leverage, auditor choice, growth are taken as control variables. Using multivariate analysis, the results show that large block holder have negative impact on earnings quality. This study argue that the heterogeneity nature of block holders has negative impact on accrual quality and managers are more likely to engage in earnings management.

Alam and Butel (2016) provide evidence that most of the corporate governance mechanisms (ownership structure, board, audit committee) have positive impact on financial reporting quality. In this study, 239 listed firms in Chittagong Stock Exchange, Bangladesh are taken as sample in the period 2014 and ordinary least square technique is used for the estimation. In another recent study, Lyu, et al. (2016) investigate the impact of ownership concentration and earnings quality for 89,208 firm-years observations from 13 Western Europe and 9 Eastern countries for the period 1995 to 2011. Accrual quality

and conservatism are used as proxies to measure earnings quality. Also firm size, leverage and sales growth are used as control variables. Western culture feature individualism and eastern countries feature collectivism, and they argue that both culture features shows the strength of social attachments among people within a group or corporation. The findings of the study show that ownership concentration yields weak earnings quality and this relationship are mitigated in individualist societies. Also argue that poor earnings quality due to ownership concentration is more prominent in East Asia. Al-Rassas, Kamardin and Kamardin (2016) examine the relationship between corporate governance mechanism and earnings quality among 508 firms listed in Malaysia for the period 2009 to 2012. Discretionary accruals are used to measure the earnings quality. Firms size, ROA, leverage, loss, sales growth, age of firm and industry dummy are taken as control variables and findings of the study depict that the ownership concentration reduces the earnings quality. This negative association may be due to entrench effect, where large shareholdings act for their private benefits while adopting accounting policies and financial reporting.

### **2.5.3.3 Institutional ownership and earnings quality**

Institutional ownership serves as a corporate governance characteristic to lessen the agency problem among managers and shareholders (Tsai & Gu, 2007); helps to improve earnings quality, constrains fraudulent activities and maximizes the shareholders wealth (Demiralp, et al., 2011). Aggarwal, Erel, Ferreira and Matos (2011) posit that institutional ownership ensures the effective corporate governance mechanism and empirically find that in the presence of institutional ownership increases the information content of accounting outcome which approves the effective role of institutional ownership. In contrast, it is not necessary that the information content of accounting always increases. Yeo, et al. (2002) report the non-linear relationship between

institutional ownership and earnings quality, and posit that the relationship is positive up to a low level of institutional shareholdings and becomes negative to higher level of institutional ownership. They argue that as controlling owners are entrenched and their decisions distort the minority interest especially in a weak legal system and ineffective governance mechanism. Same findings were determined in a study conducted in U.S.A. Velury and Jenkins (2006) explore the relationship between institutional ownership and earnings quality among 4,238 firm year observation over the period 1992 to 1999. Three dimensions are used to measure earnings quality: earnings predictability, neutrality and conservatism, and concluded that there is positive association on institutional ownership and all measures of earnings quality.

Klai and Omri (2011) investigate the relationship between corporate governance and financial reporting quality in Tunisia by taking 22 non-financial firms for the period 1997 to 2007. Results show that institutional and state ownership has positive impact on earnings quality (measures by discretionary accruals) and argue that state and institutional ownership are effective to curb the opportunistic behavior of managers which is a sign of higher earnings quality.

Shaikh, Iqbal and Shah (2012) indicate that firms with notable amount of institutional ownership tend to decrease in discretionary accruals. Similarly, Ayadi and Boujelbène (2015) investigate the relationship between internal corporate governance characteristics (CEO duality, audit committee, ownership concentration and institutional ownership) ownership structure) and earnings quality in France. Value relevance is used as an proxy to measure the level of earnings quality and three control variables i.e. firm size, leverage and growth, are taken in to consideration. Analyzing the sample of 117 French firms (1,053 firm–year observations) over the period 2003 through 2011 by Using



Panel Corrected Standard Errors, the findings show that institutional ownership have positive impact of earnings quality measure.

Kamran and Shah (2014) investigate the association between corporate governance characteristics and earnings management for a sample of 372 listed firm in Karachi Stock Exchange for the period 2003 to 2010. Four measures are used to estimate the discretionary accruals and four control variables (growth, age of firm, leverage and profitability) are used, and found that institutional ownership plays a significant role in limiting the earnings management. Saad and Jarboui (2015) study the efficiency of various corporate governance characteristics in determination of financial reporting transparency among 28 firms listed on the Tunisian Stock Exchange (TSE) over the period 2006 through 2013. Financial reporting transparency measured through voluntary disclosure index and earnings management. Results indicate that the both measures of financial reporting transparent are highly dependent on Institutional ownership. In summary, empirical studies depict that in the presence of institutional ownership, corporate governance mechanism becomes more effective and earnings quality improves.

#### **2.5.3.4 Board size and earnings quality**

Board size is considered a major corporate mechanism and is discussed extensively in literature. Assessment of decisions and controlling the executives are the functions of board and anticipated that the board can effectively influence the managerial decisions (Allegrini & Greco, 2013). As board of directors hold managers answerable to shareholders for their actions and decisions, therefore board has great influence on financial reporting integrity. Small boards are more efficient and effective in monitoring, to discipline the managers (Fodio, Ibikunle, & Oba, 2013). Also board with small size ensures convenient communication and cooperation among directors and encourages

effective internal control which leads to reduction in agency problems and conflicts regarding financial reporting (Iraya, Mwangi, & Muchoki, 2015).

In literature, the results of the studies relating to board size and earnings quality relationship are inconclusive. Vafeas (2000) studies the association between board structure and earnings–return model of earnings quality. Analyzing the sample of 307 firms (1,352 firm-year observations) listed on the Forbes 1992; the results indicate that the market participants perceived the firms more informative having smallest board size. Mashayekhi and Bazaz (2010) explore the role of corporate governance in improving the earnings quality for 150 non-financial firms listed in Tehran Stock Exchange over the years 2005 to 2008. Earnings persistence, earnings predictability and accrual quality were used to measure earnings quality level. Board size, board independence, CEO duality, board activity are taken as CG mechanisms. Firm size, leverage and growth are taken as control variables, and found that board size is negatively associated with both measures of earnings quality. In the same vein, Kamran and Shah (2014) investigate the association between corporate governance characteristics and earnings management for a sample of 372 listed firms in Karachi Stock Exchange for the period 2003 to 2010. Four measures are used to estimate the discretionary accruals and four control variables (growth, age of firm, leverage and profitability) are used, and found no indication that CEO duality, Audit quality, board size and block holders have an impact on earnings management practices. However, Mollah, Farooque, Asma and Molyneux (2015) investigate the impact of corporate governance factors on earnings quality in 500 large banks from 35 countries for the period 2004 to 2010. Earnings predictability is taken as a measure of earnings quality, and found that the board size and CEO power have significant positive influence on earnings quality and results are different for developed and developing economies. The insight of literature indicates that small boards can

effectively monitor the management than large boards as large boards involve higher coordination cost, late processing, and communication gap hazards. Also, independent directors on large boards could not operate effectively as they could not express their views freely and effective decision making suffers. Both factors results in lower financial reporting quality.

#### **2.5.3.5 Board meetings and earnings quality**

Another board characteristic which is expected to influence the earnings quality is board activity-frequency of board meetings in a year. Active board able to trace the problems promptly and limit the managers for earnings manipulation (Xie, et al., 2003). Also the board features have influence on internal control quality of a firm (Hoitash, Hoitash, & Bedard, 2009). Frequency of board meetings is considered as a tool to improve the effectiveness of board because more the frequency of meetings more the discussion on problems and substitutes (Conger & Lawler, 2009). Agency theory proposes that more frequent board meetings lead to better vigilance and management. In Pakistan, according to Code of Corporate Governance (2002), that board should meet frequently and at least should meet once in a quarter. It is required that the board should disclose the details of minutes and attendance of meeting.

On the other hand, it is also argued that, the large frequency of board meetings increase the travelling allowances of members, management time, administrative and logistic cost etc. this may affect the firm activities as such resources are involved in less productive matters. Firth, et al. (2007) posit that active board improve earnings quality (measured through earnings response coefficient) and reduce earnings management (discretionary accruals). However, in U.S.A. context, Ebrahim (2007) found no association between board activity and earnings management. Lara, Osma and Penalva (2007) investigate the relationship between corporate governance characteristics and

earnings quality on 69 listed firms in Spain for the period 1997 to 2002. Conservatism as a measure of earnings quality was operationalized. Firm size, profitability, leverage and growth are used as control variables. They found that board meetings have significant positive effect on earnings quality. Mashayekhi and Bazaz (2010) assess the role of corporate governance in improving the earnings quality for 150 non-financial firms listed in Tehran Stock Exchange over the years 2005 to 2008. Earnings persistence, earnings predictability and accrual quality were used to measure earnings quality level. Board size, board independence, CEO duality, board activity are taken as CG mechanisms. Firm size, leverage and growth are taken as control variables, and found that board meetings have positive relationship with earnings persistence and predictability, and have no association with accrual quality.

#### **2.5.3.6 CEO duality and earnings quality**

Agency theory and stewardship theory are the two theories that explain the separation among CEO (role of decision management) and chairperson (role of decision control) of the board of directors (Abdul Rahman & Haniffa, 2005). According to Agency theory, the separation between the positions of CEO and chairperson improves the effective vigilance of board and over the managerial opportunism. Both roles performed by different persons, lead to reduction in information asymmetry and agency cost, and hence improvement in corporate governance (Fama & Jensen, 1983). Also it was argued that CEOs, with dual offices, dominates the board and monitoring becomes ineffective. On the other hand, according to stewardship theory, managers are the best stewards of the firms and CEO duality could be helpful in the promotion of strong management and leadership. So combining the both roles in to a single person would result in prompt and optimal decision making which results in positive effect on firm functions. But in real word, there is no sole ideal board leadership composition and firms models are dependent

upon firm own characteristics and environments (Brickley, et al., 1997). Aguilera, et al. (2015) argue that board leadership configuration and firm's output is dependent upon the firm environment.

Overall corporate governance is a monitoring tool and is helpful in deterring the earnings manipulation (Lo, Wong, & Firth, 2010). In this study, 266 firms listed on Shanghai Stock Exchange, China in year 2004 are taken as sample. Board characteristics and ownership structure are used as corporate governance mechanisms, and earnings management as a measure of earnings quality. The findings of the study also show that CEO duality is positively associated with earnings management.

Ayadi and Boujelbène (2015) examine the relationship between internal corporate governance characteristics (CEO duality, audit committee, ownership concentration and institutional ownership) and earnings quality in France. Value relevance is used as a proxy to measure the level of earnings quality and three control variables i.e. firm size, leverage and growth, are taken into consideration. They analyze the sample of 117 French firms (1,053 firm-year observations) over the period 2003 through 2011. Using Panel Corrected Standard Errors, the results show that CEO duality has negative effect on the value relevance. Literature provides evidence that separation of CEO and chairman deter the opportunistic behavior of managers and has improved earnings quality of a firm. Also clause VI of the revised Pakistani Code of Corporate Governance (PCCG 2002), the Securities and Exchange Commission of Pakistan recommends the separation of roles among chairperson and CEO to avoid the concentrated control.

#### **2.5.3.7 Audit committee independence and earnings quality**

To protect the shareholders interest, audit committee role is important and audit committee is considered an internal control mechanism which is helpful for the enforcement of effective corporate governance (Lin & Hwang, 2010). Audit committee

also minimizes the conflict of interest between principal and agent (Cai, Hillier, Tian, & Wu, 2015). Audit committee independency confirms that auditors have capacity to monitor the management in well manner as they have no personal association with the managers (Darus & Mohamad, 2011)..

If non-executive directors are more than the executive directors, then audit committee is considered an independent committee and several studies prove that an independent audit committee ensures the true and fair picture of business financial reporting. Lin and Hwang (2010) find the negative relationship between audit committee independence and earnings management, and conclude that the existence of an independent audit committee reduces the fraud and misleading financial reporting and enhance the investors' confidence in shares of firm which lead to increase in value of firm. In prior studies audit committee independence and earnings quality relationship is investigated (see for instance, Xie, et al., 2003; Davidson, Goodwin-Stewart, & Kent, 2005; Goodwin-Stewart & Kent, 2006; Baxter & Cotter, 2009; Owens-Jackson, Robinson, & Shelton, 2009; Lin & Hwang, 2010; Subramaniam, Carey, Sil Kang, Kilgore, & Wright, 2011; Ghafran & O'Sullivan, 2013). However, some conflicts exist in these studies. For example, Xie, et al. (2003) find a positive effect of audit committee independence to deter the earnings misstatements. Baxter and Cotter (2009), have found insignificant association between dependent and independent variables. Jackson, et al. (2009) find that the various features of audit committee help in reduction of fraud in financial reporting. Lin and Hwang (2010) find a negative relationship with earnings management. Subramaniam, et al. (2011) also failed to find any role of audit committee in curbing the earnings management. Ghafran and Sullivan (2013) confirms that independent audit committee have positive effect on financial reporting quality.

Al-Dhamari and Ismail (2013) study the corporate governance factors and earnings quality of 330 listed firms on Malaysia Stock Exchange during the years 2008 and 2009. Earnings quality was measured through earnings predictability and results of the study indicate that small board size, independent board chairperson and institutional ownership have positive impact on earnings predictability, while, board independence have negative impact on earnings predictability. The other factors like audit committee independence, audit committee meetings and managerial ownership are not significantly associated with earnings predictability. Sultana (2015) studies the relationship between some important audit committee characteristics and earnings quality in Australia among 1006 listed firms over the period 2004 through 2012. The findings of the study depict that audit committee independence have positive impact on earnings quality. Alam and Butel (2016) provide evidence that most of the corporate governance mechanisms (ownership structure, board, audit committee) have positive impact on financial reporting quality. In this study, 239 listed firms in Chittagong Stock exchange, Bangladesh are taken as sample in the period 2014 and for analysis, ordinary least square is used.

Al-Rassas, et al. (2016) explore the relationship between corporate governance mechanism and earnings quality among 508 firms listed in Malaysia for the period 2009 to 2012. Discretionary accruals are used to measure the earnings quality. Firm size, ROA, leverage, loss, sales growth, age of firm and industry dummy are taken as control variables. The results of the study depict that the audit committee independence, and Big-4 audit firms have positive impact on earnings quality. Literature provides a strong base to suppose that audit committee independence ensure higher earnings quality. Also agency theory predicts that audit committee independence is more capable to deter the opportunistic behavior of managers which results in higher earnings quality.

#### **2.5.3.8 Audit committee meetings and earnings quality**

It is assumed that audit committee independence is not able to produce higher earnings quality unless the audit committee is active and hold frequent meetings (Anderson, Gillan, & Deli, 2003; Firth, et al., 2007; Ghafran & O'Sullivan, 2013). In these studies, it is commonly argued that audit committee, whose members meet frequently, is effective to curb the opportunistic behavior of managers and more likely to detect internal control flaws. Smith (2003) posit the audit committee meetings are the heart of its effectiveness and audit committees must meet at least three times per annum. Abbott, et al.(2004) find that the firms which are not likely to meet at least four times a year, involved in financial reporting restatements. Lin, Li and Yang (2006) investigate the relationship between various audit committee characteristics and earnings restatement for a sample of 212 publically held firms in U.S.A. Using logistic regression, the findings show that frequency of audit committee meetings have no impact on earnings quality. Al-Dhamari and Ismail (2013) investigate the corporate governance factors and earnings quality of 330 listed firms on Malaysia Stock Exchange during the years 2008 and 2009. Earnings quality is measured though earnings predictability and results of the study indicate that audit committee meetings are not significantly associated with earnings predictability. So it is expected performance of active audit committee is more than the audit committees those meet seldom or never. Audit committee with more meetings in a year helps to reduce the discrepancies in financial reporting. Lin and Hwang (2010) also confirm the significant negative relationship between frequency of audit committee meetings and earnings management.

#### **2.5.3.9 Audit quality and earnings quality**

Effective corporate governance mechanism is more likely to constrain the opportunistic behavior of managers (Saleem, Alifiah, & Tahir, 2016) and when internal



corporate governance system is weak, external audit effectiveness is maximum and perform as a corporate governance role in emerging economies (Desai, Singhvi, & Munsif, 2012). If internal corporate governance mechanism is not so effective to mitigate the agency conflict between shareholders and agents then external audit is considered another layer for confirming credibility and transparency of financial reporting and protection the investor's interest (Fan & Wong, 2005; Miko & Kamardin, 2015; Krishnan & Visvanathan, 2009). Big-X audit firms provide higher level of audit quality due to reasons: litigation risk and reputation risk (Krishnan, 2003). If audit firm fails to rectify/cover the errors and misstatements, then law suits can be filed against such audit firm which also deteriorates the reputation. If this argument is true, then in Pakistan, same results are expected. However, Francis and Wang (2008) argue that, in general, audit quality is helpful to limit the earnings management in U.S.A., but not necessarily in other economies.

Hussainey (2009) analyze the relation between external audit quality and earnings quality among 3,736 profitable and 681 unprofitable firms for the period 1996 to 2002 in U.K. Notion of Big-4 audit firms to measure the audit quality and earnings predictability to estimate earnings quality are taken into account. The study concluded that earnings quality of firms is higher when financial statements are audited by the big-4 audit firms.

Taking sample of 1,251 firms listed firm in U.S.A. and are audited by Big-4 and non-Big-4 firms, Jordan, Clark and Hames (2010) posit that firms with Big-4 audit firms are constraint to manipulate the EPS as compared to other form of firms. Houque, Ahmed and Zijl (2015) studied the relationship between audit quality and earnings quality among listed Indian non-financial firms for 6,474 firm-years observations over the period 1998 through 2009. They use discretionary accruals and income smoothness as to measures of earnings quality. For audit quality, Big-5 firms are taken in to consideration. This study

concluded that audit quality negatively associated with discretionary accruals (increase in earnings quality) and positively associated with income smoothness.

A recent study conducted in U.S.A., shows that higher audit quality results higher earnings quality in all groups and argue that higher audit quality is effective and efficient in countries with higher investor protection (Persakis & Iatridis, 2016). Similar findings regarding audit quality were proved in the context of Malaysia (Al-Rassas, et al., 2016). Prior studies reveal that the firms audited by *Big-X* audit firms present higher earnings quality.

#### **2.5.4 Relationship between CG index and earnings quality**

This section elaborates the literature relating to corporate governance mechanisms and earnings quality attributes which is helpful in the construction of hypothesis relating to research question 2.

As there is separation of ownership and control in a corporate firm, the managers have superior information and know more than the shareholders. This results in an asymmetric information issue. The underlying assumption of the Positive Accounting Theory is that the managers act for their private interests and are involved in opportunistic activities (Watts & Zimmerman, 1986). A better corporate governance mechanism is likely to curbs the managerial opportunist behavior, minimizes the information risks related to financial reporting quality (Akileng, 2014). Two questions arise in connection with the corporate governance and firm's financial reporting quality relationship. First, is there is any association among corporate governance and financial reporting quality. Second, if so, then what type of relationship exists among two proportions? Although plenty of international research has conducted to examine the relationship between corporate governance and earnings quality, but empirical findings provide the inconclusive and contradictory results. Country effect is also important in developing the

relationship between corporate governance and earnings quality and this relationship is strong in developed economies as compared to those developing, with weaker investor protection (Gaio & Raposo, 2014). In this international study, the researchers take 537 firms from 21 developed and 14 developing countries. Jiang, Lee, and Anandarajan (2008), study the relationship between corporate governance and earnings quality taking a comprehensive measure of corporate governance and absolute discretionary accruals as the proxy for earnings quality on the 4,311 firm-year observations over the period 2002-2004. Using multivariate analysis, the authors posit that the corporate governance score is negatively associated with discretionary accruals and positively associated with earnings quality. Research in the field of earnings quality is scarce in Pakistan, however, research on earnings management exists but it is one attribute of earnings quality measurement.

### **Studies that Find a Positive Correlation between Corporate Governance and earnings quality attributes:**

A few of the recent research relating to the positive relationship between corporate mechanisms and earnings quality are discussed here. Niu (2006) investigates the association between overall corporate governance and earnings quality in Canada using sample of 888 firm year observation over the period 2002 to 2005. Two proxies for the measurement of earnings quality are taken into account: abnormal accrual and value relevance. Governance index was constructed based on various governance mechanisms and three control variables are regressed: Audit quality, firm size and leverage. Using regression analysis, the results of the paper, show that overall corporate governance is negatively associated with earnings management and positively associated with value relevance.

Jiang, Lee and Anandarajan (2008), examine the relationship between corporate governance and earnings quality by using a comprehensive measure of corporate governance followed by Brown and Caylor (2006) and absolute discretionary accruals as the proxy for earnings quality. Auditor's tenure, firm's size, leverage, operating cash flows volatility, audit quality, market to book ratio are used as control variables. Sample of 4,311 firm-year observations over the period 2002-2004 was considered. Using multivariate analysis, the research shows that corporate governance score is negatively associated with discretionary accruals and positively associated with earnings quality. In Spain, Lara, et al. (2009) also document the positive relationship between corporate governance and quality of earnings.

Leventis, Dimitropoulos and Ansah (2013) investigate the relationship between corporate governance structures and earnings quality in U.S listed banks for sample of 315 listed banks for the period 2003 to 2009. Market and accrual based conservatism are used as proxies to measure earnings quality, and found that effective corporate governance mechanisms have positive affect on both measures of conservatism. In Thailand, Meeampol, Rodpetch, Srinammuang and Wongsorntham (2013) also find the positive association between corporate governance score and earnings quality. Standard deviation on income is taken as a measure of earnings quality; lesser standard deviation of income represents lower risk. Similarly Saad, Jarboui and McMillan (2015) studies the efficiency of various corporate governance characteristics (board of directors, ownership structure and audit quality) in determination of financial reporting transparency among 28 firms listed on the Tunisian Stock Exchange (TSE) over the period 2006 through 2013. Financial reporting transparency measured through voluntary disclosure index and quality information (earnings management). Results indicate that the both measures of financial reporting transparent are highly dependent on all corporate governance characteristics.

Aldamen and Duncan (2016) examine the likelihood of overall corporate governance in improving the earnings quality among 340 firms listed on Australian Securities Exchange for the period 2006 to 2010. In this study, a corporate governance index using Principal Component Analysis (PCA) and accruals quality as a measure of earnings quality were considered. Audit committee, size of audit committee and audit committee independence, board size, board independence, audit quality (Big-4), firm size, directors' ownership and ownership concentration are considered to develop CG-Index, and, bank debt, growth, profitability and leverage are taken as control variables. The findings of the study show that good corporate governance has a significant positive relationship with earnings quality. In a recent study, Yang and Zhou (2016) reports that board effectiveness is significantly and positively correlated with voluntary disclosure of financial data. They found that firms with better governance mechanisms are more proactive in corporate disclosure. From a theoretical perspective, firms with good corporate governance are expected to enhance financial reporting quality.

### **Studies that argue against a Positive Relationship between Corporate Governance and Earnings Quality Attributes:**

Larcker, et al. (2007) examine the relationship between corporate governance and accounting outcome using a sample of 2106 firms listed in U.S.A. In this study corporate governance index was developed using principal component analysis. The results of this study show that corporate governance index has no association with earnings quality.

In the same vein, Sivaramakrishnan and Yu (2008) endeavored to study the possibility of corporate governance index in improving the earnings quality among 3060 firms and 49, 506 firm-year observations for the period 1950 to 2005 in U.S.A. They use Gompers's index as a proxy for strength of corporate governance and three proxies were

used to measure earnings quality: accrual quality, earnings persistence and earnings predictability. The results show that the earnings quality (accrual quality, earnings persistence and earnings predictability) is higher for the firms that outperform their industry equivalents in the past irrespective strong or weak corporate governance levels. They argue that, sometimes weak governance can be adequate to mitigate the agency problems for the firms with low monitoring need.

For 10 stock exchanges of Central and Eastern Europe, Bistрова and Lace (2012) examine the relationship between corporate governance score and earnings quality. Earnings quality was estimated through two proxies: Accruals based on balance sheet and accruals based on cash flow statement. Sample of 118 firms for the period 2007 to 2010 was analyzed and results show that the negative association between CG-Index and accruals.

Baber, Liang and Zhu (2012) investigate the effect of corporate governance on financial reporting quality in USA. CG Index is used and for financial reporting quality, the probability of financial accounting restatement is used. Sample consists of two observations: one for 1997 and other for 2005-from 715 firms each. Firm size, leverage and age of firm are taken as control variables. The findings of the study depict no statistically significant association between corporate governance and financial reporting quality in 1997.

For a theoretical perspective, firms with good corporate governance are expected to attain better competitive advantage over firm with weak corporate governance and good corporate governance is expected to enhance financial reporting quality and reduction in information asymmetry. Reduction in information is expected to raise the confidence of stakeholders. So, for the research question “what is the relationship between overall corporate governance and earnings quality attributes”, it is predicted that:

*H2: Good corporate governance increases the level of earnings quality.*

### **2.5.5 Linkages of earnings quality and value of firm**

This section elaborates that how earnings quality have an impact on value of firm. Both theoretical framework and empirical evidence regarding this association is presented as under:-

Diamond and Verrecchia (1991) posit that higher earnings quality expected to reduce information asymmetry among various participants of market and hence lower the cost of capital. In the same vein, Bushman and Smith (2001) investigate the impact of the financial accounting information on firm's economic performance and notes that the financial accounting information can affect the cost of capital through these three channels: (1) Financial accounting should deliver valuable information to managers and investors to classify good or bad investment projects (project identification). This feature of financial accounting information would reduce the estimation risk and hence reduction in cost of capital, (2) Financial accounting information should lead to reduction in information asymmetry between stakeholders, which decrease the liquidity risk of investors and cost of capital (adverse selection). (3) Accounting information should deliver valuable information that would use in corporate control mechanism, which is helpful to prevent/discipline the managers for misuse of investors' wealth, reduction in misappropriation risk and hence reduction in cost of capital (governance channel). In the same line, high earnings quality leads to accurate information regarding cash flows of the firms, as a result information risk declines and hence decrease in cost of equity (Lambert, Leuz, & Verrecchia, 2012). Barth, Konchitchki and Landsman (2013) found the negative relationship between earnings quality and cost of capital. Also Leuz and Verrecchia (2005) document that better quality financial accounting information enhances the

coordination among investor and firm in the form of capital investments, reduction in information risk and ultimately reduction in cost of capital.

In short, better financial accounting information leads to limit the information risk which leads to reduction in cost of capital, and value of firm. And decrease in cost of capital results in higher firm's value. Some studies examine the impact of one or more attributes of earnings quality upon value of firm by adopting cost of capital, and studies also exist that examine the association of earnings quality and market value of the firm.

Francis, et al. (2004) investigate the relationship among seven earnings quality attributes and cost of equity by taking the 3917 firms sample covers the period 1975-2001. In this study, the earnings quality attributes categorized into two groups. Accounting-based and market based attributes. Predictability, accrual quality, persistence and smoothness are considered as accounting based attributes, while timeliness, conservatism and value relevance are taken as market-based attributes. In this study, firm size, sale volatility, cash flow volatility, loss and capital intensity are used as control variables. Using cross sectional regressions the results were mixed. They found that accounting-based attributes affect cost of equity distinctly rather than market-based attributes.

Choi (2008) explores the association between three attributes of earnings quality (persistence, accrual quality and predictability) and value of firm (Tobin's-Q) among Korean manufacturing listed companies in Korea Stock Exchange. Data covers the period ranging from 2003 to 2005 and two stage least square analysis was used. The results of this study show that there is positive relation between all the three attributes of earnings quality and value of firms. However, Lyimo (2014) argue that there is no complete consistency among various techniques of measuring earnings quality, therefore, investors, analysts and market participants should not be dependent upon only one



measure of earnings quality and they should use more than one measure. In this study, data of firms listed in Bombay Stock Exchange for the period 2006 to 2012 is taken as sample and these findings of this study are consistent with another study conducted on a sample of 90 listed firms NYSE (ElMoatasem Abdelghany, 2005). The later study argues that we can't label a firm or industry as having a higher or lower earnings quality on the basis of single earnings quality attribute.

Bao and Bao (2004) investigate the effect of smoothness (an attribute of earnings quality) upon performance of firms (EPS to price of each share). The data consists of 12,651 firms ranging from 1992-2000. Smoothing against non-smoothing and high earnings quality against low earnings quality are considered two explanatory variables in this study and found that earnings smoothers have positive impact on price-earnings ratio.

Makelä (2012) explore the association between smoothing and financial performance (Tobin's-Q) by taking the sample of 778 companies resulting in total 2,211 firm year observations between 2000-2010. The data set consists of European countries and the results indicate that earnings volatility has significant negative effect on value of firm. Gao and Zhang (2015) explore the association between smoothing and value of firm by using a sample of 2,022 companies resulting in total 10,755 firm year observations. Empirical results show that income-smoothing firms have higher Tobin's-Q, greater earnings-return association.

Predictability is another attribute of earnings quality. Dichev and Tang (2009) investigate the relationship between earnings volatility and earnings predictability and find that earnings volatility results in considerable imperfections in the prediction of earnings for up to five years in the future. Affleck-Graves, Callahan and Chipalkatti (2002) study the association among earnings predictability and asymmetric information for the quarterly earnings announcements of 247 listed firms on NASDAQ for the period

1985 through 1990, and found that firms with lower earnings predictability have higher cost of capital as compared to firms with higher earnings predictability.

Richardson, et al. (2005) assess the association among accrual reliability, persistence and future stock return for 108,617 firm-year observations over the period 1962 through 2001 in U.S.A., and found that lower accrual quality results in lower persistence which leads to lower predictability. Results show that less reliable accruals lead to lower earnings persistence and investors are unable to fully anticipate, which results in substantial security mispricing. In Indian context, Dawar (2014) examines the association between persistence and stock prices. Fixed effect panel data regression is used to analyze the six years data and found positive association between earnings persistence and book value of equity. The findings further provide evidence that investors while doing investment decisions, are concerned with earnings and are unable to separate cash flow and accrual component of earnings.

Gottsche and Schauer (2011) carry out a research in which sample of nearly 3300 firms across the Europe was analyzed. Price Model (Ohlson, 1995) with some modifications was considered to test the value relevancy and came to the conclusion that the value relevance of financial reporting varies in different European markets. The findings confirm the presence of value relevance of financial accounting in European markets. Studies also have been conducted in Chinese market regarding the value relevance. A, B and H types of shares are floating in Chinese Stock Market. For domestic investors, A types shares are offered, B shares are used to attract foreign investors and H type shares are listed on Hong Kong. Liu and Liu (2007) conducted a research on the companies listed in two national stock exchanges of China. Following Price Model (Ohlson, 1995) for their research, the results show that accounting information is value relevant to prices of all types of shares and interpreted that the firms which follow the

International Accounting Standards, accounting information is more value relevant for stock prices. Indonesian Stock Market is considered an emerging stock market. Suwardi (2009) carries a research and found that the relationship between accounting information and stock prices. This study was in quite depth and the 1500 listed firms on Jakarta Stock Exchange are considered in this study. After applying the Price Model (Ohlson, 1995), he concludes that book values have strong relationship with market value. Currently UAE is considered to be a business hub of the world. The level of Foreign Direct Investment in this country is surging day by day. Thus it became inevitable to study the newly developing stock market of this country and to assess the value relevancy of financial accounting figures.

Barzegari Khanagha (2011) endeavor to study the association between value relevance of accounting information and stock prices. Sample of 136 firms listed on Abu Dhabi Stock Market is taken into account. Price model and return model are used to investigate the value relevancy of accounting information. The results showed that earning per share was more value relevant to stock prices as compared to book value. Pakistan is considered one of the emerging markets of the world but there has been no remarkable study of value relevance of accounting information. However, Malik and Shah (2013) investigate the value relevance of firm specific governance mechanism and macroeconomic variables to stock prices, and find that earnings per share, book value, quality of corporate governance and GDP have significant relevancy for stock price determination.

Francis, LaFond, Olsson and Schipper (2005) explain the association among accrual quality and the price-earnings ratio. Price-earnings used as an inverse measure of cost of equity. The find that the largest mean value of industry-adjusted price-earnings ratio is related to the firms with poor quality of accruals. Though, this relation is

persistent for all quintiles. The second quintile has lower mean of industry-adjusted price-earnings ratio than the first one that is supposed to characterize the best accrual quality. Francis et al. (2005) use additional test, controlling for growth, leverage, beta and firm size that affect the price-earnings ratio. Based on the results, authors report that lower quality of accruals relates to higher cost of equity. In the same manner, Liu and Wysocki (2008) continue research to explore relation between cost of capital, P/E ratio and accruals quality. Authors argue that accruals quality and operating volatility capture different underlying constructs. Consequently, they test how the operating volatility variables can influence this relation and provide a research design that adjusts the effect of operating volatility. After controlling for operating volatility the results show that accruals quality has insignificant impact on cost of debt and CAPM Beta. However, (Core, Guay, & Verdi, 2008) endeavored to find the association among accrual quality and cost of capital. Using two stage cross sectional regression, the findings depict that accrual quality is positive on average. Allen, Larson and Sloan (2013) examine the impact of accrual quality on earnings and stock returns. In this study 125916 firm-year observations ranging from 1962 to 2009 were used, and found a positive relationship between accrual quality and firm performance.

Martinez-Ferrero, Sanchez and Ballesteros (2015) explore the relationship between earnings quality (Accrual quality) and corporate social responsibility by taking the sample of 747 internationally non-financial listed companies over the period 2002 to 2010. Using Tobit method for panel data, the results indicate that firms with high level of accrual quality report higher earnings quality and moreover high quality corporate social responsibility information.

Mahmud, et al. (2009) investigate the association of three earnings quality attributes with firm performance measured through ROA and Tobin's-Q in Malaysia.

Predictability, feedback value and timeliness are taken as measures of earnings quality, while firm size, leverage and growth are taken as control variables. They conclude that earnings quality of Malaysian firms has positive impact on firm performance. Brown and Hillegeist (2007) find a negative association between financial reporting quality and information asymmetry. The absence of information asymmetry inspires investors to diversify their portfolio to reduce the cost of capital, which would result in higher value of firm (Bhattacharya, Desai, & Venkataraman, 2013). Huang, Zhang, Deis and Moffitt (2009) claim that lower earnings quality decreases the firm performance.

Considering the literature, it is expected that higher financial reporting quality provide a positive impact on information environment for stakeholders and increase in value of firm. In summary, it is predicted that:

*H3: Higher earnings quality leads to higher value of firm.*

### **2.5.6 CG and value of the firm-Mediating role of earnings quality**

Company is a separate legal entity with the set of agreements (formal and informal) which allow principals to appoint agents to execute designated services on their behalf (Jensen & Meckling, 1979). They also describe the agency problem as “if both principal and the agent are utility maximizers, then there is a good reason that both parties’ interests are misaligned”. The stewardship theory is also relevant to the principal-agent relationship. In contrast to the agency theory, it asserts that both the principal and agent have interest in maximization of long term company stewardship and are therefore aligned (Lambright, 2009). The corporate governance concept is based on the agency theory and stakeholder’s theory, which ensures investors return on their investments. According to bonus plan and debt covenant hypothesis of positive accounting theory, managers have an influence on the financial reporting and their opportunistic behaviors distort the quality of financial information (Lim, Matolcsy, & Chow, 2007). Higher

financial reporting quality condenses the cost of capital through two channels: (1) increase in the market liquidity, reduction in the transaction cost and hence increase in the demand for the security, (2) reduction in the information asymmetric level of managers and stakeholders (Leuz & Verrecchia, 2005). However, corporate governance mechanism deters the opportunist behavior of managers and minimize the misleading and incorrect reporting and firm value is positively influenced (Afify, 2009; Chi, Lisic, Long, & Wang, 2013).

Klapper and Love (2004) examine the firm level data of 14 emerging stock markets; Chile, Hong Kong, Brazil, Indonesia, Pakistan, Taiwan, India, Philippines, Malaysia, Singapore, South Africa, South Korea, Thailand and Turkey, with Tobin's-Q and ROA. The findings of the study show a significant positive link among the corporate governance mechanism and the firm's performance, and there is an extensive discrepancy in the firm level corporate governance among various economies, and that corporate governance level is lower in economies having weaker legal system. Ammann, Oesch, and Schmid (2011) study the nature of the governance-value relationship by taking 22 developed countries for the years 2003 to 2007. They develop three various corporate governance indices and find a significant positive association between corporate governance and firm value. However, some studies question the positive governance-value relationship and claim that this relationship is not so strong (Akbar, Poletti-Hughes, Faitouri, & Shah, 2016; Ali Shah and Butt, 2009).

Bushman and Smith (2001) posit that the financial accounting information can affect the cost of the capital through three channels: (1) by delivering the valuable information to stakeholders for better project identification, which reduces the estimation risk and hence the cost of the capital, (2) by reducing in information asymmetry between stakeholders, which decreases the liquidity risk of investors and the cost of the capital

(adverse selection) and (3) by providing valuable information that would be used in corporate control mechanism, which reduces the misappropriation risk and hence the cost of the capital (governance channel). Recently, Habib and Jiang (2015) suggest that a higher financial reporting quality contributes towards firm's value in three ways: (1) support to select or reject the good or bad projects, (2) reduction of misappropriations of the managers and (3) reduction of information asymmetry among managers and investors. In their survey based study, it is theorize that the studies regarding the association between corporate governance and value of the firm are conducted without the crucial role of financial reporting quality as it is an important output of effective corporate governance mechanism. The past studies are limited to investigate the impact of corporate governance either on financial reporting quality or on the value of the firm separately, without studying the effect of corporate governance on the value of firm through financial reporting quality. In contrast to the prior studies of governance value association, it is hypothesized that corporate governance does not directly affect the value of firm. Instead, the financial reporting quality serves as a intervening variable through which corporate governance affects the value of the firm (Kang & Kim, 2011).

The literature review and argument presented by Habib and Jiang (2015), motivates to investigate whether earnings quality strengthens the governance-value association or not. Thus, this study investigates the indirect link among corporate governance and value of firm mediated by earnings quality. Accordingly, for research question "does earnings quality mediate the association among overall corporate governance and the firm's value?" the hypothesis is as under:

***H4: Earnings quality mediates the relationship between corporate governance and value of the firm.***

## **2.6 Gaps in existing literature**

As evident from survey of literature, there is a long debate in developed economies regarding the issue of corporate governance and its impact on earnings management (Shah, Butt, & Hassan, 2009; Jesus & Emma, 2013) and earnings management is a weak attribute of financial reporting quality of firm. Also, a substantial literature exists regarding the association of corporate governance and value of firm. However, governance-value association with the crucial role of financial reporting quality is lacking in the literature (Habib & Jiang, 2015). It is emphasized and argued that the studies on corporate governance and value relationship have not properly accounted with the crucial role of financial reporting quality. And, the debate is yet inconclusive and needs further investigation in various aspects in emerging economies like Pakistan. First aspect is that this study is an attempt to explore the association among corporate governance and various attributes of earnings quality. Second aspect is to investigate the magnitude and intensity of each earnings quality attribute and contribution in the determination of value of firm. Third aspect is to investigate the corporate governance-value relationship with the mediating role of financial reporting quality. To investigate the association with reference to this aspect is an attempt to fill in the research gap identified recently by Habib and Jiang (2015).

Also, to date, there is non-availability of substantial literature that investigates the influence of corporate governance along with earnings quality upon the value of firm following the implementation of the Code of Corporate Governance in Pakistan in March 2002. Additionally, in contrast to considering the various corporate governance elements individually in earlier studies in Pakistani context, corporate governance index is being constructed using Principal Component Analysis. Prior corporate governance indices are constructed by assigning weights based on researchers' own subjective judgments. The



third dimension is that there is no evidence of studies in Pakistan regarding earnings quality measurement and reaction of firm value to earnings quality. Studies on earnings management exist, but earnings management is the inverse measuring tool of earnings quality. Another dimension is that the study uses five various measures of earnings quality for the detection of reliability and relevancy of financial statements. Lastly, in this study, recent data is being used in the context of Pakistan that enables us to address the issue with an experimental setting with larger sample period and quantity of firms. This study uses a data set of 214 firms over the period 2002 to 2014, whereas other studies in the same context have used the sample of 120 or less firms and for the period of up to five years only.

## **2.7 Chapter summary**

To explain the nexus between corporate governance, earnings quality attributes and value of firm, theoretical and empirical literature is outlined in this chapter. This chapter is categorized into seven sections. First section of this chapter defines the financial reporting quality and section second provides the justification of earnings quality taken as a measure of financial reporting quality. Then to measure the reliability and relevancy of financial reporting, five dimensions of earnings quality e.g. persistence, predictability, value relevance, accrual quality and smoothness are explained.

Section three presents the relevant theoretical approach regarding agency theory, stewardship theory, asymmetric information and positive accounting theory with three hypotheses like bonus plan hypothesis, debt covenant hypothesis and political cost hypothesis. With the help of these theories, hypotheses are developed and estimation of data is interpreted. Section four presents the theoretical framework by considering the underlying theories. Fifth part of this chapter outlined the relationship among corporate

governance, earnings quality attributes and value of firm. This section is further categorized into six sub-sections. Sub-section one outlined the association between corporate governance components (e.g. managerial ownership, large shareholdings, institutional shareholdings, board size, board meetings, CEO duality, audit committee independence, audit committee meetings and audit quality) and value of firm. The second sub-section examined the literature of overall corporate governance and value of firm. The third sub-section explaining the various dimensions of corporate governance mechanisms and earnings quality attributes. The fourth sub-section explains the association of corporate governance index with earnings quality attributes. The fifth sub-section part of this study discussed the literature concerning the relationship between earnings quality attributes and value of firm. The last sub-section explains the mediating role of earnings quality attributes in the governance-value association. Gaps in the exiting literature are outlined in sixth section of this chapter. In the coming chapter, discussion regarding population, sample size, sample period, operationalization of variables, econometric models and estimation methods are presented.

## **CHAPTER 3**

### **DATA AND METHODOLOGY**

This chapter is related to discussion about the methodological feature of this study which is used to examine the hypothesis. This section justifies the selected sample firm, sample period for which investigation is conducted and data collection is discussed. Then conceptualization and operationalization of dependent and independent variables are discussed. In the next section, empirical models for testing of the association among corporate governance, earnings quality attributes and value of firm are presented. Finally, the methodology adopted for the data analysis and estimation is explained in this chapter.

#### **3.1 Population**

The population of the current study is all non-financial firms those are listed at Karachi Stock Exchange. Securities and Exchange Commission of Pakistan (SECP) enforce all Pakistani listed companies to disclose information regarding their stock issues, half-year reports, annual reports and reports for important events. Also, according to the SECP, an annual report should contain the report of the board of directors and appropriate corporate governance codes; therefore, all corporate governance mechanisms and financial reporting quality characteristics can be extracted from the published annual reports.

#### **3.2 Sample period**

The population of this study is all non-financial firms listed on Karachi Stock Exchange during the period 1999 to 2014. The data requirement for the calculation of earnings quality attributes significantly influenced the sample selection as five years rolling regression is used for this purpose. So, annual data for the years ranging from

1999 through 2014 is considered to measure the earnings quality attributes. Additionally, annual data for the years ranging from 2003 through 2014 is considered for the measurement of corporate governance mechanisms, value of firm and control variables. This range is suitable as corporate governance code was implemented in Pakistan in year 2002.

### 3.3 Sample selection

In this study, sample firms listed on the Karachi Stock Exchange for the period 2003-2014 have been used. Financial institutions have distinct regulatory environments, capital structure and accounting methods (Firth, Fung, & Rui, 2007). Therefore, 130 financial firms are excluded from the sample. The sample size has also been decreased by 213 firms, because of the delisting or non-availability of online annual reports during the sample period. After elimination, the remaining sample consisting of 214 firms has been obtained for the estimation. Annual reports of non-financial firms and online sources have been used to obtain relevant data. Annual share price data is being extracted from the Karachi Stock Exchange and related sources. Table 3.1 describes the selection procedure of the final sample.

**Table 3.1** Final Sample of the Study

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Sample Selection from 2003 to 2014

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Total number of firms listed on Karachi Stock Exchange	557
Less: Commercial Banks, Insurance firms, Investment Banks, Mutual Funds, Leasing firms and Modarabas.	(130)
Less: Firms Excluded due to insufficiency of data or delisted during the sample period	(213)
<b>Final Sample of the study</b>	<b><u>214</u></b>

Table 3.2 describes the industry wise breakup of the sample firms. Textile sector with 21.0280% of the sample firms is the highest percentage of the sample. This is followed by Sugar and Allied Industries, and Textile Composite both are 8.8785% of the sample firms. While Jute, Transport and Woolen sectors are account for the smallest proportion i.e. only 0.4673% of the sample firms.

**Table 3.2 Sample break down based on sectors**

<b>Industry/Sectors</b>	<b>Total Firms</b>	<b>Number of Sample firms</b>	<b>% of sector</b>	<b>% of Sample firms</b>
Automobile Assembler	12	9	75.00%	4.2056%
Automobile Parts and Accessories	9	6	66.67%	2.8037%
Cable and Electrical Goods	6	3	50.00%	1.4019%
Cement	19	14	73.68%	6.5421%
Chemical	26	18	69.23%	8.4112%
Engineering	18	6	33.33%	2.8037%
Fertilizer	7	3	42.86%	1.4019%
Food and Personal Care Goods	19	10	52.63%	4.6729%
Glass and Ceramics	10	6	60.00%	2.8037%
Jute	3	1	33.33%	0.4673%
Leather and Tanneries	5	3	60.00%	1.4019%
Miscellaneous	19	8	42.11%	3.7383%
Oil and Gas Exploration Companies	4	3	75.00%	1.4019%
Oil and Gas Marketing Companies	7	4	57.14%	1.8692%
Paper and Board	9	6	66.67%	2.8037%
Pharmaceuticals	9	7	77.78%	3.2710%
Power Generation and Distribution	19	6	31.58%	2.8037%
Refinery	4	4	100.00%	1.8692%
Sugar and Allied Industries	35	19	54.29%	8.8785%
Synthetic and Rayon	11	4	36.36%	1.8692%
Technology and Communication	10	3	30.00%	1.4019%
Textile Composite	51	19	37.25%	8.8785%
Textile Spinning	99	45	45.45%	21.0280%
Tobacco	3	1	33.33%	0.4673%
Transport	6	3	50.00%	1.4019%
Vanaspati and Allied Industries	5	2	40.00%	0.9346%
Woolen	2	2	100.00%	0.4673%
<b>Total</b>	<b>427</b>	<b>214</b>	<b>50.12%</b>	<b>100.00%</b>

### 3.4 Sources of data

Annual reports of non-financial firms and online sources have been used to obtain relevant data. Ownership structure, board of directors, audit, and control variables related data are extracted manually from respective firms' annual reports. Annual share price data is being extracted from the Karachi Stock Exchange and related sources.

### 3.5 Research design

In this study, overall corporate governance, various earnings quality attributes and value of firm are the variables for testing the hypotheses. This study investigates the effectiveness of corporate governance mechanisms in Pakistan for the improvement of quality of financial reporting and hence value of firm. In particular, this study investigates the channel effect of earnings quality attributes in the governance-value relationship. Thus the relationship among three variables can be stated as:

$$1 - Value = f[*Earnings quality + Control variables*]$$

$$2 - *Earnings quality* = f[*overall corporate governance + Control variables*]$$

$$3 - Value = f[*Overall corporate governance + Earnings quality + Control variables*]$$

In the first and third functions, overall corporate governance is taken as explanatory variable with value as dependent variable. In the second function earnings quality is the dependent variable and in the third function, it is taken as independent variable. Furthermore, the mediating effect of earnings quality attributes on the effectiveness of corporate governance and value of firm is tested in section 4.4.5.

### **3.6 Measurement of the research variables**

The related variables are discussed in this section. These variables include (1) overall corporate governance (2) proxies of the earnings quality attributes, (3) proxies to measure the value of firm, and (4) control variables.

#### **3.6.1 Measurement of overall corporate governance**

Extensive literature, which captures the impact of corporate governance and value of firm and other financial aspects is available, but there is no consensus on the measurement of corporate governance (Varshney, Kaul, & Vasal, 2012; Al-Malkawi, Pillai, & Bhatti, 2014; Shahwan, 2015). In the recent years, the corporate governance index approach is common for the assessment of corporate governance practices. However, most of these studies are in the context of developed economies (Gompers, Ishii, & Metrick, 2003; Mintz, 2005; Durnev & Kim, 2007; Varshney, Kaul, & Vasal, 2012; Bhandari, Lamba, & Seth, 2014). In Pakistan, Shah and Butt (2009) carry a first study using the corporate governance index by assigning weights to ownership and board characteristics. However, the weight allocated to various corporate governance components for the to develop of index is a critical issue and based on subjective judgments (Javed, Iqbal, & Hasan, 2006). Therefore, the construction of the corporate governance index is problematic and there is a lack of agreed and dominating approach.

In above mentioned studies, corporate governance indices are developed on the basis of multiple dimensions of corporate governance. In this study, nine important dimensions have been identified for the construction of corporate governance score (Shah & Butt 2009; Madhani, 2014). Then Principal Component Analysis is used to develop the overall corporate governance score. PCA describes the multidimensional data analysis method, which ensure the lower number of component(s) after the decomposition of many inputs (Han, Pei, & Kamber, 2011). Prior literature assigning weights to the each

governance attribute and derived the additive index. Beside the additive technique for the building of overall corporate governance score, this study relies on principal component analysis to abridge the large number of variables into a single one which explained the maximum variance of the original components (Larcker, et al., 2007). Rather to assign equal weights or assigning arbitrary weights, this technique is based on a statistical procedure.

To develop overall corporate governance score in the Pakistani context, principal component analysis is used to the firms listed in the Karachi Stock Exchange. PCA describes the multidimensional data analysis method, which ensure the lower number of component(s) after the decomposition of many inputs (J. Han, Pei, & Kamber, 2011). The resulting principal components are the orthogonal vectors which explained the maximum variation of the original variables. The purpose of the construction of corporate governance index is to construct a reliable measure for the hidden human element behind the decisions making process.

The overall corporate governance consists of the components based on firm size, ownership, board and audit committee features, which is justifiable as most of the studies relating to the association between corporate governance and reporting quality focuses on ownership, board an audit committee characteristics (Chen, Hemmer, & Zhang, ,2007; Carcello, Hermanson, & Ye, 2011). The rationale behind the inclusion of these inputs of corporate governance is described by Dey (2008). Agency conflicts is categorized into three levels; low, medium and high. These levels based on firm size, managerial ownership, ownership concentration, institutional ownership, board size, board meetings, audit committee independence, audit committee independence, CEO duality and audit quality. High agency conflicts are found to be significantly associated with the ten principal components which reflect good governance.



Table 3.3 shows the operationalization of corporate governance attributes followed by previous practice in the literature (Christy et al., 2013; Kamran & Shah, 2014; Ullah & Kamal, 2017).

### 3.6.2 Measure of Earnings Quality Attributes

Earnings quality measurement is of great area of interest for researchers. A vast research has been conducted till date. For example, empirical studies indicate the trends in earnings quality, determinants of earnings quality over time and accounting changes

**Table 3.3 Operationalization of inputs of Corporate Governance Index**

<b>CG Attributes</b>	<b>Acronyms</b>	<b>Operationalization/Measurements</b>
Managerial/Director Ownership	BSH	Calculated as the total percentage of shares owned by board of directors for firm i in time t.
Ownership Concentration	ISH	Calculated as Percentage of total shares held by the top 05 shareholders divided by the total number of shares for firm i in time t.
Institutional ownership	LSH	Shares held by Institutional owners divided by total no. of shares outstanding
Board Size	BS	Calculated as the numbers of board directors for firm i in time t.
Board Meetings	BM	Calculated as the numbers of board directors meeting during the financial year.
Audit Committee Independence	AI	Calculated as the proportion of independent directors on the audit committee for firm i in time t.
Audit Committee Meetings	AM	Calculated as the number of audit committee meetings during the financial year for firm i in time t.
CEO Duality	DUL	Dummy variable taking the value 1 if the firm's CEO is the chairman of the board of directors, otherwise 0.
Audit quality	AQ	To control for the effect of external auditor quality, a dummy variable for auditor quality ( <i>BIG4</i> ), taking the value 1 if the firm was audited by a Big 4 auditor otherwise 0

effects on earnings quality, corporate governance effect on earning quality, effects of earnings quality upon cost of debt and cost of capital, impact of earning quality upon market valuation and analyst forecasting accuracy. Since earnings quality cannot be observed directly, literature provides a range of proxies used to measure it. These measures are explained in the coming sections.

### **3.6.2.1 Persistence (PRS)**

It is a time series measure of earnings quality attribute. Persistence refers to current earnings that reoccur in future and sustainability of reported earnings of a firm (Penman & Zhang, 2002). Francis, LaFond, Olsson, and Schipper (2004) estimate the slope coefficient,  $\beta_1$ , from the following regression model:

$$NIBE_{j,t}/TASSETS_{j,t-1} = \beta_0 + \beta_1 NIBE_{j,t-1}/TASSETS_{j,t-1} + \varepsilon_{j,t} \quad (1)$$

where,  $NIBE_{j,t}$  and  $NIBE_{j,t-1}$  are net income before extra-ordinary items in time  $t$  and  $t - 1$  for  $j$  firm,  $TASSETS_{j,t-1}$  are the total assets of  $j$  firm in year  $t - 1$  and  $\varepsilon_{j,t}$  is the error term. For each firm, equation (1) is estimated over rolling five years windows and  $\beta_1$  is obtained from year 1999 to 2014. Higher  $\beta_1$  shows a higher level of earnings quality.

### **3.6.2.2 Predictability (PRED)**

The predictability of earnings is the ability of the historical earnings to forecast the future earnings (Barua, 2005; Van der Meulen, Gaeremynck, & Willekens, 2007; Dorata, Barragato, & Markelevich, 2008). Larcker, Richardson, and Tuna (2007) use the estimated error term derived from earnings persistence regression by taking its square root as:

$$PRED_{j,t} = \sqrt{\sigma^2(\varepsilon_{j,t})} \quad (2)$$

Here, larger value of  $PRED_{j,t}$  is an indicator of better quality of earnings. Also  $R^2$  of persistence regression model can be used to interpret the level of predictability. Higher  $R^2$  reflects the higher level of predictability and lower level of earnings quality.

### 3.6.2.3 Value relevance (VR)

Basically there are two main models considered for investigating the value relevance of accounting figure. Researchers have used both type of models and they have made changes in models according to the needs of their research. These models are known as “the Return model” and “the Price Model”. Ball and Brown (1968) develop the Return Model and argue that the stock returns are dependent upon earnings per share and price of shares. The most common form of return model is:

$$RETU_{j,t} = \beta_0 + \beta_1 \frac{EPS_{j,t}}{MV_{j,t-1}} + \beta_2 \frac{EPS_{j,t} - EPS_{j,t-1}}{MV_{j,t-1}} + \varepsilon_{j,t} \quad (3)$$

Where:

$RETU_{j,t}$  = Annual return including cash dividend of firm J;

$EPS_{j,t}$  = Annual earnings per share of firm J;

$EPS_{j,t} - EPS_{j,t-1}$  = Change of annual earnings per share;

$MV_{j,t-1}$  = market value at the beginning of the year of firm J;

$\varepsilon_{j,t}$  = Error term.

Ohlson (1995) comes up with a price model, which is an extension of Return Model, to examine the value relevance of accounting information as:

$$SRET_{j,t} = \beta_0 + \beta_1 \frac{NIBE_{j,t}}{MVE_{j,t-1}} + \beta_2 \frac{\Delta NIBE_{j,t}}{MVE_{j,t-1}} + \varepsilon_{j,t} \quad (4)$$

where,  $MVE_{j,t-1}$  is the market value of equity at the beginning of the year in time  $t$  for  $j$  firm. For each firm, equation (3) is estimated over rolling five years windows.  $R^2$  measures how much change in dependent variable is explained by independent variable and higher value of  $R^2$  indicates higher value relevancy of accounting information.

Both models have got merits as well as demerits and one can't exactly tell that which one is more accurate and more explaining. Price model is however considered better as compared to the return model due to two reasons: (1) Surprise component and expected component both are included in current earnings, but expected component is not able to explain the current return, which is an error in independent variable and due to this return models biases, earnings coefficients move towards zero. On the other hand, as stock prices reflect commutative effect of earnings information (Kothari and Zimmerman 1995), therefore price model yields unbiased earnings coefficients. (2) With return models one can only assess the value relevance of accounting earnings, whereas price models clearly explain that how firm market value is related to both book value of equity or share and accounting earnings. Keeping in view the merits, price model is used in this study.

#### 3.6.2.4 Accruals quality (AQU)

Accrual quality is considered to be the degree of stability in the relationship between cash flows and accruals. The gap between earnings and cash is due to accruals. Dechow et al. (2010), develop a measure of accrual quality as under:

$$\frac{\Delta WCAP_{j,t}}{TASSETS_{j,t-1}} = \beta_0 + \beta_1 \frac{CFO_{j,t-1}}{TASSETS_{j,t-1}} + \beta_2 \frac{CFO_{j,t}}{TASSETS_{j,t-1}} + \beta_3 \frac{CFO_{j,t+1}}{TASSETS_{j,t-1}} + \varepsilon_{j,t} \quad (5)$$

$\Delta WCAP_{j,t}$  is the difference between change in current assets and change in current liabilities in time  $t$  for  $j$  firm.  $CFO_{j,t}$ ,  $CFO_{j,t-1}$  and  $CFO_{j,t+1}$  represents the firm  $j$ 's cash flow from operations in time  $t$ ,  $t - 1$  and  $t + 1$ .

For each firm, equation (4) is estimated over rolling five years windows to calculate the standard deviation of the residuals. Higher standard deviation of the residuals indicates low accrual quality.

### 3.6.2.5 Smoothness (SM)

Smoothing of earnings is the lesser volatility in the reported earnings over the time. Bowen, Rajgopal, and Venkatachalam (2008) divide the standard deviation of earnings and standard deviation of operating cash flows to calculate the degree of smoothness. However, Francis et al. (2004) use the same ratio by scaling both variables by lagged assets as:

$$SM_{i,t} = \sigma \left( \frac{NIBE_{j,t}}{TASSETS_{j,t-1}} \right) / \sigma \left( \frac{CFO_{j,t}}{TASSETS_{j,t-1}} \right) \quad (6)$$

Standard deviation is calculated over five years rolling windows. Large values of “SM” indicated less smoothness, which is a representation of higher earnings quality.

### 3.6.3 Dependent variable-firm’s value

Both market (Tobin’s Q) and accounting performance (ROA) measures are used in this study. Tobin’s Q serves as a proxy for company performance in a financial market. A high Q value indicates the market’s perception that the company performance is good (Weir, Laing, & McKnight, 2002; McKnight & Weir, 2009; Coles, Lemmon, & Meschke, 2012). A ratio formulated by Tobin in 1969 is calculated as the market value of a firm divided by the replacement costs of the firm’s assets. In this study the Tobin’s Q ratio is defined as market capitalization plus total debt divided by total assets (Coles, Lemmon, & Meschke, 2012).

$$Tobin's - Q = \frac{(Equity\ market\ value + Liabilities\ book\ value)}{(Equity\ book\ value + liabilities\ book\ vlue)} \quad (7)$$

If Tobin's Q is greater than 1, it reflects market value is greater than the value of the company's recorded assets. Also, if Tobin's Q is above 1, it indicates the firm is earnings rates of return higher than that justified by the costs of its assets. However, if Tobin's Q is less than 1, the market value is less than the recorded value of the assets of the company.

ROA is the accounting based measure of value of firm followed by (Mahoney & Roberts, 2007).

$$ROA = \frac{EBIT}{Total\ Assets} \quad (8)$$

This proxy is an indicator of how profitable a company is relative to its total assets. In simple words, this measure reflects the operating efficiency of the total business. For public companies, ROA can vary substantially and is highly dependent on the industry. ROA gives investors an idea of how effectively company management is at using its assets to generate earnings or what earnings were generated from invested capital. Higher ROA shows the company uses its assets effectively in serving shareholders' economic interests. Lower ROA numbers indicate the company is earnings less money on high investment.

### **3.6.4 Control variables**

This section shows the measurement of control variables that may affect the earnings quality. Various variables (Firm size, leverage, capital intensity and growth prospects) are included to control for possible influences on earnings quality.

#### **3.6.4.1 Firm Size (FS)**

As the size of firms increases, the agency cost are expected to increase and allow for greater managerial discretions (Jensen & Meckling, 1976). Managers of large firms are politically sensitive and more likely to have discretion due to complexity (Watts &

Zimmerman, 1990). Therefore, such firms may more easily manage earnings than small firms. However, large firms are expected to disclose more information than small firms and these firms are under many regulations and political viability; therefore, these firms are unlikely to manage earnings. To control for size effects, the natural logarithm for the book value of total assets is included as a proxy for size of firm (Kamran & Shah, 2014).

#### **3.6.4.2 Leverage (LVG)**

Leverage means the debt structure of a firm and is used in many studies to proxy for debt covenant violation (Efendi, Srivastava, & Swanson, 2007; Elayan, Li, & Meyer, 2008). Jiang, Lee and Anandarajan (2008) suggest that leverage changes may have different impacts on earnings quality. In the literature, leverage is widely used as a control variable (Jiang, et al., 2008; Dimitropoulos & Asteriou, 2010). Leverage (LEVG) is calculated as total long term debt divided by total assets (Kamran & Shah, 2014).

#### **3.6.4.3 Capital Intensity (CAI)**

Young (1999) reports a negative association between capital intensity and the level of discretionary accruals, means that capital intensity has positive association with earnings quality, indicating that firms with higher capital intensity have higher quality of earnings. Following Francis, et al.(2004); Houqe, et al. (2010) proxy for capital intensity related incentives with the ratio of net book value of property, plant and equipment to total assets, labeled *CAI*.

#### **3.6.4.4 Growth Prospects (GW)**

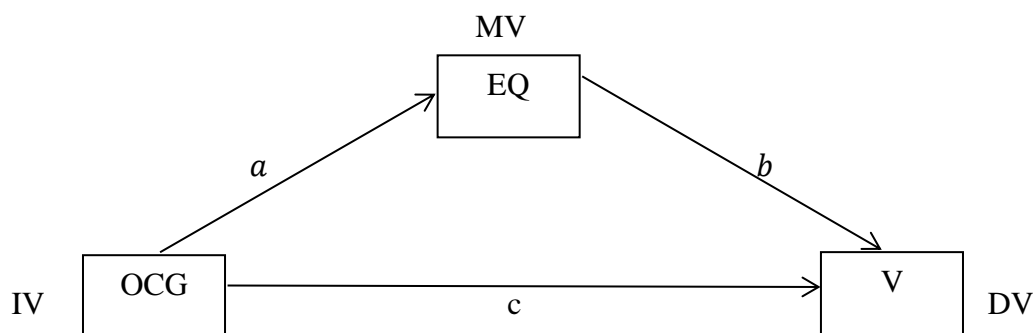
Growth firms are expected to increase the firm value and earnings quality but can be regarded as risky firms which inflate their earnings (Krishnan & Parsons, 2008). Consistent with the past studies (see for instance, Abbott, Parker, & Peters, 2004; Dimitropoulos & Asteriou, 2010), this study control for the effect of rapid growth. It is essential to control for a firm's pace of development because, in times of rapid growth, a company may experience pressure to maintain or exceed anticipated growth rates. To

control these effects on earnings quality, growth prospects are included and measured as the relative increase in the sales from preceding year.

### 3.7 Mediation Analysis

In mediation analysis, this study examines the process through which our independent variable (overall corporate governance) exercises the impact on dependent variable (value of the firm) through a mediating variable (earnings quality). Mediation analysis goes beyond the description of impact of independent variable upon dependent variable, rather to explain how that relationship exists (Hayes & Preacher, 2014).

Figure 3.1 shows the causal association among overall corporate governance, earnings quality attributes and value of the firm. The effects of overall corporate governance (OCG) on value of the firm (V) is decompose into direct and indirect effects. The direct effect of OCG on V is shown by “c”, whereas the indirect effect through the mediating variable (earnings quality attributes, EQ) can be calculated by the product of "a" and "b" paths as “ab”. According to Hayes and Preacher (2014), all paths can be quantified by using the regressions.



**Figure 3.1** Causal Association Among Overall Corporate Governance, Earnings Quality Attributes and Value of the Firm

### 3.8 Empirical models

The aim of this study to investigate the interactions between corporate governance, earnings quality attributes and value of firm in Pakistani listed companies in



Karachi Stock Exchange for the period of twelve years ranging from January 2003 to December, 2014. The relating empirical models are developed as under:-

### **Relationship between overall corporate governance and value of firm**

The general model to examine the direct effect of corporate governance upon value of firm is as under:

$$V_{i,t} = \beta_1 + \beta_2 CG_{i,t} + \beta_3 FS_{it} + \beta_4 LVG_{it} + \beta_5 CAI_{it} + \beta_6 GW_{it} + \varepsilon_{it} \quad (9)$$

### **Relationship between earnings quality attributes and value of firm measures**

The general models to examine the direct effect of corporate governance upon earnings quality are as under:

$$V_{i,t} = \beta_1 + \beta_2 EQ_{i,t} + \beta_3 FS_{it} + \beta_4 LVG_{it} + \beta_5 CAI_{it} + \beta_7 GW_{it} + \varepsilon_{it} \quad (10)$$

### **Direct and indirect effects of overall corporate governance**

In order to capture the direct as well as indirect effects of overall corporate governance (OCG) on value of firm (V) as shown in Figure 1, the econometric models are as follows:

$$EQ_{i,t} = \alpha_0 + \alpha_1 OCG_{it} + \alpha_2 FS_{it} + \alpha_3 LVG_{it} + \alpha_4 CAI_{it} + \alpha_5 GW_{it} + \varepsilon_{1it} \quad (11)$$

$$V_{i,t} = \beta_0 + \beta_1 OCG_{it} + \beta_2 EQ_{it} + \beta_3 FS_{it} + \beta_4 LVG_{it} + \beta_5 CAI_{it} + \beta_6 GW_{it} + \varepsilon_{2it} \quad (12)$$

where, EQ is earnings quality attributes, OCG is overall corporate governance, FS is firm size, LVG is leverage, CAI is capital intensity, GW is growth opportunities, V is value of firm,  $\varepsilon_{1it}$  and  $\varepsilon_{2it}$  are stochastic error terms. Equation (11) represents the effect of OCG on mediating variable (EQ) using the control variables such as FS, LVG, CAI and GW. Equation (12) captures the effects of OCG and EQ on value of firm (V). Using equations (11) and (12), we calculate the direct and indirect effects of OCG on V as follows:

### 3.9 Direct effect

$$\frac{\partial V}{\partial OCG} = \beta_1, \text{ using equation (12)}$$

### 3.10 Indirect effect through the channel of EQ

To capture the channel effect/indirect effect, a number of techniques are available for example (i) causal step approach (Baron & Kenny, 1986); (ii) the product of coefficient approach (Sobel, 1982); (iii) the joint significance test and (iv) estimation of indirect effect described by Hayes and Preacher (2010). However, the stated techniques are suitable for cross sectional data only.

To capture the indirect effect of overall corporate governance on value of firm through earnings quality attributes, the process involves two function named (1) EQ (mediating variable)-Function i.e. Model-11, and, (2) Value (dependent variable)-Function i.e. Model-12. First function posits that the respective earnings quality attribute is specified as a function of overall corporate governance after controlling the effect of control variables i.e. Size of firm (FS), leverage (LVG), capital intensity (CAI) and growth opportunities (GW). The second function represents the combined effect of OCG and each earnings quality attribute upon value of firm.

The product of EQ-Function and Value-function term as “ $\theta$ ” which quantifies that how much value of firm (dependent variable) changes at a specific point of overall corporate governance indirectly through its effects on the each earnings quality attribute (mediating variable). So the indirect effect can be modeled as:

$$\theta = \frac{\partial V}{\partial OCG} = \frac{\partial EQ}{\partial OCG} * \frac{\partial V}{\partial EQ} = \alpha_1 * \beta_2, \text{ using equations (11) and (12)} \quad (13)$$

Where;  $\theta$  = Indirect effect- which quantifies the change in the overall corporate governance changes the value of firm through the change in the earnings quality attributes.

$\frac{\delta EQ_{i,t}}{\delta OCG_{i,t}}$  = This model derives the earnings quality (MV) as a function of overall corporate governance (IV)

$\frac{\delta V_{i,t}}{\delta EQ_{i,t}}$  = This model derives the value of firm (DV) as function of earnings quality (MV).

### 3.11 Estimation methods

This section explains the primary estimation methods. This study utilized the panel data set as panel data provides more degree of freedom, more variability, more efficiency, less collinearity among variables and also permits control of unobserved firm heterogeneity (Verbeek, 2008). The most frequently used procedures for panel data analysis are the one-way random effect (RE) and fixed effect (FE) models. These models assume that the differences among cross-sectional units (firms) can be captured by an intercept term, which is specific for each firm. This specific intercept term is considered as random in RE models and fixed in the FE models. However, the econometric methods available for the estimation of a system of equations for unbalanced panel-data are relatively new. Biorn (2004) develops a procedure for the estimation of one-way Seemingly Unrelated Regression (SUR) system with random effects (RE). Monte Carlo simulations show that SUR techniques are superior as compared to the standard single equation FE and RE estimators. Therefore, we estimate equations (11) and (12) simultaneously using SUR with one-way random effects (RE) as suggested by Biørn (2004). RE is preferred to FE with selection determined by Hausman (1978). This procedure has several advantages. For example, it is possible to control firm-level heterogeneity in order to avoid biased estimates. Furthermore, due to time and cross-firm

dimensions, there is more information, less collinearity and greater efficiency in the estimates (Biorn, 2004; Baltagi, 2005).

This method is the generalization of a linear regression model having more than one regression equations. All equations having owned explained variable and potentially different set of explanatory variables. Each equation can be estimated separately due to its phenomena, so it is called seemingly unrelated. Seemingly unrelated regression and ordinary least square estimates are almost equivalent in two cases (i) where error terms of both are uncorrelated and (ii) when each equation contains the same explanatory variables on the right hand side. However, if system of equations having different set of regressors, then SUR is designed to estimate the such form of equations. This method also addresses the correlated error term of cross sections and provides more efficient estimates as compared to OLS.

Therefore, in this study, we use SUR to estimate the association between overall corporate g governance, earnings quality attributes and value of firm. Another advantage of this method is that it estimates the multiple of equations collectively (Cameron & Trivedi, 2009) and the collective estimation of equations not only controls the cross-period correlation but also reduces the standard errors. This method has another advantage of identifying the intervening variables in the relationship between dependent and independent variables. Also in SUR, multiple regressions are used simultaneously; it mitigates the issue of multicollinearity among corporate governance, earnings quality attributes and value of firm.

### **3.12 Chapter summary**

In this chapter, population, sample and collection of data, operationalization of dependent, independent and control variables, and research design for the testing of the hypothesis are reported. A sample of 214 non-financial firms listed on Karachi Stock

Exchange over the fourteen years period (1999-2014) is selected. Ten inputs for the measurement of overall corporate governance index are taken into account. Five various earnings quality attributes are operationalized to capture the reliability and relevancy features of financial statements. For the measurement of value of firm, both accounting and market based proxies are operationalized. Then regression models and panel data estimation techniques to capture the mediation effect of earnings quality are discussed in this chapter.

## **CHAPTER 4**

### **RESULTS AND DISCUSSION**

The econometric models and research design for the testing of the hypotheses were presented in chapter three. After collecting the data from the sources mentioned in the last chapter, this chapter presents the findings of the study. Section 4.1 presents the measurement of overall corporate governance, correlation matrix of corporate governance components, eigen values of correlation matrix and principal components of overall corporate governance. Section 4.2 presents the descriptive analysis of overall corporate governance, earnings quality attributes and value of firm measurement variables.

Section 4.4 outlines the regression analysis of the models. Section 4.4.1 reports the discussion of the results of regression model 10. Section 4.4.2 provides the discussion and findings of the model 11. Results and discussion of regression analysis of model 12 is reported in section 4.4.3. In section 4.4.4 results and discussion of the model 13 are outlined.

#### **4.1 Measurement of Overall Corporate Governance (OCG)**

As discussed in the methodology section, Principal Component Analysis is used to measure the overall corporate governance following Larcker et al. (2007). For this purpose, nine internal and external corporate governance mechanisms are taken into account as input variables. PCA determines the principal components after the decomposition of eigen value of the correlation matrix. It only considers those input factors which highly play an important role in the variation of the whole input data. If correlation matrix is accurate then it guarantees the validity of principal components and the final conclusions are considered valid. PCA mitigates the individual identity of highly

correlated variables and produces minimum output variables. So it is our aim of using PCA to condense the initial input components without losing information.

Table 4.1 shows the correlation matrix relating to the input values of various corporate governance mechanisms. Values with asterisks show that the correlation coefficients are significant for  $p < 0.01$ . Data standardization is adopted to address the difference in the order of magnitude and measuring proxy for the corporate governance mechanisms. Data standardization involved two steps (1) centering the data: this step replace the input values with their mean deviated values (2) reduction of data: in this step, input variables are divided to the respective standard deviation. PCA reduces the variables to a set of uncorrelated principal component that captures the maximum variance among the selected input variables.

**Table 4.1 The correlation coefficient matrix of corporate governance index- input variables**

	FS	DUL	BSH	ISH	LSH	BS	BM	AI	AM	AQ
FS	1									
DUL	-0.3191	1								
BSH	-0.2588*	0.5534*	1							
ISH	0.3522*	-0.2585*	-0.2487*	1						
LSH	0.3454*	-0.3248	-0.3213*	-0.1760*	1					
BS	0.3547*	-0.2130*	-0.3035*	0.2348*	-0.3013	1				
BM	0.2097*	-0.2285	-0.3092	-0.3070*	-0.3201	0.3113*	1			
AI	0.3074*	-0.3692*	-0.3192*	0.2743*	0.2983*	0.2720*	-0.3439*	1		
AM	0.2992*	-0.2191	0.3325	-0.2653*	0.2921*	0.3197	0.3995*	0.3316*	1	
AQ	0.3417*	-0.3854*	-0.2435*	0.3420*	0.3374*	0.3023*	0.2350	0.2480*	0.3028*	1

Note: \* shows the level of significance at 1%.

Ideally, only one component should be selected using optimal weights. These

weights are produced by the eigenvalues. These eigen vectors are optimal such that no other set of weights could produce the maximum variance among the variables (Bharath, Pasquariello, & Wu, 2009). PCA mitigate the individual identity of highly correlated variable and produce a minimum output variables. So it is our aim of using PCA to condense the initial input components without losing the information.

**Table 4.2 The eigenvalues of the correlation matrix**

<b>Value number</b>	<b>Eigenvalue</b>	<b>Total Variance %</b>	<b>Cumulative %</b>	<b>Cumulative Eigenvalue</b>
1	1.9985	68.86%	68.86%	1.9855
2	1.3651	8.65%	77.51%	3.3636
3	1.1652	7.31%	84.82%	4.5288
4	1.0991	4.14%	88.96%	5.6279
5	0.9298	4.02%	92.98%	6.5577
7	0.9028	3.53%	96.51%	7.4605
8	0.8872	2.19%	98.70%	8.3477
9	0.8596	1.15%	99.86%	9.2073
10	0.7927	0.15%	100.00	10

The eigenvalues of correlation matrix are given in Table 4.2. The first component explained on average 68.86% of the total variance. While second and third components explained the 8.65% and 7.31% respectively of total variance.

The scree graph is given in figure 4.1. This graph depicts the eigenvalues of the correlation matrix. Following the criterion set by Jolliffe (2002), eigenvalues greater than one and half are selected. It is noted that after the third point, the slope is decreasing.



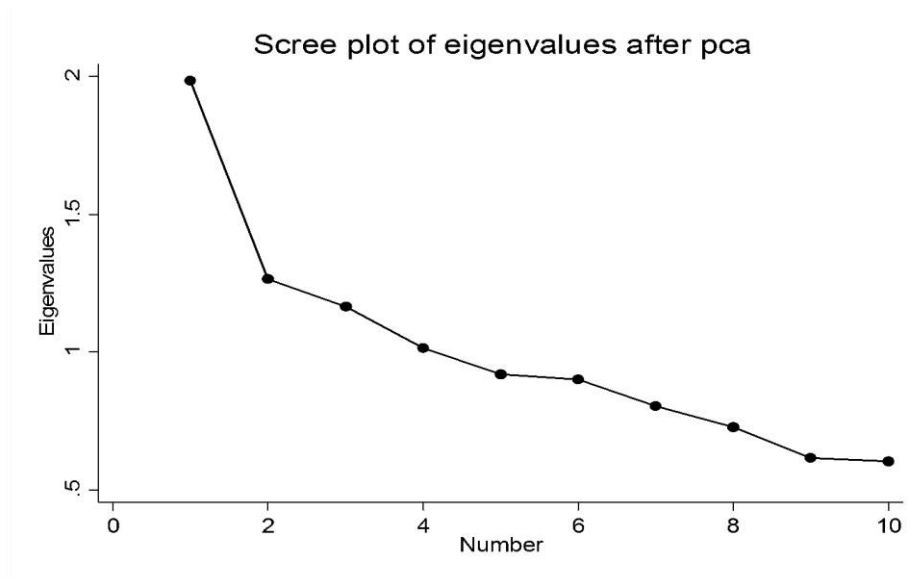


Figure 4.1 Scree Plot of Eigenvalues

**Table 4.3 The Input Variables and Principal Components**

CG Attributes	Acronyms	Operationalization/Measurements	Principal components
Size	FS	Natural log of total assets	0.3762
Managerial Ownership	BSH	Calculated as the total percentage of shares owned by board of directors for firm i in time t.	-0.4412
Ownership Concentration	LSH	Calculated as Percentage of total shares held by the top 05 shareholders divided by the total number of shares for firm i in time t.	0.1601
Institutional ownership	ILO	Shares held by Institutional owners divided by total number of shares outstanding	0.1980
Board Size	BS	Calculated as the number of board directors for firm i in time t.	0.3964
Board Meetings	BM	Calculated as the number of board directors meeting during the financial year.	0.0547
CEO Duality	DUL	Dummy variable taking the value 1 if the firm's CEO is the chairman of the board of directors, otherwise 0.	-0.2266
Audit Committee Independence	AIN	Calculated as the proportion of independent directors on the audit committee for firm i in time t.	0.3773
Audit Committee Meetings	AM	Calculated as the number of audit committee meetings during the financial year for firm i in time t.	0.1141
Audit quality	AQ	Dummy variable taking the value 1 if the firm was audited by a Big 4 auditor otherwise 0.	0.3800

Finally based on the above calculated figures, the final OCG score is determined as:

$$\text{OCG} = 0.3762 * \text{FS} + (-0.4412) * \text{BSH} + 0.1601 * \text{LSH} + \dots + 0.38 * \text{AQ}$$

## 4.2 Descriptive analysis

It is impossible to read the large amounts of statistical data. Descriptive statistics allows the researcher to describe the data in summarized form by using different techniques. The data can be read easily by examining the values of descriptive statistics and is used in this study to describe the large amounts of data. The annual date period in this study starts from 2003 and ends at 2014 which constitute 12 years throughout the data. The data of year 1999 through 2014 is considered to calculate the five earnings quality attributes i.e. persistence, predictability, value relevance, accrual quality and smoothness. Total 214 cross sections are considered after applying the filtration criteria mentioned in the methodology chapter. Descriptive Statistics for the variables of the study which includes corporate governance index, earnings quality attributes and control variables are summarized in Table 4.4.

Table 4.4 includes the total number of observations, mean and median value of the data set, measure of dispersion (standard deviation), maximum and minimum value of all the variables of the sample. ROA is return on assets, ROE is return on equity, TQ is the abbreviation of Tobin's-Q, OCG is corporate governance index, PRS indicates the persistence of earnings. PRED is predictability, VR is the value relevance dimension of earnings quality, AQU represents accruals quality, SM for smoothness. Whereas control variables include firm's size (FS), leverage (LVG), capital intensity (CAI) and firm's growth (GW).

The mean (median) measure of ROA in this study is 0.0664 (0.0505) with range from 0.3073 to 0.4971 and standard deviation 0.1177. These values are comparable to that reported in the previous studies such as Yasser (2011); Ahmed Sheikh, Wang and

Khan (2013). Similarly mean value of TQ is 1.1756, median value is 0.9843 and standard deviation 0.5958 with minimum and maximum values 0.4394 and 4.0612 respectively. These findings are comparable and consistent with the study by Afza and Nazir (2014). OCG on average is 3.9164 with middle value 3.7443 along with range from 1.6428 to 7.1968. The dispersion as shown by standard deviation is 0.8395. OCG values are consistent with Tariq and Butt (2008). Persistence (PRS) has mean value -0.1982 with median -0.1187 maximum value -23.3173 and minimum value -21.7977. The value of standard deviation showing dispersion is 1.365641. The predictability (PRED) attribute of earnings quality has mean and median values 0.0664 and 0.0479 respectively. The smallest value of the variable is 0.0017 with largest value 0.3710. As regard to dispersion, the value of standard deviation is 0.0606. The firms in the sample have on average value relevance 0.5954 while the median value is 0.4555. The lowest value is 0.0057 and the highest value is 0.9996. The value of standard deviation is 0.2910. On average accrual quality (AQU) is 0.0998 with middle value 0.0617. It ranges from 0.0013 to 1.435 with standard deviation 0.1294 showing dispersion. Smoothness of earnings quality has also been quantified. The results indicate that it has a mean value of -0.8409, median value -0.4344. The lowest value of the data of this variable is -17.1215 and the highest value is zero with standard deviation value 1.4462.

Firm Size is a control variable in this study. Its average value is 14.8940 while middle value is 14.7915 and measure of dispersion is 1.6480. The largest value in the panel is 20.0230 while the lowest value is 8.7102. Leverage is second control variable in this study. Its average value is 0.4805 and median value is 0.4270 and measure of dispersion or standard deviation is 0.2395. The largest value in the panel is 0.9369 while the lowest value is 0.0039. For both control variables, the results are almost comparable

to studies conducted in the Pakistani context (see for Instance, Sheikh, Wang, & Khan, 2013; Kamran & Shah, 2014).

**Table 4.4 Descriptive Statistics**

<b>Variable Name</b>	<b>Mean</b>	<b>Median</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Std. Dev.</b>
<b>ROA</b>	0.0664	0.0505	-0.3073	0.4971	0.1177
<b>TQ</b>	1.1756	0.9843	0.4394	4.0612	0.5958
<b>OCG</b>	3.9164	3.7443	1.6428	7.1968	0.8395
<b>PRS</b>	-0.1982	-0.1187	-23.3173	-21.7977	1.3656
<b>PRED</b>	0.0664	0.0479	0.0017	0.3710	0.0606
<b>VR</b>	0.5954	0.4555	0.0057	0.9997	0.2910
<b>AQU</b>	0.0998	0.0617	0.0013	1.4356	0.1294
<b>SM</b>	-0.8409	-0.4344	-17.1251	0	1.4462
<b>FS</b>	14.8940	14.7915	8.7102	20.0230	1.6480
<b>LVG</b>	0.4805	0.4270	0.0039	0.9369	0.2395
<b>CAI</b>	0.5278	0.5388	0.0073	0.9995	0.2039
<b>GW</b>	0.1670	0.1439	.0038	19.6480	0.4723

The third control variable of the study is CAI which has mean value of 0.5278. Its central value is 0.5388 with range from 0.0073 to 0.9995 and volatility 0.2039. The last control variable of the study is GW. It value is on average 0.1676 with middle value 0.1439. The lowest and largest values of this variable are 0.0038 and 19.64807 respectively. The standard deviation of this variable is 0.3662. Again these findings are comparable with the past studies in the context of Pakistan (see for instance, Kamran & Shah, 2014).

### 4.3. Correlation analysis

The table 4.5 reports correlation matrix between the ROA, Tobin's-Q, OCG, PRS, PRED, VR, AQU, SM and control variables. The objective of analyzing the correlation may vary across the studies. In the present study, correlation matrix is used to capture the association between independent variables and to check the multicollinearity.

As the results indicate the corporate governance variable which is here corporate governance index is positively correlated with the variables of firm value; ROA and TQ. First attribute of earnings quality which is persistence is also positively associated with firm value variables. Predictability attribute of earnings quality has the same behavior towards ROA and Tobin's-Q. Value relevance is positively correlated with the firm value variables and OCG. Its correlation with the independent variables of the study is below 0.70 which suggests that there is no problem of multicollinearity. Accrual quality (an inverse measure) is negatively related to the variables ROA, Tobin's-Q and OCG with correlation coefficients below 0.70. The smoothness attribute of earnings quality is negatively associated with ROA, Tobin's-Q and OCG. SM is also an inverse measure of earnings quality and is also not highly correlated with the other independent variables. Firm Size is positively associated with ROA, TQ and OCG. Leverage has negative relationship with ROA, Tobin's and OCG. CAI also has the same behavior and GW is positively related to ROA, Tobin's-Q and OCG.

Overall from the analysis of the correlation matrix it is concluded that there is no problem of multicollinearity among the independent variables of the study as correlation coefficients are less than 0.70. This is also verified through variance inflation factor for each explanatory variable which is less than 10. These results are comparable with Kamran and Shah (2014).

**Table 4.5 Correlation Matrix of Variables**

<b>Variable</b>	<b>ROA</b>	<b>TQ</b>	<b>OCG</b>	<b>PRS</b>	<b>PRED</b>	<b>VR</b>	<b>SM</b>	<b>AQU</b>	<b>FS</b>	<b>LVG</b>	<b>CAI</b>	<b>GW</b>
<b>ROA</b>	1											
<b>TQ</b>	0.3474	1										
<b>OCG</b>	0.2269	0.3147	1									
<b>PRS</b>	0.1711	0.2277	0.3074	1								
<b>PRED</b>	0.0864	0.0854	0.0161	-0.0498	1							
<b>VR</b>	0.1732	0.1228	0.0178	-0.0176	-0.0019	1						
<b>SM</b>	0.0733	-0.0720	-0.0132	0.0356	-0.3349	0.0378	1					
<b>AQU</b>	-0.1286	-0.2490	-0.0573	0.0344	-0.2790	-0.0009	0.2380	1				
<b>FS</b>	0.1668	0.1590	-0.0112	0.0249	0.1262	0.0190	0.0828	0.2491	1			
<b>LVG</b>	-0.2938	-0.1277	-0.0219	-0.0329	-0.0176	-0.0707	0.1693	-0.3667	-0.0650	1		
<b>CAI</b>	-0.2892	-0.1628	0.0100	-0.0441	0.0122	0.0501	-0.2153	-0.1206	0.0342	0.4059	1	
<b>GW</b>	0.4705	0.5360	-0.2196	0.0155	-0.0222	-0.0114	0.0280	0.0510	0.0587	-0.2076	-0.2009	1

## 4.4 Regression analysis

### 4.4.1 Earnings quality and value of firm

Tables 4.1 to 4.5 report the results of model 10, which investigates the relationship among five attributes of earnings quality and value of firm along with control variables.

#### 4.4.1.1 Impact of persistence on firm value

In this section the analysis of persistence on firm value has been presented. For this purpose ROA and Tobin's-Q are used as proxies of value of firm. The results are reported in the table 4.6.

**Table No. 4.6 Regression results-Impact of Persistence on Firm Value**

Variable	ROA	Tobin Q
PRS	0.2012*** (0.000)	0.3376*** (0.000)
FS	0.0293*** (0.000)	0.0434*** (0.000)
LVG	0.0645 (0.104)	-0.5883*** (0.000)
CAI	-0.5604*** (0.000)	-0.1967*** (0.000)
GW	0.0323*** (0.000)	0.12458*** (0.000)
N	2536	2536

Note: P-values are given in parentheses. \*\*\*, \*\* and \* show the level of significance at 1%, 5% and 10% respectively.

Table 4.6 reports the results of the model in which the variables describing firm value have been regressed on persistence dimension of earnings quality. In column 2 of the

table, dependent variable ROA has been used to quantify firm value. It can be seen from the results that persistence increases significantly the value of firm as measured by ROA. Theoretically better quality of earnings which is measured with the help of persistence is associated with the reduced information asymmetry which reduces the firm cost of capital and thereby increasing firm value-measured by ROA. These results are consistent with the views of Francis, et al. (2004). In the last column of the table, the impact of persistence on Tobin's-Q as firm value is presented. It is clear that firm value again increases as a result of increase in persistence. These findings are comparable with the findings of Choi (2008). He argues that the improvement in earnings quality results in decrease in the information asymmetry and provision of wrong information to the potential investors due to which they feel confidence in purchasing the stocks of such companies which drive up the market value of the firms. Also these findings suggest that persistence of earnings is important for the stakeholders in their decision making process.

#### ***4.4.1.2 Impact of predictability on firm value***

In this section the analysis of predictability on firm is presented. For this purpose ROA and Tobin's-Q are used as proxies of value of firm. The results are reported in the table 4.7. This table 4.7 presents regression results for the models in which the effect of predictability, an attribute of earnings quality, on various measures of firm value has been analyzed. First of all, ROA has been used as a proxy of firm's value and been analyzed with respect to variation in predictability. The results indicate that predictability raises the firm value significantly and positively as the p-value shows. When the predictability of the future events on the basis of available accounting information is improved, the



investors feel confident in dealing with the firms having high predictable earnings. As a result, the value of firm elevated along with decrease in cost of equity capital.

#### 4.7 Regression results- Impact of Predictability on Firm Value

Variable	ROA	Tobin's-Q
PRED	0.1379*** (0.000)	0.5051*** (0.000)
FS	0.0070*** (0.000)	0.0531*** (0.000)
LVG	-0.0819*** (0.000)	-0.0471** (0.024)
CAI	-0.0818*** (0.000)	-0.0348 (0.100)
GW	0.01259*** (0.000)	0.1391*** (0.000)
N	2536	2536

Note: P-values are given in parentheses. \*\*\*, \*\* and \* show the level of significance at 1%, 5% and 10% respectively.

The findings are consistent with those of Leuz and Verrecchia (2005) who document that financial accounting information having better quality, enhances the coordination among investor and firm in the form of capital investments, reduction in information risk and ultimately reduction in cost of capital. In the last column of the table, Tobin's- Q as a proxy of firm's value has been regressed on the predictability. The results reported in column 3 of the table. The results show that value of firm measured by Tobin's-Q increases as a consequence of increase in predictability. It is consistent with the view that firms which are characterized by predictability enjoy increased market value. These

findings are consistent with Gaio and Raposo (2011) and suggest that predictive power of earnings contribute in the value of firm determination.

#### 4.4.1.3 Impact of value relevance on firm value

Table 4.8 reports the regression results of value relevance and value of firm.

**Table 4.8 Regression Results- Impact of Value Relevance on Firm Value**

Variable	ROA	Tobin's-Q
VR	0.5502*** (0.000)	0.1726*** (0.000)
FS	0.0013** (0.075)	0.0349*** (0.000)
LVG	-0.0283*** (0.001)	-0.6091*** (0.000)
CAI	-0.0711*** (0.000)	-0.3495** (0.000)
GW	0.0146*** (0.000)	0.1161*** (0.000)
N	2536	2536

Note: P-values are given in parentheses. \*\*\*, \*\* and \* show the level of significance at 1%, 5% and 10% respectively.

Table 4.8 reports the regression results of the model in which the proxies of firm value has been regressed on value relevance dimension of earnings quality. Accounting information is considered value relevant if there is a statistically significant relationship among accounting numbers and value of firm. The results presented in the table 4.3 shows that VR is positively and significantly have an impact on all measures of value of firm. The findings show that magnitude of value relevance has a positive impact on ROA and Tobin's-Q. It means that as the magnitude of VR increases, value of firm also

increases due to higher level of value relevance attribute. These findings are consistent with Goettsche, Steindl and Gietl (2014). These findings suggest that higher information to stakeholders means the higher quality of earnings which is related to value relevance to earnings figure.

#### **4.4.1.4 Impact of accruals quality on firm value**

In this section the analysis of accrual quality on firm value has been investigated. For this purpose ROA and Tobin's-Q are used as proxies of firm value. The results are reported in the table 4.9.

**Table 4.9 Regression results- Impact of Accruals Quality on Firm Value**

<b>Variable</b>	<b>ROA</b>	<b>Tobin's-Q</b>
AQU	-0.7052*** (0.000)	-0.1894*** (0.000)
FS	-0.01357 (0.075)	0.0401*** (0.000)
LVG	0.0016 (0.852)	0.7770*** (0.000)
CAI	0.0158 (0.113)	-0.2645** (0.000)
GW	-0.0066*** (0.000)	0.1173*** (0.000)
N	2536	2536

Note: P-values are given in parentheses. \*\*\*, \*\* and \* show the level of significance at 1%, 5% and 10% respectively.

Table 4.9 shows the results of the models in which accrual quality and firm value proxies have been analyzed. As discussed in methodology section, AQU is the inverse measure of earnings quality. It can be seen that overall accrual quality has significant negative effect on both the proxies of value of firm; ROA and Tobin's-Q as the p-values are less

than 1 percent level of significance. It means that as the AQU increases, the quality of accruals improves; and the value of firm increases. Summation of the accruals and cash flows results in earnings and the factor of cash flow is apprehended as to be objective and free from alterations so the entire set of earnings is dependent upon quality of accruals. If the accruals are properly disclosed and free from manipulations, then this factor aids to increase the firm's value through lessening the cost of equity capital (Choi, 2008).

#### ***4.4.1.5 Impact of smoothness on firm value***

In this section the analysis of smoothness on firm value has been outlined. For this purpose ROA and Tobin Q are used as proxies of firm value. The results are reported in the table 4.10.

**Table 4.10 Regression Results- Impact of Smoothness on Firm Value**

<b>Variable</b>	<b>ROA</b>	<b>Tobin's-Q</b>
SM	-0.6010*** (0.000)	-0.8297*** (0.000)
FS	0.1051** (0.000)	0.0436 *** (0.000)
LVG	-0.0155 (0.269)	-0.8702*** (0.000)
CAI	-0.5452*** (0.000)	-1.342** (0.000)
GW	0.0328*** (0.000)	0.1253*** (0.000)
N	2536	2536

Note: P-values are given in parentheses. \*\*\*, \*\* and \* show the level of significance at 1%, 5% and 10% respectively.

This table 4.10 shows the impact of SM on various variables of firm value. SM is also an inverse measure of earnings quality. It is clear that SM is negatively affecting the both

measures of earnings quality. It means that the higher SM represents lesser smoothness which results in higher value of firm. This effect is significant at 1 percent level of significance for both measures of value of firm. The lesser smoothness shows the better earnings quality and the value of firm becomes higher (Tucker & Zarowin, 2006). These findings are consistent with the findings of Huang, et al. (2009); Gaio and Raposo (2014) and inconsistent with Panahian and Ramezani (2008); Siagian, Siregar and Rahadian (2013). This contradiction is due to different measures of earnings quality, application of different techniques and sample period. For all earnings quality attributes discussed in this section, the findings suggest that higher level of earnings quality and enhancing the transparency in the market can reduce the problem of information asymmetry which is the main objective of financial reporting. And earnings quality is more valuable element in the market, supporting the idea that stakeholders demand more premiums for the information-risk due to low level of earnings quality.

#### **4.4.2 Corporate governance and earnings quality attributes**

Table 4.11 reports the results of model 11, which investigates the relationship among corporate governance and five earnings quality attributes along with control variables. In columns 2 to 6 of Table 4.11, results of the model-11 (where PRS, PRED, VR, AQ and SM are dependent variables and OGC is an independent variable along with other control variables) are presented. Accrual quality (AQU) and smoothness (SM) are the inverse measures of earnings quality, as explained in the methodology section. The results show that corporate governance is affecting the reliability and relevancy attributes of financial reporting quality significantly and positively, as indicated by p-value which is less than 1% level.

The above presented findings show that an increase in the level of corporate governance would result in a higher level of earnings quality attributes. These results prove the stakeholder's theory and the role of corporate governance.

**Table 4.11:** Regression Results of Model 11 (OCG and EQ)

<b>Variable</b>	<b>PRS</b>	<b>PRED</b>	<b>VR</b>	<b>AQU</b>	<b>SM</b>
<b>OCG</b>	0.0097 (0.240)	0.0034*** (0.000)	0.0277*** (0.000)	-0.0067*** (0.000)	-0.0220*** (0.008)
<b>FS</b>	0.0167*** (0.003)	0.0004 (0.336)	0.0165*** (0.000)	0.0073*** (0.000)	0.0194*** (0.001)
<b>LVG</b>	1.206*** (0.000)	-0.0015 (0.777)	-0.1770*** (0.000)	-0.1052*** (0.000)	1.1676*** (0.000)
<b>CAI</b>	-0.9386*** (0.000)	0.0311*** (0.000)	0.0814*** (0.000)	-0.0270*** (0.000)	-1.5488*** (0.000)
<b>GW</b>	-0.0175*** (0.001)	-0.0011*** (0.000)	-0.0046*** (0.000)	0.0001 (0.897)	0.0091* (0.069)
<b>N</b>	2496	2496	2496	2496	2496

Note: P-values are given in parentheses. \*\*\*, \*\* and \* show the level of significance at 1%, 5% and 10% respectively.

Another explanation of the findings can be elaborated as: the better corporate governance improves the earnings quality, by reducing the agency problem arising due to asymmetric information among managers and shareholders, so the better governance decreases the probability of information asymmetry and strength of corporate governance serves as a tool to monitor the financial reporting process. Therefore, it is argued that improvement in corporate governance mechanisms would result in greater quality of financial reporting. These findings are consistent with those of Fiador (2013); Aldamen and Duncan (2016); Mollah, Farooque, Asma, and Molyneux (2015).

Moreover, firm size is positively associated with earnings quality attributes, as larger firms are under political visibility and regulations. Therefore, managers have less discretionary powers to manage the earnings. Leverage negatively affects the earnings quality, may be, due to debt covenants, managers are involved in management of the earnings. However, leverage has a positive impact on persistence and smoothness, which indicates that debt covenants compell managers to minimize the earnings volatility as measured through persistence and smoothness (Ahmed Sheikh, Wang, & Khan 2013). Capital intensity has a negative impact on the level of earnings quality as such firms have higher level of accruals. Francis et al. (2004) find the same results regarding capital intensity. Capital intensive firms have more predictable and value relevant earnings figure. Growth is negatively associated with earnings quality, as for low growth firms managers have to face pressure to meet the numbers. As a result the level of accruals are increased.

#### **4.4.3 Combined effect of CG Index and earnings quality attributes on firm value**

Table 4.12 reports the results of model 12. This model demonstrates the combined effects of corporate governance and earnings quality attributes on value of the firm. Our estimation results indicate that the overall corporate governance has a significant and negative impact on ROA-accounting based measure of value of the firm after controlling the effects of earnings quality attributes. A plausible reason for this distinct and contrasting coefficient can be explained as follows: In Pakistan, family owned entities are common and the earnings figure is presented in accordance with the requirements of owners. Irregularities in the accounting figure increase the information risk which

**Table 4.12: Regression Results of Model 12 (Combined effect)**

	<b>ROA</b>	<b>Tobin-Q</b>
<b><u>Panel-1</u></b>		
PRS	0.0561 (0.000)***	-0.4548 (0.000)***
OCG	-0.0026 (0.000)***	0.0369 (0.000)***
FS	0.0078 (0.000)***	0.0287 (0.000)***
LVG	-0.1486 (0.000)***	0.7492 (0.000)***
CAI	-0.0452 (0.000)***	-0.4031 (0.000)***
GW	0.0133 (0.000)***	0.1574 (0.000)***
<b><u>Panel-II</u></b>		
PRED	0.2009 (0.000)***	0.0352 (0.011)***
OCG	-0.0012 (0.000)***	0.0064 (0.000)***
FS	0.0086 (0.000)***	0.0065 (0.000)***
LVG	-0.0952 (0.000)***	0.7637 (0.000)***
CAI	-0.1020 (0.000)***	-0.4350 (0.000)***
GW	0.0121 (0.000)***	0.1195 (0.000)***
<b><u>Panel-III</u></b>		
VR	0.6013 (0.000)***	0.2111 (0.055)**
OCG	-0.0160 (0.000)***	0.0358 (0.000)***
FS	-0.0013 (0.212)	0.0185 (0.000)***
LVG	0.0049 (0.675)	0.5749 (0.000)***
CAI	-0.1409 (0.000)***	-0.2134 (0.000)***
GW	0.0170 (0.000)***	0.1288 (0.000)***
<b><u>Panel-IV</u></b>		
AQU	-0.0067 (0.000)***	-0.0462 (0.000)***
OCG	-0.0043 (0.000)***	0.0365 (0.002)***
FS	0.0136 (0.000)***	0.0315 (0.000)***
LVG	-0.1486 (0.000)***	-0.2710 (0.000)***
CAI	-0.0978 (0.000)***	0.1187 (0.000)***
GW	0.0136 (0.000)***	0.1334 (0.000)***



<b>Panel-V</b>				
SM	-0.8037	(0.000)***	0.6894	(0.000)***
OCG	-0.0208	(0.002)***	0.0426	(0.000)***
FS	0.0276	(0.000)***	0.0184	(0.000)***
LVG	0.8427	(0.000)***	0.5171	(0.000)***
CAI	-1.3243	(0.000)***	0.8176	(0.000)***
GW	0.0202	(0.000)***	0.1471	(0.000)***

Note: P-values are given in parentheses. \*\*\*, \*\* and \* show the level of significance at 1%, 5% and 10% respectively.

reduces the value of the firm. As far as accrual quality and smoothness (inverse measures of earnings quality) are concerned, the results indicate that earnings manipulations are controlled by effective corporate governance mechanism. Consequently the value of firm is improved.

Corporate governance affects the Tobin's-Q positively and significantly at a 1% level. These findings explain that better corporate governance helps to reduce the agency problem arising due to asymmetric information among managers and shareholders. Therefore, better governance decreases the probability of information asymmetry and strength of corporate governance serves as tool to monitor the managers. These results are aligned with the stewardship theory which suggests that managers strive for the organizational objectives rather than their own objectives. The results show that the firms are performing better due to the implementation of the corporate governance code in Pakistan. Ammann et al. (2011) state two reasons those may boost the value of firm. Firstly, better governance mechanism leads to higher prices of stocks as investors know that they would get higher cash flows in their dividends and increased shareholders' wealth. Secondly, good governance specifies that the monitoring costs on the part of shareholders as well as cost of audit are lower. Consequently, cost of capital of well

governed firms is lowered accompanied by higher value. These findings are consistent with Ben (2014); Javaid and Saboor (2015); Narwal and Jindal (2015).

The results depict that persistence, predictability, value relevance, accrual quality and smoothness improve the value of firm significantly as measured by ROA at a 1% level after controlling the effect of corporate governance and other control variables. Furthermore, all earnings quality attributes have a significant positive affect on Tobin's-Q, a market based measure. However, persistence and smoothness negatively affect the Tobin's-Q at a 1% level. Persistence and smoothness are considered desirable attributes of the earnings, derived from the notion that managers disseminate the less volatile earnings figure, which is a good indicator of future earnings (Francis et al., 2004). However, according to contrasting view, both are the indicators of managerial opportunistic behavior towards the alteration of accounting standards (Leuz et al., 2003). Additionally, it is found that less variability in earnings is pronounced more to the market measure of value of the firm. The results of this model demonstrate that the improvement in earnings quality results in both decrease in the information asymmetry and wrong reporting to stakeholders. Due to reduction in information risk, the stakeholders feel confidence in purchasing the stocks of such companies which drive up the market value of the firms. These results are aligned with the efficient contracting hypothesis of positive accounting theory (Watts & Zimmerman, 1986).

The possible explanation is that the financial accounting information, having better quality, enhances the coordination between investor and firm in the form of capital investments, reduction in information risk and ultimately reduction in cost of the capital. Furthermore, these findings suggest that reliability and relevancy of financial reporting

are the key elements for stakeholders in their decision making process. These findings are consistent with Gaio and Raposo (2014); Goettsche, Steindl, and Gietl (2014). Financial reporting of higher quality helps to reduce litigations against the firms and improves the investment efficiency, and avoids the over-investment (Lara, Osma, and Penalva, 2016). These findings suggest that predictive power of earnings significantly contributes in the value of firm determination (Peterson, Schmardebeck & Wilks, 2015).

Firm size positively affects the value of the firm, as large firms can attain the economies of scale and possess the range of capabilities. These features positively influence the value of the firm (Ehikioya, 2009). Leverage (LVG) is negatively associated with ROA and Tobin's-Q as debt obligations compel the firm to forego the projects with positive NPV. However, leverage has a positive impact on the value of firm and indicates that debt covenants discourage the opportunistic behaviors of managers towards free cash flows (Ahmed et al., 2013). Further, lenders of the firm positively affect the accounting earnings by actively monitoring the management (Choi, Park, & Yoo, 2007). Capital intensity has a negative effect on value of firms as higher level of accruals create information asymmetry among managers and shareholders, which decrease the value of the firm. Additionally, growth has a positive impact on value of firm at 1% level of significance as growth firms have access to more resources.

#### **4.4.5 Indirect Effect of earnings quality attributes in CG-value association**

In this section, the results regarding the causal association between overall corporate governance, earnings quality attributes and value of firm are presented. To capture the indirect effect of overall corporate governance on value of firm through earnings quality attributes, the process involves two functions named (1) EQ (mediating

variable)-Function as modeled 11, and, (2) Value (dependent variable)-Function as modeled 12 in methodology section. The product of EQ-Function and Value-function is termed as “ $\theta$ ” (see section 3.7).

Table 4.13 reports estimation for the hypothesis 4 to determine whether overall corporate governance affects the value of firm through earnings quality attributes.

**Table 4.13** Indirect Effects-Model 13

<b>Channel of Earnings Quality</b>	<b>Value of firm</b>	<b>Indirect effects</b>
Panel -I Persistence (PRS)	ROA	0.0005 (0.240)
	Tobin's-Q	0.0016 (0.608)
Panel –II Predictability (PRED)	ROA	0.0007 *** (0.000)
	Tobin's-Q	-0.0004** (0.023)
Panel –III Value Relevance (VR)	ROA	0.0167*** (0.000)
	Tobin's-Q	0.0003* (0.064)
Panel -IV Accrual Quality (AQU)	ROA	0.0047*** (0.000)
	Tobin's-Q	0.0002 (0.181)
Panel -V Smoothness (SM)	ROA	0.0176*** (0.008)
	Tobin's-Q	-0.0144*** (0.002)

**Note:** P-values are given in parentheses. \*\*\*, \*\* and \* show the level of significance at 1%, 5% and 10% respectively.

Panel-I, reflects that overall corporate governance insignificantly affects value of firm (for both measures) through its effects on persistence (mediator). These results imply that the overall corporate governance has no discernible effect on value through persistence.

The results for the proposition, that corporate governance affects the value of firm through predictive power of earnings, are presented in Panel-II. These findings show that the overall corporate governance has a positive and significant effect on value through predictability of earnings. It is evident from the results that as the level of corporate governance increases, value also increases through the inclusion of another variable as the mediator, that is, predictability. The predictability of earnings is the ability of historical earnings to forecast the future earnings. The findings show that corporate governance positively affects the predictive power of earnings and by developing the anticipation of future earnings, the stakeholders can forecast about the future cash flows and earnings that support their decision making.

Panel-III presents the results for the proposition, whether value relevance mediates in the association of corporate governance and value of firm or not. The results are consistent to the previous investigation which shows that corporate governance positively affects the value of the firm through its impact on the value relevance.

Value relevance shows the reliability of financial reporting. Good corporate governance ensures the reliability of financial reporting, which in turn reduces the asymmetric level of accounting information. The output of the reduced information asymmetry leads to improvement in the value of the firm in all measures.

Accrual quality role in the governance and value relationship has been presented in Panel-IV of the Table. Significantly, the results indicate the key role of accrual quality as a mediator in the association between corporate governance and value of firm. The findings show that better corporate governance leads to a significant increase in the value of the firm through its impact on quality of accruals.

Finally, in Panel-V, the proposition that smoothness mediates the governance and value association is examined. The results depict that corporate governance has a significant positive effect on all measures of value of firm through its impact on smoothness. These findings support the idea that managers smoothen out the transitory and irrelevant fluctuations in cash flows to reveal their private information regarding firm performance (Francis et al., 2004). This positive aspect provides reliable information to the stakeholders of the firm. Dechow et al. (2010) argue that opportunistic smoothening of earnings is common in various countries. Consequently, asymmetric level of information is reduced and value of firm is improved. In short, corporate governance has a significant positive effect on value of firm in terms of monitoring and strategic role, through its impact on reliability and relevancy of financial reporting.

#### **4.5 Chapter Summary**

This chapter presents the empirical results obtained from the statistical tests. The descriptive statistics indicate that although many companies have complied with the recommendations of Corporate Governance Code 2002 to improve the effectiveness of the corporate governance, there are still some companies not meeting the recommendations. Seemingly unrelated regression is used for the estimation of the relationship between corporate governance, earnings quality and value of firm. Overall

the results on the association between earnings quality attributes and value of firm show that financial reporting quality positively affects the accounting and market based measures of firm value. These results prove the notion that the better quality of earnings is associated with reduced information asymmetry which reduces the firm cost of capital and thereby increasing firm value. These findings suggest that earnings quality is important for the stakeholders in their decision making process. The results from the multivariate analysis of the association between corporate governance and earnings quality attributes show that the corporate governance plays a vital role in the improvement of financial reporting quality. These findings show that the better governance decreases the probability of information asymmetry and strength of corporate governance serves as a tool to monitor the financial reporting process. Therefore, it is argued that improvement in corporate governance mechanisms would result in greater quality of financial reporting. The combined effects of corporate governance and earnings quality also have significant positive effects on the both measures of value of firm. These findings depict that both are the contributors in the determination of value of firm. Lastly, the results of channel effect of earnings quality in the governance-value associations show that it partially mediate in the relationship between corporate governance and value of firm. These findings suggest that the corporate governance has a significant positive effect on value of firm in terms of monitoring and strategic role, through its impact on reliability and relevancy of financial reporting.

## **CHAPTER 5**

### **CONCLUSIONS AND RECOMMENDATIONS**

This study investigates the effects of corporate governance on earnings quality and value of firm and the mediating effect of earnings quality on the effectiveness of corporate governance-value of firm relationship. Various studies have been conducted on the relationship between corporate governance and firm's value but role of earnings management in governance-value association is overlooked in the existing studies. Chapter four has presented the outcomes of the hypotheses testing and Table 5.1 summarizes the results. This chapter is organized as follows. First, it presents a summary of the findings then implications of this study for theory, policy makers, researchers and users of financial statements are discussed, followed by the limitations of the study. This chapter concludes by providing suggestions for future research.

#### **5.1 Key findings and conclusions**

The most important outputs of the financial system are the financial reports. The main purpose of these financial reports is to disseminate and circulate the financial information to stakeholders which is useful and valuable in their decision making. In literature, it is evident that earnings figure is most significant element of these presented financial reports. However the accounting irregularities, errors and misrepresentation are the key issues throughout the worldwide. To carter these deleterious activities in accounting system, corporate governance system plays a vital role of monitoring mechanism.



In this study, the role of corporate governance to improve the value of firm is discussed first. ROA (an accounting measure) and Tobin's-Q (a market measure) are taken as the measures to quantify the value of firm. Using principal component analysis, a corporate governance index is constructed by the analysis of nine dimensions of corporate governance. These components represent the internal and external corporate governance mechanisms. These components consists of CEO duality, managerial shareholdings, institutional shareholdings, large shareholdings, number of board meetings in a year, audit committee independence, audit committee meetings in a year and audit quality. To the best of our knowledge, it is the first study which is conducted by taking overall corporate governance index using PCA in the context of Pakistan. The study found that, as hypothesis 01 is outlined, that the overall corporate governance has a significant positive effect on both ROA and Tobin's-Q measures of value of firm. These findings indicate that overall corporate governance have capacity to improve the value of firm as sound corporate governance mechanism ensures to establish a better internal and external control system and helps in the reduction of conflict of interest among principals and their agents. So, in the context of Pakistan, corporate governance does matter to value of listed firms and seems to be relatively effective for the improvement of value of firms. These findings are consistent with (Javid & Iqbal, 2008; Yasser, 2011; Azeem, et al., 2013) and are inconsistent with Ali Shah and Butt (2009) in the Pakistani context. Possible reason of inconsistency may be the difference in methodology, sample period and small sample size. The contribution of this study is that, it depicts the significance of corporate governance mechanisms for the stakeholders in an emerging market like Pakistan.

**Table 5.1 Summary of the hypothesis testing**

<b>Hypothesis</b>	<b>Outcomes</b>
<p>Hypothesis 1</p> <p><i>H1: Other things being equal, stronger Corporate Governance mechanism leads to higher value of firm.</i></p>	Supported
<p>Hypothesis 2</p> <p><i>H2: Good corporate governance increases the level of earnings quality.</i></p>	Supported
<p>Hypothesis 3</p> <p><i>H3: Higher earnings quality leads to higher value of firm.</i></p>	Supported
<p>Hypothesis 4</p> <p><i>H4: Earnings quality mediates the relationship between corporate governance and value of the firm.</i></p>	Supported

The review of literature on the association among corporate governance and reporting quality of financial reports provides a motivation for the analysis of the Pakistani firms' financial reporting quality and corporate governance mechanisms. Again to the best of our knowledge, most of studies on the relationship between corporate governance and financial reporting quality are conducted in developed and foreign countries. It is the first study in the Pakistani context, which measures the reliability and relevancy aspects of financial reporting quality. Five earnings quality attributes are taken to measure the reliability and relevancy of reporting quality i.e. persistence, predictability, value relevance, accrual quality and smoothness. It is predicted that the good corporate governance increases the financial reporting quality as hypothesis 02 is framed. Our

results show that the overall corporate governance increases the level of reliability and relevancy which represent good earnings quality. The results indicate that overall corporate governance improves the monitoring effect of corporate governance and this implies that the better corporate governance system compel the management for the disclosure of accurate financial statements. It can be concluded that better corporate governance mechanism improves the internal control system, lesser probability of accounting irregularities and lesser restatements as a result the financial reporting quality increases. In short better corporate governance strengthens the law enforcement and yields the faithful accounting numbers to stakeholders.

Market participants have interest in the earnings and many various financial scandals approve the importance of financial reporting quality. Investors and market participants gave much importance to the quality of financial reporting. Financial reporting quality reduces the cost of capital in two ways (i) increasing the market liquidity and increases the market demand of securities (ii) reducing the degree of information asymmetry. So this study also explores the association between various earnings quality attributes and value of firm in the Pakistani context. It is also a first study in which reliability and relevancy aspects of financial reporting are tested in the context of Pakistan. Studies on earnings management are available, but earnings management is the implied measure of earnings quality. Also earnings management does not cover the basic characteristics of reporting quality. The results of the study depict the statistically significant association among various earnings quality attributes and value of firm measures as hypothesis 03 is outlined. This can be interpreted as-the value of firm is the effect of the management accounting choices. This positive association suggests that

the higher level of earnings quality is associated with higher precise information about the future cash flows. This would lead to reduction in information asymmetric risk and cost of capital. Also it can be viewed as the higher earnings quality lowers the information asymmetry and systematic risk as well. The lower information asymmetry and lowest systematic risk reduce the cost of capital and increase the value of firm. These findings suggest that the earnings quality attributes make the accounting data useful and beneficial for stakeholders in their decision making. These results are consistent with Choi (2008); Blanco Pelaez, Gine and (2010); Gaio and Raposo (2011) and inconsistent with Panahian and Ramezani (2008); Siagian, Siregar and Rahadian (2013). This contradiction is due to different measures of earnings quality, application of different techniques and sample period. It is the contribution of this study that it captures the reliability and relevancy dimensions of financial reporting in the context of an emerging economy. Also, this study measures the effect of financial reporting quality upon the value of firm.

Corporate governance and value relationship is discussed vastly in literature but the results were inconclusive as concluded in the literature review of this issue. Besides the considerable literature, there is lack of evidence regarding the role of financial reporting quality in the governance-value relationship. Literature not only shows the strong association among corporate governance and financial reporting quality but also shows that the joint effect reduces the cost of capital and improves the value of firm. However, literature is sparse about the indirect effect of financial reporting quality in the governance-value relationship. Governance-value relationship without this aspect

provides only a partial picture. So it is a contribution of the study as the existing governance-value studies overlooked the missing link which is reasonably important.

This study investigated the indirect effect of earnings quality attributes in governance-value association as identified by Habib and Jiang (2015). For the estimation of system of equations, seemingly unrelated equation (SUR-a statistical technique) has been used which addresses the various issues related to data and system of equations. Then indirect effect was estimated. The results of the study show that all measures of earnings quality attributes play a vital role in the governance-value relationship. As direct effect of governance in the determination of value of firm is positively significant and also indirect effect is strongly effective, so earnings quality is considered as a partial mediator in the governance-value relationship. The results of the study support the theoretical argument that the corporate governance plays a monitoring role in tailoring the financial reporting. Financial reporting with higher quality is helpful to reduce the information asymmetry among principals and their agents. In short, if financial reporting fulfills the conditions of reliability and relevancy, then information asymmetric level would be declined and there is reduction in agency problems. The significant and positive relationship among earnings quality and value of firm support the prediction of positive accounting theory that the better financial reporting quality can be helpful in the reduction of agency conflict and as a result value of firm increases. These results are consistent with Hassan H., Rahman and Mahenthiran (2008); Kang and Kim (2011); Guangming, Menghua and Xun (2011); Cheong, et al. (2015); Ernawati, Purnomosidhi and Yeney (2015) and partly inconsistent with Ahmar and Subroto (2014).

## **5.2 Implications of the study**

This study investigates the role of corporate governance in improving the financial reporting quality and the value of firm estimation in an emerging economy where families control a majority of listed firms. A comprehensive set of internal and external corporate governance are considered to construct an overall corporate governance index to examine the effect on financial reporting quality and value of firm.

### **5.2.1. Implications for theory**

This study finds that the internal and external corporate governance mechanisms, as whole are effective in bettering the value of firm through earnings quality. Family shareholding does affect the quality of financial reporting and value of firm. This indicates that internal corporate mechanisms are effective beyond the control of the dominant shareholders. The recommendations regarding the good corporate governance as practice by agency theory are applicable up to a certain extent and therefore it is necessary to re-align the managers in the best interest of the firm. This study finds that the overall corporate governance is effective in monitoring financial reporting quality when measured by persistence, predictability, smoothness, accrual quality and value relevance and is effective in improving value of firm measured by ROA and Tobin's-Q. This finding supports the growing literature by documenting the importance of corporate governance in emerging economies beside the power of family ownership in Pakistan. Therefore, the recommendation of good governance practice by agency theory, stewardship theory and positive accounting theory are applicable in the context of Pakistan. After establishing the effect of corporate governance on financial reporting quality and value of firm, this study also tests whether the earnings quality improves the

value of firm. The positive relationship between all the measures of earnings quality and value of firm supports the prediction of positive accounting theory that financial reporting of higher quality helps to reduce agency conflict and thus increases firm value. In general, this study fills a gap in the Pakistani corporate governance literature that is related to earnings quality. In this study, recent data is being used in the context of Pakistan that enables to address the issue with an experimental setting with larger sample period and quantity of firms.

### **5.2.2. Implications for regulatory bodies**

The positive association among earnings quality and value of firm supports the positive accounting theory and asserts that earnings quality can reduce the agency conflicts and hence increases the value of firm. More emphasis on earnings quality is essential and introducing earnings quality practices to the Pakistani financial reporting framework is worthwhile as it is useful for the firms. The findings indicate that the corporate governance influences the financial reporting quality as the policy makers may like to consider the minimum level of corporate governance variable those are necessary. Statutory body, like SECP can implement the findings of the study for the improvement of the efficiency of the firms. The formation of corporate governance index is also an important issue of the day. This study opens a door for the construction of overall measure of corporate governance. Also this study can do help the top management of the firms to consider the corporate governance and earnings quality factors in the strategic financial decisions.

### **5.2.3. Implications for the researchers**

The positive relationship between earnings quality and value of firm confirms the

importance of financial reporting practices in Pakistan. This should encourage the researchers to investigate the accounting techniques in emerging economies, such as Pakistan. Also, the channel effect estimation is rare, particularly in corporate governance research and this study opens a door for researchers as well.

### **5.3 Limitations and future research directions**

There are certain measurement limitations. In methodology section the proxies for the earnings quality and value of firms are discussed. However there is lack of consensus on using these proxies. This study uses five proxies for earnings quality and two measures of value of the firm. It is recommended that future research use the alternate measure of earnings quality and value of firm. Corporate governance index construction also has certain limitations. Corporate governance index is based on a number of corporate governance mechanisms and may there have greater possibility of measurement error while computing a single measure of corporate governance.

Generalization is an issue of the study. Due to time constraints, this study considered only 214 listed firms. The non-listed firms in Pakistan are not included as the collection of annual reports of such firms is difficult to obtain. Also financial sector is beyond the area of this study because the financial sector has different capital structure and accounting practices. So the findings of this cannot be generalized.

In this study, data is extracted from the published annual reports of the non-financial firms listed in Pakistan. There may be some concerns in the annual reports of the firms. Some companies provide detailed information related to corporate governance in the annual reports, but others firms provides only brief descriptions. Therefore, two managers with the same qualifications and working experience may be described



differently in the annual reports. This is the limit of getting information from the annual reports.

The qualitative nature of corporate governance and value of firm have not examined in this study. Hence future research can look into the contents and procedures adopted in the preparation of financial reporting. Moreover, some issues may arise regarding the disclosures in the financial statements. Some firms provide detailed information of corporate governance practices in the annual reports and others just provide the simple description. This factor creates difficulties in scanning the information from annual reports. So this is a limitation of extracting the information just from annual audited reports.

Beyond the limitations and future directions stated above, there are some more suggestions for the future research. Corporate governance mechanism as used by Ammann, Oesch et al. (2011) may consider for future research in the construction of corporate governance index using principal component analysis. In the same vein, an earnings quality index can also be constructed as proposed by Gaio and Raposo (2014). Further work needs to be done to validate the developed measure of corporate governance index.

As financial accounting is simultaneously an input and an output of corporate governance, higher quality of earnings may lead to a more effective governance mechanism, and a more effective mechanism may contribute to a higher quality of earnings. This argument suggests complementarity between corporate governance and earnings quality, which needs to be investigated.

This study is focusing on single emerging economy. For future research, a comparative study among developed economies and emerging economies can be investigated. Family ownership and political connections of the directors can also be considered as intervening variables in the governance-value association as both factors have an influence in the financial reporting. So, study in these dimensions may worthwhile in the context of emerging economies. Moderating role of political connection of board members in governance-value relationship is another horizon which needs investigation. For example, Boytsun et al. (2011) argue that a politically connected personality can be chosen as the top position of the board or management regardless of the ability and experience to perform the role. Also, corruption perception of a country can also affect the governance-value association.

Implementation of International Financial Reporting Standards can also be taken as a moderating variable in the governance-value relationship. Moreover, It would be also very interesting to determine if the governance mechanisms and the reporting quality influence the cost of capital of the Pakistani firms.

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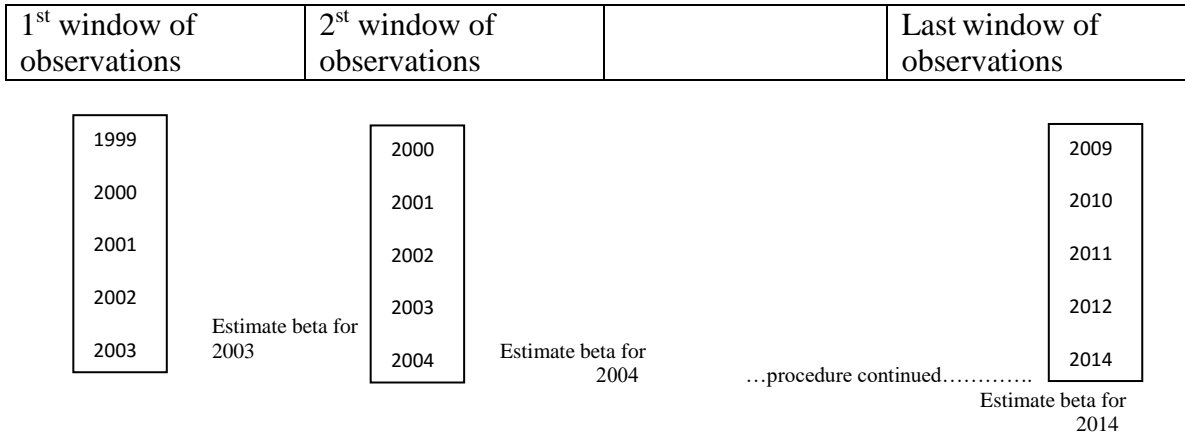
## Appendix -1 Window regression

### 1) Five year rolling window regression

For the rolling window regression method, least-square techniques are used to estimate  $\delta_1$ . This is done in a manner that keeps the sample length fixed to five observations for

the first estimation year and for each subsequent year of estimation by increasing the beginning and ending dates by one year.

**Five-Years Rolling Window Regression**



The periods have identical (fixed) window sizes of five years, which determines the number of observations used for each rolling regression. For example observations from 1999 to 2003 are used to estimate  $\delta_1$  of sample firm A for 2003. To estimate  $\delta_1$  of sample firm A for 2004, the estimation window is moved forward by a rolling step of one year using observations from 2000 to 2004. This procedure is continued until the final estimate  $\delta_1$  of sample firm A for 2014 is estimated using observations from 2009 to 2014. Prior studies using this methodology use window sizes ranging from five (Boonlert-U-Thai, Meek, & Nabar, 2006) to ten years (Francis et al., 2004). This study uses a five-year rolling window as using a higher window restricts the sample to firms with available data.

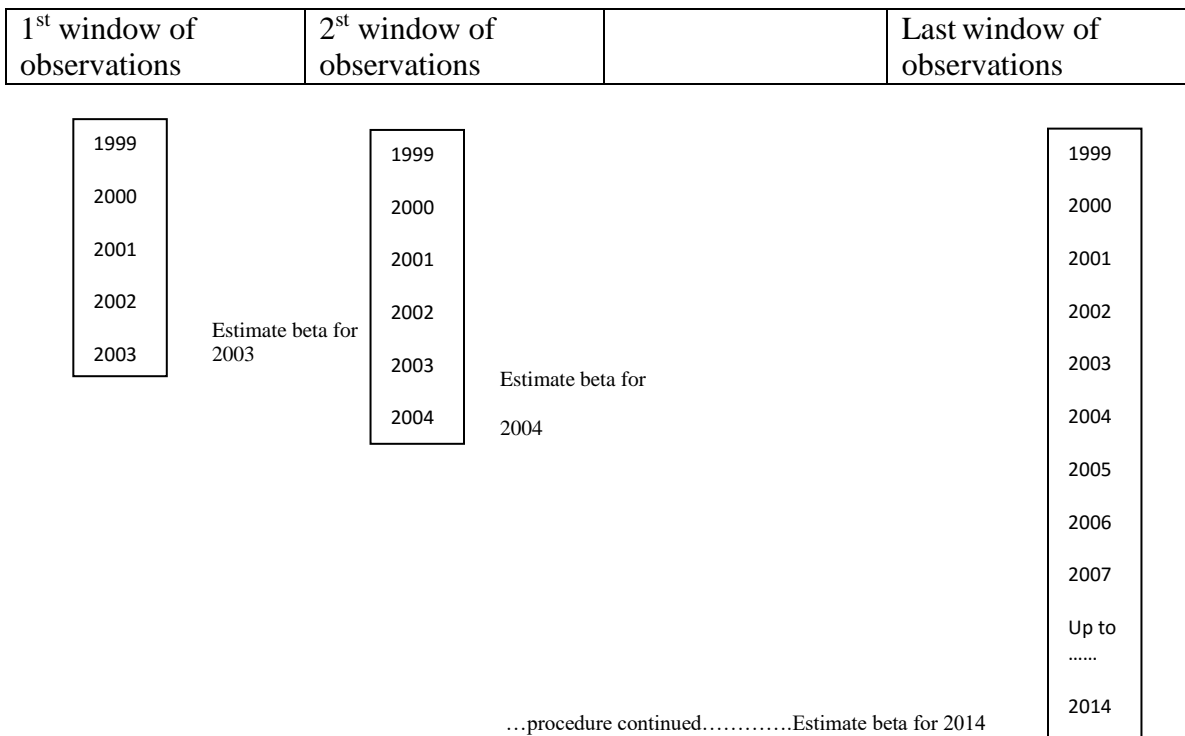
**2) Cumulative window regression/ recursive least-squares regression**

For the cumulative window regression, the coefficient of interest is estimated by keeping the beginning year fixed and adding one year observation to each subsequent year of



estimation. The cumulative window regression method in a similar manner to the five-year rolling window determines  $\delta_1$  beginning for Year 2003 using observations from Year 1999 until Year 2003 (five year observations). However,  $\delta_1$  for year 2004 is estimated using cumulative observations from Year 1999 until Year 2004 (Six year observations).

Cumulative Window Regression/ recursive regression



This method essentially keeps the beginning year fixed for each window. This procedure is continued until the last  $\delta_1$  for Year 2014 for each sample firm is estimated using observations from 1999 until 2014 (a total of 16 year observations).

Deriving earnings quality estimates based on both the above regression methods relies on the relationship between dependent and independent variables over time. If the relationship is stable over time, then the estimated coefficients are similar. However, the extant literature posits that one of the main drawbacks of rolling regression (no.1) is the

choice of window size, as it can considerably affect the estimates’ performance over time, and thus may not produce a reliable time-varying parameter (Zanin & Marra, 2012). In cumulative window regression (No.2), by adding an additional observation, the effect of an additional observation on the regression output decreases over time, as the sample size is constantly growing. Thus, the cumulative regressions may impede any sudden fluctuations in the estimated coefficients, in contrast to the rolling regressions.

This study uses a five years rolling window for the calculation attributes of earnings quality as using a higher window restricts the sample to firms with available data. However, in this study cumulative window also considers for robustness and find the comparable results from both the windows.

**Appendix -2. International links of audit firms in Pakistan**

<b>Name of the audit firm in Pakistan</b>	<b>International firms with which it is linked</b>
A.F Ferguson & Co.	Price Water house Coopers (PWC)
KPMG Taseer Hadi And Co	KPMG
Ernst & Young Ford Rhodes Sidat Hyder & Co.	Ernst & Young
M. Yousaf Adil Saleem & Co. (Deloitte Pakistan)	Deloitte Touche Tohmatsu