THE IMPACT OF CORPORATE GOVERNANCE AND CASH HOLDINGS ON FIRM VALUE: EVIDENCE FROM PAKISTAN

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1. Corporate governance
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ABSTRACT

In this study, it is investigated that how level of cash holdings influence firm valuation in the presence of good or bad corporate governance. In particular, cash is that asset of the firm which can be easily spent and misused by the management and also it makes large fraction of the corporate assets. By using panel data of 108 manufacturing firms of Pakistan, listed on Karachi Stock Exchange from the period of 2008-2013; it is shown that cash-value relationship significantly differs in well and poorly governed firms. For this purpose, two main study regressions: cash level and value regressions are carried out. The cash level regression was adopted from the study of Opler et al. (1999) while value regression was similar to that used by Dittmar et al. (2007). Results show that investors value cash holdings more in well governed firms as compared to poorly governed firms. With consistent to precautionary motive of holding cash, level of cash holdings is found positively related to the firm value. This research contributes to the existing literature of cash holdings and corporate governance and has strong implications for the implementation of high governance practices in the firms and developing relevant measures of corporate governance by keeping in view the specific business environment of the Pakistan.

Keywords: Cash Holdings, Corporate Governance, Firm Value, Pakistan

In The name of ALLAH, The Most Merciful and The Most Beneficent

"Acquire knowledge and impart it to the people"

(Hazrat MUHAMMAD S.A.W)

نُدرتِ فکر و عمل کیا شے ہے ذوقِ انقلاب
نُدرتِ فکر و عمل کیا شے ہے ملت کا شباب

نُدرتِ فکر و عمل سے معجزاتِ زندگی
نُدرتِ فکر و عمل سے سنگِ خارا لعلِ ناب

(Allama M. Iqbal)

DECLARATION

I hereby declare that this thesis, neither as a whole nor as a part thereof, has been copied out from any source. It is further declared that I have prepared this thesis entirely on the basis of my personal effort made under the sincere guidance of my supervisor. No portion of work, presented in this thesis has been submitted in support of any application for any degree or qualification of this or any other university or institute of learning.

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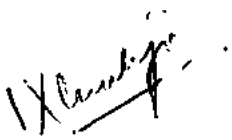

I dedicate this thesis to my respectable parents and my honorable supervisor whose support has enabled meto complete this research study successfully.

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Ms. KHADIJA MUBARKA

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CHAPTER 1

INTRODUCTON

1.1 BACKGROUND AND PURPOSE OF THE STUDY

Left to their own devices, managers will waste corporate resources. This is the implication of the wide range of literature on agency costs formalized by Jensen and Meckling (1976), but first acknowledged by Smith (1776), who states that due to the separation of ownership and control "negligence and profusion, therefore, must always prevail, more or less, in the management of the affairs of such companies." In this study, the potential value destruction that is the outcome of such profusion and negligence and does good corporate governance able to preclude it?, is examined.

An accumulation of cash in excess to some necessary minimum requirements by the firm, either for transaction, precautionary or speculative motive, leads to an opportunity cost. The cost of opportunity incurred on excess cash whether kept in the form of currency or bank deposit, is that interest income which could be received if money is invested somewhere else like in marketable securities etc. Moreover, holding of excess cash incurs cost in the form of lower rate of return and higher taxation levied by the government. In addition to these costs, conflict of interest may also arise between shareholders and management while making decisions regarding deployment of internal funds (Jensen, 1986). This conflict can become an agency problem which hampers the main goal of the business to maximize the wealth of shareholders and to act in their best interest. Therefore, to attain that goal, well developed governance mechanism is required to ensure that company's management can run the operations effectively and efficiently, which helps to reduce agency problem.

Contrary to this, holding larger cash can increase financial flexibility by lowering the cost of external financing but again there is a chance of extracting private benefits of control by managers and wasting of excess cash by investing in undervalue projects (Jensen, 1986). Though it is beneficial for firms to maintain optimal level of cash in order to finance daily activities and keep as a cushion against cost of financing investment projects externally. While, negative value implications are attached with having excessive cash resources, if managers dissipate these liquid resources. If presented other way, a dollar may not be worth a dollar if there is a chance of wasteful overspending of cash.

Along with its other benefits, good corporate governance ensures holding of reasonable amount of cash while poor corporate governance leads to higher conflict of interest (Harford, Mansi& Maxwell, 2008). In other words, corporate governance mechanism acts as a determinant of corporate liquidity which provides stakeholders with anopportunity to lessen managerial cash discretion (Bokpin&Isshaq, 2009). As cash reserve increases during economic expansion,it enables managers to make strategic decision regarding cash whether to disburse it to shareholders, make investment, use for making external acquisition or to hoard it. Theoretically, it is ambiguous how entrenched managers behave toward the spending of free cash flow and its storage as excess cash reserves. Ideally, managers are expected to tradeoff between the benefits of spending free cash flow and holding excess cash (Harford et al., 2008). In addition to firm level governance, research conducted on country-level governance also provide evidence that firms operating in countries with strong rules and regulations on protecting the rights of shareholders and highly developed external financial markets keep low level of cash as

reserve. Therefore, this shows that investorsprefer to restrict the use of cash on managers' discretions and allocate it sufficiently by applying their power.

In this study only one particular asset cash is selected because for managers it is less costly to get personal benefits out of excess corporate cash than from other assets (Myers and Rajan, 1998). Also, firms hold substantially large amount of cash and significant contribution is made by the value of these cash holdings toward overall wealth. Data on cash reserves is also easily accessible with little scrutiny and its use is considered most at managers' discretion. Therefore it is important to ask: does corporate governance impact value of cash reserves and consequently firm value?

1.2 CORPORATE GOVERNANCE IN PAKISTAN

As concept of corporate governance was first introduced in Pakistan in 2002, thereafter, growing interest is seen in this field. The Securities and Exchange Commission of Pakistan (SECP) endeavors to improve corporate standards in the country. After the issuance of first Code of Corporate Governance (CODE), it was made the part of listing regulations of stock exchanges and became compulsory for all public listed companies to implement it. But various corporate scandals such as TajCompany, Crescent Bank, PTCL, ENGRO Group and Mehran Bank intensify the need of changing mindsets toward the acceptance of corporate governance and to ensure the implementation of governance practices, which make capital markets transparent, protect the rights of minority shareholders and help to attract and retain foreign investment. To meet the dynamic

requirements of governance standards in order to keep it relevant and effective, CODE was revised in 2012.

1.3 THEORETICAL FOUNDATION

According to Stiglitz (1974), when there is no market imperfections then financial decisions of the firms would not disturb the value of the firm. Therefore under this theoretical situation, outside capital can always be acquired with no effort and at a legitimate price. Moreover, the lack of a premium for taxes and liquidity would mean that holding cash neither have fiscal disadvantages nor have an opportunity cost. Consequently, holding financial assets in liquid form would be immaterial and shareholders' wealth would not be affected by decisions related to investment in liquid resources (Opler, Pinkowitz, Stulz and Williamson, 2001).

1.3.1 Agency Cost Theory

Jensen and Meckling (1976) posit that separation of control and ownership in corporation is the source of significant conflict of interest between shareholders and management. Additionally, corporate liquidity can become the source of agency problems between shareholders and managers since managers misuse cash for their own benefits or invest in projects with non-pecuniary benefits which destroy shareholder value. Therefore, the holding of large free cash flows can produce discretional behaviors in the managers that are detrimental to shareholders' interests (Jensen, 1986). Thus, cash balances have two confronting positions in finance literature. As, Myers and Majluf (1984) assert that

holdinglarge amount of cash balances preclude the chance ofraisingexternal capital, since highamount of cash offer benefits of financial flexibility but incur no agency costs, therefore, firms prefer to hold cash.

However, Jensen (1986) argue that firms prefer to hold low cash balances because high agency cost is associated with large cash balances while no financial flexibility benefits are obtained. Therefore, DeAngelo and DeAngelo (2007) posit that excess cash balances both confer flexibility benefits and entail agency costs, and thus accumulation of cash is not beneficial any more as in Myers and Majluf (1984) and further, investors would also force firms to carry minimal level of cash to circumvent agency costs but also encourage managers to keep bufferwhich is appropriate to deal withanysudden capital needs that may arise.

1.3.2 Free Cash Flow Theory

The free cash flow theorygiven by Jensen (1986) postulates that incarrying large amount of cash, corporate insiders has incentives to pursue their private benefits. It is noted that cash holdings are also indirectly influenced by agency costs, because outside investors including equity investors, banks and other creditors are reluctant to givemore capital to firms encountering agency problems. Therefore existing financial constraints are exacerbated by bad governance system in enterprise, which intensify the need or incentive to hold cash. While according to cash holdings literature focusingon agency considerations, overinvestment in unattractivelow value projects or outright misappropriation by managers is the result of excess cash held by the firms (Dittmar,

Mahrt-Smith, and Servaes 2003; Pinkowitz, Stulz, and Williamson 2006; Dittmar and Mahrt-Smith 2007; Kalcheva and Lins 2007; Harford et al., 2008).

1.4 RESEARCH GAP

Extensive literature is available on determinants of corporate cash holdings and about maintaining optimal level of cash holdings (Mauer& Sherman, 1998; Opler et al., 1999; Pinkowitz et al., 2003; Kim, Ozkan and Ozkan, 2004; Bates,Kahle&Stulz, 2006; Chen and Chuang, 2008; Harford et al., 2008). In addition to this, various studies are also available in the area of corporate cash holdings and its determinants in Pakistani context including Afza and Adnan (2007), Shah (2011) and Azmat (2011). On other hand, an ample evidence is generated from cross country findings showing the impact of country-level governance on investors' behavior toward the valuation of firm (Dittmar et al., 2003; Lins and Kalcheva, 2004; Pinkowitz, Stulz, and Williamson, 2004). But, most of the previous studies conducted on corporate governance focus on developed economies. Although many studies established relations between various corporate governance indices and firm value, but they don't identify possible channels through which poorly governed management destroy firm value (Bebchuk, Coates, and Subramanian, 2002; Gompers, Ishii and Metrick, 2003; Bebchuk and Cohen; 2005; Bebchuk, Cohen, and Ferrell, 2009). However, evidence pertaining to relationship between corporate governance, agency problems, and cash levels remains inconclusive (Dittmar et al., 2003).

Existing studies on finding the relation between the level of cash holdings and firm-level corporate governance or the combined effect of both variables on firm value have also failed in providing any evidence (Ammann et al., 2011). Little work is also documented in Pakistan on the topic of corporate governance and its impact on different financial variables by Mir and Nishat (2004), Naqvi and Ikram (2004) and Javid and Iqbal (2009, 2010) and Shah (2011). But all these studies dealt with corporate governance and cash holdings separately, little evidence is available, if investigated, on value destruction of Pakistani firms due to combined effect of corporate governance and cash holdings. There is a need to analyze the relation between cash holdings and firm value and the impact of cash holdings on firm performance (Masood and Shah, 2014). As SECP is continuously making efforts to align the corporate governance regime with increasing demands of present times and making amendments in CODE in order to improve its compliance, thus, conducting study focusing on importance of adopting best governance practices is highly important in Pakistan. Moreover, evidence of weak corporate governance in Pakistani firms originates the need of this study.

1.5 CONTRIBUTION OF THE STUDY

This study will contribute to growing literature on firm-level corporate governance which argues that good corporate governance can prevent managers from destroying firm value. This study will also provide the combined effect of firm-level corporate governance and cash levels on firms' value, operating in developing economy of Pakistan. Moreover, corporate cash holdings will be viewed as possible channel through which corporate

governance can impact firm value. Although much research has been documented on the determining factors of cash holdings in Pakistan but still this study provides strength to an existing findings and make significant contribution in cash holdings literature as well. The contextual contribution is made as many studies in Pakistan have conducted to find the relation of cash holdings and firm value without considering the role of corporate governance. Moreover, the main focus of the analysis is to find out the influence of corporate governance on value of cash which is in excess to the needs of investment and operation purposes.

Based on the results of Kim et al. (1998) and Opler, Pinkowitz, Stulz and Williamson (1990), firms hold optimal level of cash and trade off the benefits and cost associated with carrying cash to adjust the suitable level. However, level predicted by these factors is often less than the actual cash holdings. Therefore, this is one reason to examine the behavior of excessive cash holdings because stockpiling of cash by managers to protect themselves against scrutiny of financial markets is common practice. Consequently, this paper contributes to understand the role of corporate governance in cash policy by examining the implications of governance on firm value through cash reserves.

1.6 PROBLEM STATEMENT

It is generally accepted that if market does not have reputation for good corporate governance practices and investors are not satisfied with existing level of disclosure, then capital flows elsewhere. Therefore, corporate governance is considered essential for lowering of risk and unexpected events. Companies with better governance systems are

more able to protect rights of shareholders and also ensure the better performance of management with regard to interest of the company as well as of its shareholders. Moreover, strong governance practices of firms affect both market confidence and company performance. It enhances share price growth, improve efficient running of the business, makes access to cheaper capital easy, attract investors, gain investors' confidence, ensure continuous economic prosperity of business, protect rights of minority shareholders, maximize wealth creation and decrease reputation risk.

Growth is seen in adoption of governance practices in Pakistani companies but still it is also ignored by many companies. Few major corporate scandals such as Taj Company, Crescent Bank, PTCL, ENGRO Group and Mehran are also seen. There exists lack of consensus about why corporate governance is essential, as for some, adopting these practices is only to comply with CODE while for others it is seen as fundamental to how company acquires its objectives and works in best interest of the shareholders (PICG, 2007). As Family firms with concentrated ownership are intrinsic and fundamental feature of Pakistani industry. Almost 80% of all companies listed on the Karachi Stock Exchange (KSE) are under the control of family ownership and the unlisting of family owned organizations has substantially increased in the past few years which enhance the sharp growth of Pakistan's private sector (Moin, 2008). It is found that there are only 33% of family run businesses which become successful in transition from first generation to the next (The Express Tribune, 2013). Many people perceive bad governance, misuse of company assets for personal benefits and micro-management prevail more in family

owned businesses. Therefore all these evidences further enhance the importance of good governance for enterprises especially in developing economy like Pakistan.

This study attempts to identify the importance of corporate governance in the context of Pakistan and how the adoption of corporate governance affects the firm value indirectly through cash held by the firm.

1.7 OBJECTIVES

The objective of this study is to investigate the effect of corporate governance and cash holdings on firm value. This study will also attempt to find whether value of well and poorly governed firms affected by the presence of cash holdings and excess cash reserves. Research on issue of whether firm level corporate governance is linked with firm value is conducted on Pakistani firms but little, if investigated, about value destroying behavior of bad corporate governance. Therefore, the objective is to see value destruction caused by both corporate governance and cash holdings.

1.8 RESEARCH QUESTIONS

1. Does corporate cash holding affect the valuation of the firm?
2. Does the impact of cash holdings on firm alter by high or low corporate governance?
3. Does excess cash increase firm value due to better governance mechanism?

1.9 SIGNIFICANCE

This study is of great significance because it deals with that asset (cash) of the corporate which accounts for almost one-fifth of the total corporate assets and in general cash management also has substantial consequences (Fresard, 2010). Further, cash holdings are substantially important for Pakistani firms because financial markets in Pakistan are relatively underdeveloped[1]. Moreover, in developing economy like Pakistan, where agency problems exist between majority shareholders and minority shareholders along with conflicts between management and shareholders, it is essential to understand how corporate governance affects the level of cash in order to find out one of the ways through which firm value is affected by governance arrangements (Shleifer and Vishny 1997; Gompers et al., 2003).

In addition to this, dominant culture of family controlled businesses in Pakistan enhances the chance of extracting private benefits out of cash from controlling shareholdings and deteriorating the rights of minority shareholders. Also, managements' reluctance toward accepting the importance of corporate governance highlights the significance of this study. The results of our study will facilitate shareholders particularly and other stakeholders in general, in making effective decisions for avoiding agency problems. It elaborates the importance of complying with the rules and regulations related to corporate governance practices. It gives a strong message to Government as well to

1 According to global competitiveness report (2014-2015), the score of financial market efficiency is 3.4 out of 7.

introduce and enforce laws urgently and effectively for the adoption of governance arrangements by both private and public companies.

1.10 ORGANIZATION OF THE STUDY

The study proceeds as follows: In Section 2 detailed theoretical framework used in this study is provided. Section 3 describes the approach used to test the hypotheses of the study.In next section, details of data characteristics and results of the tested hypotheses are given. Lastly, discussion and conclusion are made along with the implications and limitations of the study.

CHAPTER 2

LITERATURE REVIEW

2.1 CASH HOLDINGS

It is generally assumed that in the absence of contracting costs and financial markets perfections, firms make investment in all positive value added NPV projects and also make dividend payments to its shareholders when excess funds are available. Almost 75 percent of net financing based on cash reserves instead of equity, debt and convertibles (Mayers, 1990). So, it is important to ask question on why do firms keep cash balances? How does a cash holding affect firm value? What are the factors that lead cash holdings to influence firm value? According to trade-off theory, there are two main reasons for the firms to carry cash one is transaction while other is precautionary motive. With regard to transaction motive, firms hold more liquid assets when high transaction cost is incurred (Keynes, 1936). Operational determinants support this argument by providing that firms that incur high transaction costs for transforming non-cash financial assets into cash and consume more cash for making payments, prefer to hold large amount of cash (Baumol 1952; Miller & Orr 1966). However, precautionary motive argue that reason for holding cash by the firm is to tackle with unanticipated contingencies if it is costly to raise external finance (Han & Qiu, 2007; Kim et al., 1998). Similarly, availability of greater investment opportunities and constrained or costly access to capital markets tend firms to hoard more cash (Opler et al., 1999; Bates et al., 2006; and Duchin, 2010).

Alternatively, the perspective of financing hierarchy theory is that just like debt there is no optimal level of cash. Cash balances are just the outcome of investment and financing decisions of the firm as proposed by the pecking order theory of financing. It argues that it is more difficult to raise external finance when there exist asymmetric information

between outside investors and firm (Myers & Majluf, 1984). This is the reason why managers prefer to maintain necessary internal financial flexibility to avoid the cost of external financing in imperfect capital markets. Due to financial flexibility, managers are able to have enough financial resources readily available for any profitable investment opportunity. As, Gill and Shah (2012) define cash holdings, cash in hand or which is readily and easily available for investing in physical resources or assets and distributing to shareholders. According to this definition, cash holdings are comprised of cash in hand and cash equivalents like bank deposits and investment in short term money market instrument like treasury bills etc.

The first study on the determinants of cash holdings was conducted by Kim et al. (1998) on US firms. It was documented that firms incurring higher cost of raising finance externally and with higher volatility in earnings and relatively low rate of returns on assets prefer to hold substantially large amount of liquid assets. Moreover, Opler et al. (1999) elaborate the study findings and reported that firms those are small in size and with riskier cash flows and higher growth opportunities tend to hold high ratio of cash to non-cash assets. The stated reason for this is the less information asymmetry faced by large firms as compared to small firms (Collins, Rozeff & Dhaliwal, 1981; Brennan and Hughes, 1991) which leads to relatively more borrowing constraints and costly external financing to small firms (Whited, 1992; Fazzari and Petersen, 1993; Kim et al., 1998). Finally, firm size may also have an association with an expected cost of financial distress. Such as, it is provided that diversification is high with larger firms and thus they are less likely to face financial distress (Titman and Wessels,1988) while chance of liquidation

are more in case of facing financial distress by small firms (Ozkan, 2002). Consequently, if these circumstances prevails then small firms keep more in cash reserves to avoid financial distress.

In contrary to this, if substitutes to cash are available with the firm during cash shortfall then level of cash reduces. For instance, borrowing can be used as an alternative to cash because leverage is considered as a proxy to firm's debt issuing ability (John, 1993). Furthermore, Baskin (1987) describes that with an increase in debt ratiothe cost of financing funds which are required to capitalize in liquidity also goes up, which implies lower of cash holdings with higher level of debt in capital structure. Therefore, assumption of inverse relation between firms' cash holdings and leverage can be made. Contrary to this, higher level of debt may also enhance the likelihood of financial distress. In that case direct relation is expected between the debt ratio and level of cash holdings to lower down the probability of financial distress. As Jensen and Meckling (1976) claim that the probability of undergoing under investment problem lies more with the highly leveraged firms and thus existing shareholders have little advantage to offer additional equity capital even in the presence of value added investment projects because resulting cash flows from these projects unduly goes to the creditors. Therefore, agency costs associated with the debt are so high that funds cannot be raised and profitable investment projects are given up by the firms. Thus, building cash balances become valuable for the firm.

2.2 CASH HOLDINGS IN PAKISTANI FIRMS

There are many studies focusing on corporate cash holdings, corporate governance and firm valuation with respect to Pakistani firms. The determinants and separate relations among these variables are documented by many researchers; Azmat (2011) examined the factors which determine the optimal level of cash in Pakistani firms. By analyzing two different types of firms, it was found that firms with high free cash flows and its volatility and high capital expenditures prefer to hold more excess cash. While, low level of cash is maintained when cash substitutes, liquid assets, fixed assets and leverage are high. Further, growing firms hoard more cash, to avoid underinvestment in profitable projects, due to costly external financing (Shah, 2011). In contrast to these findings, another study found that mature firms hold cash because they want to enhance their resources and make investment in various projects either profitable or not. However, growing firms hold amount of cash twice as large as compared to mature firms (Azmat, 2011).

It is also argued by Afza and Adnan (2007) that firms should uphold specific level of cash in order to reinvest or pay as dividend to shareholders. They found that uncertainty and amount of cash flows of non-financial Pakistani firms influence cash holdings positively while dividend payments, liquid assets and investment opportunities and leverage are negatively associated. These results are further supported by another study presented by Shah (2011), who asserts that leverage, firm size and cash flow positively influence the level of cash holdings. He also argued that profitable firms that pay dividend also prefer to keep high amount of cash. Another study in which Rizwan and Javed (2011) performed analysis on 300 Pakistani firms listed on Karachi Stock

Exchange over the period of 1998 to 2007 from, and show that the amount of cash held by Pakistani firms rises with an increase in market-to-book ratio and cash flow. Findings of their study also found that leverage and net working capital also have negative relation with corporate cash holdings.

2.3 CASH HOLDINGS AND FIRM VALUE

Generally, shareholders trade-off between the costs associated with agency problems because of hoarding excess cash and to forgo the opportunity of getting higher returns. Normally agency costs, arise because of inefficient choices made by the firm relating to excess cash, increase with the excess in control rights (Shleifer and Vishny, 1997; Bebchuk et al., 2002). Research by Claessens et al. (2002) and La Porta et al. (1999) demonstrate that extra control rights enable controlling shareholders to disgorge wealth for their private benefits. Therefore, if it is less likely that conflict of interest will arise between controlling and minority shareholders then shareholders let firms to keep large amount of cash for investing in profitable projects and prevent difficult and costly external financing. It is obvious that holding too much cash can destroy firm value because of incurring carrying cost. Moreover, if holding of cash reduce discipline imposed on management then distortion may occur in corporate decision making that leads to reduction in firm earnings. As documented by Opler et al. (1999) that moving from high cash to low cash holdings can result in making loss by the firms. Similarly, Jensen (1986) shows that entrenched managers' waste excess cash by consuming on negative NPV projects. He emphasizes that management should pay dividends out of

excess cash and debt should be used to finance future investments. Furthermore, Easterbrook (1984) asserts that disciplines imposed on management by going to the capital markets frequently and this help to monitor their wasteful behavior. According to both studies, managerial opportunism can be controlled by capital markets. This argument is also supported by Harford (1999), who confirms that cash rich firms are mostly involve in making value decreasing acquisitions, and states that investor react negatively toward cash stockpiling. In addition, Blanchard, Lopez-de-Salinas, and Shleifer (1994) illustrate that firms with high cash windfalls employ that cash imperfectly.

Theory states that outside shareholders should value the corporate cash balances which managers use for making investments readily and easily, on the basis of whether this cash precludes the chance of underinvestment in profitable projects by controlling managers (Myers, 1984 and Myers and Majluf, 1984), or it accelerates outright stealing by controlling managers and overspending in under value projects or (Easterbrook, 1984, Jensen, 1986, and Myers and Rajan, 1998).

2.4 CORPORATE GOVERNANCE AND FIRM VALUE

The central issue for most of the modern corporations, having insiders with majority of ownership of cash flow rights is to deal with agency problems between corporate insiders, including managers and controlling shareholders, and minority shareholders of the firm (Berle & means, 1932; Jensen & Meckling, 1976). An ample of research has been conducted on exploring the factors and finding solutions to these issues, as various

analyses provided that the magnitude of conflict of interest between controlling shareholders and minority shareholders is greatly determined by the ownership structure of the firm which has strong implications for the valuation of the firm. It is argued that insiders who have control over the corporate assets can likely expropriate the rights of outside investors by disgorging liquid resources for their private use or by consuming funds on unprofitable projects in order to get private benefits. By this way, controlling managers get an opportunity to maximize their own wealth or increase perquisite consumption without paying cost of their actions. These findings are reaffirmed by Kusnadi (2011) that agency problems between controlling managers and minority investors intensify the discretion of managers to hoard excess cash in the absence of good governance. Alternatively, by committing resources to positive NPV projects available to the firm, managers can increase their future wealth by claiming more on increased future cash flows of the firm.

Generally, fewer incentives are gained by controlling insiders from deploying resources in unprofitable investment projects as compared to insider's proportion in return available on positive NPV investment projects and cash flow ownership. This argument is also supported by Claessens et al. (2002) and Lins (2003), as they found that valuation of the firm is negatively linked with a separation of control and cash flow ownership. Similar findings are obtained by Claessens et al. (2002) that more will be the value of the firm when higher are the cash flow rights held by the controlling blockholders. In line with these studies, an early analysis by Baysinger and Butler (1985) examine the relation between the ratio of independent directors and a measure of return on equity. They found

that the presence of large number of outsiders in the board increases the comparative performance of that firm but above than average firm value is not necessarily the outcome of majority of independent directors. Hence, they conclude that the presence of both insiders and outsiders on board ensures the increase in financial value. Contrary to this, Hermalin and Weisbach (1991) compare the ratio of outsiders on board to a relative measure of Tobin's q and found no relationship between the firm value and percentage of outsiders on board. Similarly, several studies have been conducted to examine measures of corporate governance and their relation with firm value. By using Investor Responsibility Research Center (IRRC) data Gompers et al. (2003) conclude that the firm valuation and stocks return of the firms with fewer shareholder rights are low.

There is now growing empirical evidence, as well as, widespread recognition that corporate governance systems can significantly affect shareholder value. There are many studies that found strong positive linkage between corporate governance and firm valuation (Kusnadi, 2011). As, firms adopt codes of corporate governance which help to enhance shareholder value; however the management and controlling shareholders may prevent the espousal of sound corporate governance mechanisms because costs of implementation incur with its adoption. Moreover, these governance codes may also help to reduce expropriation ability of the controlling shareholders.

2.5 CORPORATE GOVERNANCE AND CASH HOLDINGS

It is generally believed that, firms operating in countries where protection of shareholders right and legal protection is relatively low have more agency problems and high power

rest with managers. Therefore, high managers' control and low protection of shareholders' rights result in lowering of firm value and hoarding of more cash by managers (Kalcheva and Lins, 2007). Consequently, when firms keep more cash reserves because of less protected shareholder rights then amount of cash holdings get double as compared to firms operating in countries with high protection of shareholder rights. It gives an opportunity to controlling managers to use excess cash for their private benefits by employing more power. This leads to weak governance system and substantially affects the policies of the firm regarding cash holdings (Jensen and Meckling, 1976; Dittmar et al., 2003). Agency literature proposes that agency problem of free cash flows can be lowered down by aligning the interests of controlling and minority shareholders. Therefore it indicates that good corporate governance can mitigate the conflict of interest by reducing the cash level of the firms. In previous literature, strong evidence is available on the effects of corporate governance over firms' decision regarding the level of cash holdings.

2.6 CORPORATE GOVERNANCE AND CASH HOLDINGS IN ASIAN COUNTRIES

Large amount of literature on cash holdings is found in the context of developed nations, of which various studies are also conducted in Asian countries. It is evident from the findings of these studies that level of cash holdings remain more with Asian firms. A notable analysis by Kusnadi (2003) performed on 230 publically listed firms of Singapore reveals that there is a positive association between firms' board size and amount of cash

holdings. While the relation get inverse between the ownership of blockholders, who are non-executive directors and have a share of more than 5% in the company, and level of cash held by the firm. Therefore, it is concluded that board size is large and blockholders ownership is high in poorly governed firms. It is also documented that shareholders are less attracted toward the ownership of these firms due to the lack of control over decisions made by the entrenched managers. Moreover, firms with weak governance mechanism are also not able to design and implement effective management policies including policies related to holding of cash. Afterward, Kusandi (2011) extended his research by taking 455 listed firms of Singapore and Malaysia and found that firms with weak governance structures and entrenched managers hoard comparatively more cash. It is because fewer incentives are gained by the managers if excess cash is distributed to its shareholders.

Another study reported by Kuan et al. (2009), who examined the performance of publically listed firms of Taiwan provided that firms facing high agency problems keep more amount of cash as reserve. Similar findings were also documented by Lee and Lee (2009), when they examined the value effect of corporate governance on firms' cash holdings by collecting data from 2001 to 2005 for Indonesia, Malaysia, Philippines, Singapore and Thailand. They found a negative relationship between the cash holdings and corporate governance; measured by board structure including two components of size and independence and managerial ownership. In addition to this, Kusandi (2011) also investigated the combined effect of corporate governance and cash holdings on firms' performance, and found a positive relation between these variables. These findings are

further supported by Ping, Qing & li (2011), who examined the effect of corporate governance on value of cash holdings in Chinese firms. Results supported the argument that high level of cash is maintained by these firms due to the existence of poor governance mechanism. Most of the firms in China are controlled by Government; therefore, board is not independent in making decisions on various policies (Paskelian, Bell & Nguyen, 2010). Lack of monitoring by shareholders; give managers a chance to pursue their own benefits which leads to the conflict of interest between managers and investors. Another reason for high level of cash holdings in Asian firms are the ownership structure resulting in weak governance system. As family owned business are dominant in this region which leads to agency problems between controlling and minority shareholders (Paskelian et al., 2010).

2.7 CASH HOLDINGS, CORPORATE GOVERNANCE AND FIRM VALUE

In previous literature, few studies are available finding the value effect of corporate governance on firm's level of cash holdings. For the first time, Dittmar and Marth-Smith (2007) testified the significant impact of governance on firm value through its influence on corporate cash policy. They found that the market value of the firm, which keeps excess cash reserves, is decreased by up to one-half if firm is poorly governed. In addition to this, they also revealed that firms with weak governance mechanism consume their excess cash reserves by investing in assets with low accounting returns. Similarly, Faulkender and Wang (2006) investigated the cross sectional deviations in the value of

cash holdings because of changes occur in the financial policy of the enterprises. Results provided that marginal value of cash reduces with the increase in cash holdings, leverage, better and easy access to capital markets and when firms distribute cash in the form of dividends instead of making repurchases.

The market value of cash that firms hold is also examined by Pinkowitz and Williamson (2006). They found that availability of good growth opportunitiesto the firm increase the value of cash as compared to the firms having poor growth prospects. Additionally, firms with stable investment plans and low probability of financial distress are valued more by the investors. Huang and Zhang (2008) conducted an international study to find out how corporate transparency effects value and amount of cash holdings held by the corporation and Pakistan was also the part of their selected sample. They revealed that the level of corporate transparency has an inverse relation with the amount of firms' liquid assets and high market valuation is given to the cash resources when better level of transparency existed in the firm. Paskelian and Nguyen (2010) stated that Indian business is highly occupied by concentrated family ownership and investor value firms' cash holdings higher when firm has family ownership as compared to non-family owned firms. This study has significant implications for Pakistan because economical context of Pakistan is very close to India. Most of the features related to family control, concentrated ownership, pyramidal structures, cross shareholdings and interlocking directorship are also present in Pakistani firms (Cheema, 2003; Zaidi and Aslam, 2005; Javed and Iqbal, 2006). Hence, it can be assumed from the findings of Paskelian and Nguyen (2010) that

investors in Pakistan may also assign higher marginal value to corporate cash holdings when higher insider ownership rest with the firms.

Almost one-fifth of total assets of the corporation are comprised of cash and also in general cash management has substantial consequences (Fresard 2010), therefore, understanding the impact of corporate governance on firms' cash holdings can shed light on one of the channels or ways through which governance practices may influence firm value (Shleifer and Vishny 1997; Gompers et al., 2003).

2.8 HYPOTHESES

H_1 = There is a significant impact of corporate cash holdings on firm value.

H_2 = There is a significant impact of corporate governance on firm value.

H_3 = Corporate Governance significantly moderates the relationship of cash holdings and firm value.

H_4 = Good corporate governance lead to high valuation when firm have high excess cash holdings.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 VARIABLES DESCRIPTION

This study analyzes how corporate governance affects the value of firm through the channel of excess cash reserves. As Jensen (1986) argued that free cash flows are highly wasted by poorly monitored and entrenched managers of the firm. This argument is extended to support assumption about excess cash reserves and provides empirical evidence for its relation and relevance to corporate governance, by investigating if entrenched and poorly monitored managers waste excess cash reserves. Therefore main focus of this study is the cash stockpile by the firms, which is in excess to the needs of firm operations or investments and refers to this cash as *excess cash*.

3.1.1 INDEPENDENT VARIABLES

3.1.1.1 Excess Cash Holdings

In the literature, regression and methods required for the estimation of optimal cashare well discussed (Opler et al., 1999; Dittmar et al., 2003;Harford et al., 2004). By following that estimation technique, first regression run in this study is to establish optimal level of cash for corporation. This first step is in accordance with the approach followed by Opler et al. (1999) and Harford et al. (2004). Excess cash obtained from this cash level regression is defined as the discrepancy between actual and predicted normal cash. If presented differently, this excess cash is the residuals obtained from cash level regression.

The literature describing the optimal cash level argues that holding cash by the firm is not a matter of concern if financial markets are perfect as Modigliani and Miller said. However, if imperfections exist then many reasons are there for firms to keep cash in reserve. First and foremost idea of holding a specific amount of cash is to finance daily transactions or activities of the firm, because it is difficult to raise cash suddenly on a day to day need basis. According to this transaction motive, the firm level activity is a key determinant of corporate cash level (Keynes, 1936 & Frazer, 1964). Similar to Opler et al. (1990), cash holdings are computed by using the ratio of cash and cash equivalents to net assets (defined as total assets less cash).

In addition to transaction motive, firms prefer to hold cash for precautionary motive in order to accumulate precautionary financial slack to deal with unanticipated circumstances like new investment opportunities especially when it is costly to raise external finance (Myers and Majluf, 1984). Hence, this study similar to previous research (Opler et al., 1999; Kusnadi, 2006; Chen, 2008; Harford et al., 2008; Kuan et al., 2011; Ammann et al., 2011; Masood and Shah, 2014) incorporate controls for investment opportunities which is measured by using market-to-book ratio (Martinez, Garcia & Martinez, 2013), to control the effect of potential cash substitutes a measure of other non-cash liquid assets is also included for which net working capital is used as a proxy. Variable of cash flow is added to control for the effect of firm profitability and total firm size (natural logarithm of total assets of the firm) is included to control for access to financial markets, as small firms face information asymmetries more as compared to large firms and expose to high financial constraints which may lead to greater chance of

financial distress (Kusandi, 2003; Kaun et al., 2011). Opler et al. (1999) and other paper shows that dividend payouts also effect the level of corporate cash holdings, state that firms that pay more dividend should have lower cash. Therefore, dividend dummy is also included in optimal cash level regression to distinguish the effect of dividend payouts.

Moreover, under the trade-off theory, Diamond (1984) and Ozkan and Ozkan (2002) argue that debt could act as a substitute for cash holdings since debt is more flexible and reduces moral hazard. Likewise, cash is stated as negative debt by the pecking order theory and Opler et al. (1999) argue that firms who have excess cash either utilize it to pay off their outstanding debt or reserve it; and even though firms may have a marked debt level, cash still pursue a pecking order behavior. So, leverage is also included as control variable in the model, as evident from many researches that it has an impact on optimal level of cash holdings. To avoid the issue of heteroskedasticity, all variables are deflated by total assets which are used as net of cash. Though small number of observations detected as outliers, therefore in order to ensure that results are not affected by these extreme observations and not to lose observations, variables of cash to net assets, size, operating cash flow, net working capital, investment opportunities, leverage and Tobin's Q are winsorize[2] at the 1st and 99th percentile.

The following regression equation shows main specification of the study, and its residuals are further used to compute excess cash in order to run value regression:

2 This approach is also followed by Dittmar et al. (2003) and Kalcheva and Lins (2007), who winsorized Tobin's Q and remaining financial variables at 1st and 99th percentile in order to avoid outliers and observation loss problems.

$$\left(\frac{Cash_{i,t}}{Net\ Assets_{i,t}}\right)$$

$$= \beta_0 + \beta_1 Size_{i,t} + \beta_2 \frac{OCF_{i,t}}{NA} + \beta_3 \frac{NWC_{i,t}}{NA_{i,t}} + \beta_4 Investment\ Opp._{i,t}$$

$$+ \beta_5\ Leverage_{i,t} + \beta_6 Div.Dum._{i,t} + \varepsilon_{i,t} \qquad Eq.(1)$$

$Cash_{i,t}$ = Cash and Cash Equivalents at time t,

$Size_{i,t}$ = Natural logarithm of Net Assets (Total Assets after subtracting Cash and Cash Equivalents) at time t,

$OCF_{i,t}$ = Operating Income minus Interest and Taxes over year t,

$NWC_{i,t}$ = Current Assets after subtracting Current Liabilities and Cash and Cash Equivalents at time t,

Investment $Opp._{i,t}$= Market Value (Market Price times No. of Shares plus total liabilities) at time t divided by book value of equity.

$Leverage_{i,t}$ = Total debt (Short-term plus long-term) divided by net assets

Div. $dum._{i,t}$ = 1 if a company pays a dividend and 0 otherwise.

A similar model is also used by Ammann et al. (2011), Shah (2011), Kafayat, Rehman, & Farooq, (2014), Masood and Shah (2014) and others, to find out the determinants of corporate cash holdings.

3.1.1.2 Corporate Governance

The second key variable of this study is corporate governance; which is included as a binary dummy by dividing the whole sample on the basis of average score calculated; if

corporate governance score (CGS) for particular firm is above that average then it is coded as 1 otherwise 0. The firm coded as 1 is considered as well governed firm, however, firm assigned with code 0 is poorly governed firm. This dummy variable approach is adopted to get more intuitive and exact interpretation of coefficients and to avoid discussing scores in continuous term. CGS is measured by using governance index developed by Shah and Butt (2009). In previous literature, different criteria are used to measure the efficacy of corporate governance system adopted by the enterprise, some authors identify variables of corporate governance directly and investigate their relationship independently while others develop CG index (CGI) and calculate cumulative CG score. Although some authors has applied both methods in their research. In this study, quality corporate governance score is calculated by using CGI developed by Shah and Butt (2009)[3]. The following equation is estimated to measure governance score of each company.

$$CG = f(ownership, independence) \quad \text{Eq. (2)}$$

$$CG = f(MO, OC, ACI, BI) \quad \text{Eq. (3)}$$

$$CG_{score} = [(MO + OC)*w_1 + (ACI + BI)*w_2] \quad \text{Eq. (4)}$$

Where, CG represents quality governance score, MO is managerial ownership, OC stands for ownership concentration, ACI and BI stands for audit committee independence and board independence respectively. Eq. 2 shows that corporate governance is the function

3likewise to Malik and Shah (2013) and Azeem et al. (2013) who also adopted this measure of CG in Pakistani context

of ownership and independence while further elaboration is made in Eq. 3 which describes that both ownership and independence are divided into two categories, managerial ownership and ownership concentration; audit committee and board independence. In order to construct CG score Eq. 4 is established in which weights are assigned, w_1 = 45% for ownership measures and w_2 = 55% for independence measures. The higher the CG score better will be the corporate governance system for that particular firm. The definition of variables used to compute corporate governance score (CGS) and scoring criterion for corporate governance measurement used in this study which is adopted from Shah and Butt (2009) is presented in Appendix A.

3.1.2 DEPENDENT VARIABLE

This study use value regressions similar to Fama and French (1997) to investigate the effect of cash holdings and more specifically, excess cash reserves on value of the firm in the presence of corporate governance system. Same methods are used by other papers on cash value (Pinkowitz and Williamson, 2004; Pinkowitz et al., 2006) and research conducted on "value of governance" (Gompers et al., 2003; Bebchuk, et al., 2005; Cremers and Nair, 2005; and others). The dependent variable of firm value (Tobins' Q) is measured by firm's market-to-book ratio, which is defined as the year end market price times the number of shares plus the book value of total liabilities divided by book value of net assets (Guney, Ozkan & Ozkan, 2003; Ozkan and Ozkan, 2004; Dittmar e al., 2007).

3.2 MAIN VALUE REGRESSION SPECIFICATIONS

The two main value regression of the study are described by the following equations. In equation (5) actual cash holdings is used as independent variable and its interaction term is made with the dummy variable of corporate governance. It is a standard value regression adopted from the previous literature (Opler et al., 1999 and Dittmar et al. 2007) and same control variables are incorporated in this equation.

$$Tobins'Q_{i,t} = \beta_0 + \beta_1 Cash_{i,t} + \beta_2 Cash_{i,t} \times Gov.Dum._{i,t} + \beta_3 Gov.Dum._{i,t} + \beta_4 Size_{i,t} + \beta_5 OCF_{i,t} + \beta_6 Div.Dum._{i,t} + \varepsilon_{i,t} \quad Eq.(5)$$

While in equation (6) excess cash rather than actual cash holdings is used as independent variable and moderating term is made by the combination of excess cash and corporate governance dummy.

$$Tobins'Q_{i,t} = \beta_0 + \beta_1 ExcessCash_{i,t} + \beta_2 ExcessCash_{i,t} \times Gov.Dum._{i,t} + \beta_3 Gov.Dum._{i,t} + \beta_4 Size_{i,t} + \beta_5 OCF_{i,t} + \beta_6 Div.Dum._{i,t} + \varepsilon_{i,t} \quad Eq.(6)$$

Tobins' $Q_{i,t}$ = Market Value at time t (Market Price times No. of Shares plus total liabilities) divided by net assets.

$Cash_{i,t}$ = Cash and cash equivalents at time t,

$Gov.Dum._{i,t}$ = if Gov. Score is high in CGI then variable is coded as 1 otherwise 0

$Size_{i,t}$ = Natural logarithm of Net Assets (total assets minus cash and cash equivalents) at time t,

$OCF_{i,t}$ = Operating Income minus interest and taxes over year t,

Div. $dum._{i,t}$ = 1 if company pays a dividend and 0 otherwise.

Excess $Cash_{i,t}$ = Residuals from cash level regression in Eq. 1

3.3 POPULATION

The population of this study is non-financial manufacturing companies of the Pakistan listed on the Karachi stock exchange (KSE), whose shares are traded within the sample of period of 2008-2013. Firms providing financial services are excluded from the sample because their liquidity is hard to assess and their financial ratios have different interpretation and firms from utility sectors are also not the part of sample because liquidity and governance of this sector might be driven by regulatory factors (Pinkowitz et al., 2003; Drobetz and Gruinger, 2009).

3.4 SAMPLE DESIGN AND SIZE

Sample is comprised of 108 non-financial manufacturing companies of Pakistan, depends on the availability of data, listed on KSE from 2008 to 2013. Firms from different industries like cement, food, chemicals, textile, automobiles etc. are included in the sample. Numbers of firms representing each industry are given in Appendix B. The firms with errors in data and missing values for accounting variables are excluded from the sample.

3.5 DATA COLLECTION AND ANALYSIS TECHNIQUES

This particular study is secondary and descriptive in nature and 6 years data is collected from different sources. Financial statement analysis of State Bank of Pakistan (SBP) and annual reports of the selected firms are used to collect firm-specific financial information. Moreover, data on stock prices is collected from the website of KSE. Data used in this research is both cross sectional and time series and it is balanced panel type data. In order to run statistical analysis Eviews software package is used. The equations are estimated by applying panel regression on data, however, descriptive analysis and correlative coefficient are also found. As panel data regression has different types like common effect, fixed effect and random effect techniques of regression, therefore, choice between these panel regressions are made on the basis of Restricted F-test and Hausman test. Some unique characteristics of the firms, which may have a correlation with unobservable factors, are also taken into account by introducing firm dummies. Furthermore, autocorrelation is determined by the value of Durbin-Watson.

CHAPTER 4

EMPIRICAL RESULTS

4.1 DESCRIPTIVE STATISTICS OF VARIABLES

Table 1 presents the descriptive statistics of dependent and independent variables of the study. The main variable of first equation of cash level regression is cash holdings whose mean value is 4.4 percent and its median is 0.9 percent. This average value of cash holdings is in line with the results of Basheer (2014) and Masood and Shah (2014). Table 1 also provides that 10 percent of total sample of 108 firms hold more than 13 percent of

Table 1
Summary Statistics

	Mean	Median	Max.	Min.	S. D.	Skewness	Kurtosis	10th Percentile	90th Percentile
Cash	0.044	0.009	0.590	0.000	0.095	3.727	18.349	0.001	0.131
Investment opp.	1.322	0.552	17.498	-4.623	2.697	3.695	20.723	0.053	3.191
Leverage	0.322	0.316	0.839	0.000	0.231	0.209	2.031	0.000	0.645
Tobin's Q	1.160	0.884	5.800	0.356	0.899	3.196	14.738	0.592	1.934
Size	15.604	15.385	19.185	12.230	1.459	0.194	2.607	13.975	17.498
CG score	4.852	4.700	9.100	1.100	1.335	0.698	4.220	3.350	6.730
NWC	0.004	0.001	0.556	-0.862	0.216	-0.582	5.559	-0.221	0.262
OCF	0.123	0.106	0.521	-0.122	0.122	0.802	3.842	-0.011	0.292
Div. Dum.	0.614	1.000	1.000	0.000	0.487	-0.469	1.220		
No. of Obs.	648								
Firms	108								

This table shows variables characteristics for sample data of 108 firms over the period of 2008-2013 in this analysis. Table provides mean, median, maximum, minimum, standard deviation, skewness, kurtosis, and 10^{th} and 90^{th} percentiles. For all ratios, net assets are used computed as total assets excluding cash. The variables are: ratio of cash to net assets (Cash), market to book value of equity proxy for investment opportunities (Investment opp.), long term and short term debt to net assets (Leverage), market value of equity plus total liabilities to net assets (Tobin's Q), natural logarithm of net assets (Size), corporate governance score (CGdcore), ratio of current assets minus cash minus current liabilities to net assets (NWC), operating income before interest and tax divided by net assets (Cash Flow), dividend dummy is 1 if company pays divided elsewhere 0 (DivDum).

cash while on other side 10 percent of them keep only less than 1 percent of cash as assets. Data statistics also reveals that almost 32 percent assets of median firm in our

sample come from debt; however, 10 percent of firms out of whole sample are highly leveraged with 64.5 percent debt to net assets ratio. These results support the findings of other studies (Aftab, 2009; Azmat, 2014) that most of the Pakistani firms are highly leveraged. In addition to this, average market valuation of the firm measured by Tobin's Q is 1.16. In study sample, the average size of firm hold net assets of Rs. 5980 million while the book value of net assets of median firm is Rs. 4804 million. The average corporate governance score for firms is 4.8 while there is high variation between firms in governance rankings as it varies from 1.1 to 9.1. The value of QCG score is consistent with the findings of Malik and Shah (2013), who adopted the same measure of QCG. Moreover, almost 61 percent of 108 firms pay dividend to its shareholders.

4.2 CORRELATION MATRIX

Table 2 describes that level of cash holdings is significantly positively related with firm size, investment opportunities measured by market to book ratio, dividend dummy, cash flow and OCF. These results are similar to the findings of Martinez (2013), Azmat (2014) and Masood and Shah (2014). While there exist negative correlation between amount of cash and leverage and net working capital. As it is shown in the table 2 there is negative relation between leverage and operating cash flow which is consistent with the pecking order theory that firms prefer to use internally generated funds prior to debt. Similarly, there is an inverse relation between leverage and firm valuation measured by Tobin's Q. It is because highly leveraged firms are more risky in terms of debt and interest payment,

therefore; investors avoid investing in firms with high level of debt (Mcconnel and Servaes, 1990; Abbas et. al, 2013).

Table 2
Correlation Matrix

	Size	Investment opp.	Cash	DivDum	CGI	Leverage	Tobin's Q	NWC	OCF
Size	1								
Investment opp.	0.267***	1							
Cash	0.087**	0.145***	1						
Div. Dum	0.229***	0.211***	0.149***	1					
CGI	0.048	0.060	0.055	0.096**	1				
Leverage	-0.206***	-0.173***	-0.347***	-0.323***	-0.093**	1			
Tobin's Q	0.231***	0.773***	0.218***	0.162***	0.069*	-0.215***	1		
NWC	-0.019	0.105***	-0.051	0.383***	-0.022	-0.284***	0.057	1	
OCF	0.121***	0.343***	0.271***	0.501***	0.084**	-0.326***	0.354***	0.451***	1

This table displays the unconditional pair-wise correlations. All variables are same as in table of descriptive statistics. ***, **,* indicate significance level at the 1, 5 and 10 percent respectively.

Table 2 shows the correlation among variables of the study and it describes that significant correlation exists between few independent variables like, size, market-to-book ratio, leverage, OCF, NWC and dividend dummy[4]. Even though correlations are significant but they are not strong enough to create the problem of multicollinearity[5]. The correlation between Tobin's Q and market to book ratio is high but it is not problematic because they are not used in same equation.

4 Because relationship between various independent variables like size, value, profitability, governance and asset structure have been shown complex and unclear in previous literature, therefore, interpretation of simple correlations among all variables is avoided.

5As magnitude of significant correlation is critical because it leads to multicollinearity, which turns significant independent variables into insignificant. Guilford (1956) gives that correlation of 0.20 is considered as slight, while correlation between 0.2-0.4 is low, moderate correlation lies between the range of 0.4-0.7 and 0.7-0.9 is marked correlation and correlation above 0.9 is considered high.

4.3 MULTIVARIATE ANALYSIS

Table 3 presents the estimation results of first equation on cash level regression which is based on panel regression model where cash holding is the dependent variable. For each specification only the results of most appropriate regression model are reported either OLS regression, fixed effects or random effects models. The selection between fixed and random effects model is made on the basis of Hausman (1978) test statistics while Reduntant test statistics are used to distinguish between fixed effects and OLS regression.

In equation (1) the determinants of cash holdings are examined, results show that most of the coefficients and their signs are in accordance with the pervious literature. The results suggest that cash holding is positively related to market to book ratio and cash flow, both significant at the 99% confidence level. Therefore, these coefficients are consistent with static trade-off theory and as well as with the financing hierarchy model. However, firm size and net working capital effect level of cash holding negatively, again both coefficients are significant at the 99 % confidence level. These results are also in line with the static trade off theory. Consistent with the findings of previous literature coefficient on size is negative. It is possibly because in capital markets easy and more readily access is available to large firms to alternative sources of liquidity. Finally, the coefficients for leverage and dividend dummy are insignificant. The value of R-squared is 0.72 while the Adjusted R-squared is 0.67 which shows the high coefficient of determination. The overall significance of model is shown by the significant value of F-stat 12.39 at the 99% level of confidence. The value of F-statistic of 9.33 under Redundant F test is significant at the 99% confidence level, which nullify the null

hypothesis[6] and confirms that fixed effects estimators are more efficient than pooled OLS. Moreover, Hausman test provides the Chi-square statistics of 48.86 significant at 99% level of confidence and by rejecting the null hypothesis[7] concludes that fixed effects

Table 3
Predicting The Level Of Cash

Dependent Variable: Cash	Coefficient	Std. Error	t-Stat	Prob.
Constant	0.742	0.145	5.125	0.000
Investment Opp.	0.006	0.002	3.791	0.000
Size	-0.047	0.009	-5.058	0.000
Div. Dum.	0.002	0.008	0.203	0.840
Leverage	-0.024	0.021	-1.140	0.255
NWC	-0.167	0.019	-8.693	0.000
OCF	0.234	0.035	6.616	0.000
R-squared	0.724			
Adjusted R-squared	0.666			
F-statistic	12.392			
Prob(F-statistic)	0.000			
Durbin-Watson stat	1.636			
Restricted F-test				
F-Stat	9.329			
Prob.	0.000			
Hausman Test				
Chi-sqaure Stat	48.861			
Prob.	0.000			
No. of Obs.	648			
Firms	108			

This table shows the estimation results of cash levels. Assets net of cash are used in all variables. The dependent variable is ratio of cash to net assets (Cash). The independent variables include: market to book value of equity proxy for investment opportunities (Investment Opp.), natural logarithm of net assets (Size), dividend dummy is 1 if company pays divided elsewhere 0 (DivDum), long plus short term debt to net assets (Leverage), ratio of current assets minus cash minus current liabilities to net assets (NWC), operating income before interest and tax divided by net assets (OCF). All variables are winsorized at the 1% and 99% levels. Fixed effects panel model is used.

6The null hypothesis of F-test is that all differential intercepts are equal to zero
7 The null hypothesis of Hausman test is that there is no substantial difference between the estimators of fixed effects and random effects model

estimators are preferred over the random effects estimators.

In table 4 the relation between cash holdings and corporate governance on firm-level is investigated by following the equation (5). The estimation results of model [1] that include the independent variables of level of cash holdings and corporate governance and other control variables shows that the coefficient on cash level is positive as well as significant at the 5% level, consistent with the results of Kalcheva and Lins (2007). The explanation can be made that investors prefer maintaining sufficient level of cash by the firm, to avoid under investment problems when internal funds are relatively low and under situation when raising external finance is difficult as well as costly, consistent with precautionary motive of holding cash. This finding is also supported by the results of Chan et al. (2011) and Pinkowitz and Williamson (2007), who found that investors assign higher marginal value to cash holdings in firms with higher level of cash flows uncertainty and higher growth rates. Furthermore, Chan et al. (2011) also stated that firms save high level of cash for coping with current operating and future needs of investing due to the pressure exerted by costly external financing and investors understand this policy of hoarding cash and thus view it positively. It indicates that carrying some amount of cash can be valuable for firm but it is still needed to infer that under which conditions it holds. While no relation is found between cash flow and Tobin's Q and also don't find any association between paying dividends and firm value (Kalcheva & Lins, 2007).

In model [2] of table 4, impact of cash held by the firm is shown on firm value when corporate governance of the firm is also high. To find this, Tobin's Q is regressed on

Table 4
Firm Value, Firm-Level Corporate Governance And Cash Holdings

Dependent Variable: Tobin's Q						
	Model 1			Model 2		
	Coefficient	t-Stat	Prob.	Coefficient	t-Stat	Prob.
Constant	4.885 (1.007)	4.852	0.000	4.608 (1.018)	4.526	0.000
Size	-0.209 (.064)	-3.277	0.001	-0.198 (0.064)	-3.090	0.002
OCF	0.356 (0.237)	1.504	0.133	0.346 (0.236)	1.462	0.144
Div. Dum.	0.002 (0.057)	0.035	0.972	0.010 (0.057)	0.173	0.863
GOV. Dum.	-0.057 (0.023)	-2.434	0.015	-0.039 (0.026)	-1.501	0.134
Cash	0.049 (0.016)	3.036	0.003	0.037 (0.018)	2.125	0.034
Cash x Gov. Dum.				0.022 (0.013)	1.690	0.092
R-squared	0.850			0.851		
Adjusted R-squared	0.818			0.819		
F-statistic	26.847			26.728		
Prob(F-statistic)	0.000			0.000		
Durbin-Watson stat	1.810			1.818		
Restricted F-test						
F-Stat	21.518			21.585		
Prob.	0.000			0.000		
Hausman Test						
Chi-sqaure Stat	38.064			39.193		
Prob.	0.000			0.000		
N	643			643		
Firms	108			108		

This table presents the results for value regressions. Both models are estimated as fixed effect panel regressions. Assets net of cash are used in all variables. The dependent variable is market value of equity plus total liabilities divided by net assets (Tobin's Q). The independent variables are: natural logarithm of net assets (Size), operating income before interest and tax divided by net assets (OCF), dividend dummy is 1 if company pays divided elsewhere 0 (Div. Dum), governance dummy on the basis of governance score, 1 for high and 0 for low (GOV. Dum.) and actual level of cash (Cash). All variables are winsorized at the 1% and 99% levels. In model [2], interaction of actual Cash and Governance dummy (Cash x Gov. Dum.) is added.

interaction between the cash holdings and corporate governance dummy. The coefficient on interaction term indicates that cash holdings are more valuable when firm level governance is high (Dittmar et al. 2003; Pinkowitz et al., 2006). In each of the model [1] and [2], the coefficient on corporate governance variable remains either negative or insignificant. This negative sign and lack of significance may exist due to the lack of variation in this variable in fixed effects specifications. This methodological problem is faced by many papers on governance because little change occurs in the measure of corporate governance over time; therefore, it poses difficulty in controlling for important firm fixed effects (Dittmar et al. 2007 & Ammann et al. 2011). In order to verify that which model is appropriate for both specifications, a statistical test of Hausman and Restricted-F is used which shows that fixed effects model is correct and efficient for both specifications. As the p-value of test statistics is 0.000 for the presence of fixed effects in both models. The value of Durbin-Watson is also near to 2 for both models, which shows that there is no serious problem of autocorrelation in the residuals.

More precisely, second main focus of the study is to find the value regression for firms with excess cash. Thus, the excess cash level regression results presented in table 5 based on the estimation of equation (6) produced after using excess cash data, which is obtained from the residuals of regression equation (1). In Model [1] the impact of excess cash and corporate governance is found on firm value and it reveals that excess cash has significant positive impact on firm, as coefficient is positive and significant at 1% level. While coefficient on corporate governance again comes negative but still remains significant.

Table 5
Firm Value, Firm-Level Corporate Governance And Excess Cash

Dependent Variable: Tobin's Q	Model 1			Model 2		
	Coefficient	t-Stat	Prob.	Coefficient	t-Stat	Prob.
Constant	3.940 (0.983)	4.009	0.000	4.647 (0.989)	4.696	0.000
Size	-0.178 (0.063)	-2.824	0.005	-0.208 (0.063)	-3.294	0.001
OCF	0.442 (0.234)	1.891	0.059	0.477 (0.233)	2.042	0.042
Div. Dum.	0.026 (0.056)	0.466	0.642	0.021 (0.056)	0.382	0.702
Gov. dum.	-0.142 (0.058)	-2.446	0.015	-0.066 (0.024)	-2.784	0.006
Excess Cash	1.144 (0.302)	3.786	0.000	1.989 (0.491)	4.054	0.000
Excess Cash x Gov. dum.				-1.252 (0.671)	-1.870	0.062
R-squared	0.850			0.852		
Adjusted R-squared	0.819			0.821		
F-statistic	27.149			27.197		
Prob(F-statistic)	0.000			0.000		
Durbin-Watson stat	1.805			1.801		
Restricted F-test						
F-Stat	22.724			22.798		
Prob.	0.000			0.000		
Hausman Test						
Chi-sqaure Stat	36.557			41.170		
Prob.	0.000			0.000		
N	648			648		
Firms	108			108		

This table presents the results for value regressions. Both models are estimated as fixed effect panel regressions. Assets net of cash are used in all variables. The dependent variable is market value of equity plus total liabilities divided by net assets (Tobin's Q). The independent variables are: natural logarithm of net assets (Size), operating income before interest and tax divided by net assets (OCF), dividend dummy is 1 if company pays divided elsewhere 0 (Div. Dum.), governance dummy on the basis of governance score, 1 for high and 0 for low (Gov. dum.) and excess cash residuals from cash level regression in table 3 (Excess Cash). All variables are winsorized at the level of 1% and 99%. In model [2], interaction between Excess Cash and governance dummy (Excess Cash x Gov. dum.) is added.

Similar to results presented in table 4, coefficient on assets remains negative and significant at 1% level; however, effect of dividend on firm value remains inconclusive. In addition to this, significant influence of cash flow on Tobins' Q is found, as coefficient is significant at 10% level. In Model [2], an additional variable of interaction term of excess cash and governance variable is introduced, in order to check the impact of corporate governance on firm value through excess cash. The results show that coefficient is significant at 10% level, but the negative sign of coefficient is not as expected. It is difficult to make any strong inference from this finding.However, coefficient on Excess Cash alone remains significant in Model [2]. Moreover, results pertaining to control variables of assets, cash flows and dividend remains same as in Model [1] in Table (5). To check estimates of which model are more consistent and reliable for both specifications, Hausman test and Restricted-F test is applied which indicate that fixed effects model is efficient for both specifications. The validation of fixed effects is evident from the p-value of 0.000 for Restricted-F test in both models. Moreover, value of 1.8 for Durbin-Watson which is close to 2 for both models, precludes the chance of autocorrelation problem in the residuals.

CHAPTER 5

CONCLUSION

5.1 DISCUSSION AND CONCLUSION

Jensen (1986) argues that free cash flows are wasted by entrenched managers when they left unmonitored. By extending this argument to cash holdings and excess cash, effort is made in this study to provide empirical evidence by investigating the impact of corporate governance on firm valuation through the channel of cash holdings. The importance of corporate governance is elaborated by conducting this study and the role of governance in maximizing the value of the firm through its cash holdings is focused. The two main features of our study are the empirical evidence provided on the determining factors of cash holdings, which is believed to extend the existing literature. Second, in contrast to previous literature combined effect of governance and cash levels is seen on firm valuation.

The findings on cash level regression are similar to what is provided in the literature. The negative and significant relation between the firm size and cash level is consistent with the argument that little information asymmetries are faced by larger firms and hence exhibit lower adverse selection cost as compared to smaller firms (Collins et al., 1981; Brennan and Hughes, 1991). It is also argued that smaller firms also bear higher external financing costs than larger firms due to more constraints on borrowing (Whited, 1992; Fazzari and Peterson, 1993). Moreover, findings can also be supported by giving the notion that larger firms are more diversified and enjoy the benefits of economies of scale, therefore, chance of financial distress are low for large firms (Titman and Wessels, 1988). Consequently, larger firms tend to hold less cash as compared to smaller firms. There exist significant positive relation between operating cash flow and firm's cash holdings

which is in accordance with the assumption of pecking order theory that more profitable firms build up the liquidity to maintain financial slack through their profits, thus, they prefer to keep cash reserves (Opelr et al., 1999; Ferreira and Villela, 2004). The cash level regression also found that growth opportunities affect the level of cash holdings positively, reason for this is the high degree of information asymmetry faced by growing firms and as pecking order theory suggests external funds are more costly for firms with high growth opportunities.

The significant positive impact of cash holdings on firm value leads to the acceptance of H_1 of the study. The explanation can be made that investors prefer maintaining sufficient level of cash by the firm, to avoid under investment problems when internal funds are insufficient and under situation when raising external finance is difficult as well as costly, consistent with precautionary motive of holding cash. This finding is also supported by the results of Chan et al. (2013) and Pinkowitz and Williamson (2006). Furthermore, Chan et al. (2013) also stated that firms save high level of cash for coping with current operating and future needs of investing due to the pressure exerted by costly external financing and investors understand this policy of hoarding cash and thus view it positively. It indicates that carrying some amount of cash can be valuable for firm but it is still needed to infer that under which conditions it holds. To clarify the beneficial effect of cash holdings for firms, interaction term was developed between actual cash holdings and corporate governance, the positive sign on its coefficient indicates that comparatively well-governed firms enjoy the benefits of increased cash holdings more than poorly-governed firms. It leads to the acceptance of H_3 of the study. Does the contribution of

corporate cash holdings to firm valuation depend on the corporate governance? is the important question on which this study based.

The notion of 'good governance instills investor confidence' is strengthen by the findings of this study. The impact of cash holdings and corporate governance on firm value provides that good governance maximizes the wealth of shareholders by dictating the reasonable amount of cash while value of cash holdings decreases in poorly governed firms due to higher conflict of interest (Harford et al. ,2008). When governance mechanism works well for the firms then it is more beneficial for controlling shareholders to increase shareholder wealth than to expropriate the rights of minority shareholders. In contrast, controlling shareholders of firms with poor governance system derive private benefits from their control at the expense of minority shareholders (Dyck and Zingales, 2004 and Nenova, 2003). It is expected that management of firms with weak-governance exploit the increased level of cash holdings and invest in negative-NPV projects (Kalcheva and Lins, 2007). Similarly, Harford et al. (2008) found that value destroying acquisitions are made in firms with poor shareholder rights by dissipating cash. Another reason for lowering of value of cash holdings in firms with weak governance is the extraction of private benefits by the large shareholders out of their control; pyramidal ownership structures are common in Pakistan which characterizes the dominance of business groups and shareholders with the enforcement of their control over firms. The low level of transparency and governance system in business groups and affiliated external shareholders' firms make expropriation of minority's rights easier as compared to non-group firms (Gani and Ashraf, 2005). Thus findings of the study

illustrate corporate governance as a driving force in enhancing the direct and positive impact of cash holdings on firm valuation.

In addition to the significant and positive impact of actual cash held by the firm on its value, cash in excess to the needs of operating and investment activities is also positively and significantly related to firm value. The possible explanation for the positive relation between excess cash holdings and firm value can also be that in countries where firms are highly leveraged little benefits can be extracted from the cash holdings. The reason for high worth of excess cash can also be the low level of financial development because investor would not want under investment in profitable projects. In Pakistan capital markets are not well developed which implies that transaction cost of raising external funds are higher therefore, holing of excess cash balances viewed as beneficial. Moreover, the negative and significant coefficient on interaction term of corporate governance and excess cash is not as expected and leads to the rejection of H_4 Similarly, the significant coefficient on corporate governance results in the acceptance of H_2 but its negative sign is not in accordance with the theory and previous literature. The reason for these unusual results can be the inefficiency of governance measures used to identify whether firm is well or poorly governed. It might be possible that apparent application and compliance with the corporate governance arrangements are not fully implemented in an organization.

These findings can be justified by the lack of proper implementation of visible adoption of corporate governance arrangements, as it is stated by Burki (2012) that because of

dysfunctional formal institutions and deep-rooted socio cultural driven business groups, family firms prefer those corporate governance practices which enlarge the existing social capital of the family firms and reduce uncertainty while give more reliability. Therefore, for family business running in the Pakistan social legitimacy is also equally substantial as economic efficiency. Moreover, they argued that family firms adopt governance mechanism in a way that doesn't affect their mutual social capital and relations with mainstream stakeholders. In addition to this, requirement of appointing professional managers is being fulfilled by family firms in Pakistan but the role of those managers is to implement policies instead of making them (Burki, 2012). Consequently, family firms adopt family oriented governance arrangements and other regulations and corporate governance elements imposed by formal institutions are just adopted as visible part of the structure but not the ingredients.

As, Pakistan is ranked 121 in governance based on eight categories provided by the Legatum Institute's prosperity index, 2014. This low ranking seriously points toward the failure of implementation of governance practices in Pakistan even after complying with various elements of the CODE. Thus the poor performance of various business sectors in Pakistan is mainly the outcome of governance problems. The proper implementation of code of corporate governance is required rather than just complying with the documentations and regulations.

These results can be explained on the basis of study performed by Paskelian and Nguyen (2010) who investigate the value of cash holdings of family firms in India and found that

investor value firms' cash holdings higher when firm has family ownership as compared to non-family firms. This study has significant implications for Pakistan because economical context of Pakistan is very close to India. As in Pakistan, majority of the businesses are family owned (Ghani and Ashraf, 2002) and most of the features related to family control businesses present in Indian firms are also seen in Pakistani firms. Hence, it can be assumed from the findings of Paskelian and Nguyen (2010) that investors in Pakistan may also assign higher marginal value to corporate cash holdings when higher insider ownership rest with the firms because of greater and easy access to financial markets due to various political and social influences and relatively low cost of capital faced by family firms. While on other hand, merely 15% of family firms are able to survive in Pakistan after 3rd generation because of lack of vision, low professionalism, transparency and documentation etc. (PICG, 2008). The main reason for this low performance in family businesses would be an Entrenchment effect. It is argued by Sheilfer & Vishny (1997) that firms' founders may remain on family firms' board even if they are not capable enough to be there. The governance of the firm might be overlooked by the family members when conflicts arise among members. According to the study of Ghani and Ashraf (2002), business groups are more involved in the expropriation of minority shareholders. Furthermore, in last few years the number of unlisted companies increased in Pakistan and most of them are family owned firms.Thus, performance of family owned enterprises goes down with their aging and this is the largest cost entail on minority shareholders by controlling shareholders.

Thus, this study also contributes by highlighting the major issue regarding the measures of corporate governance used in our country. It should be investigated that whether corporate governance measures used in capitalistic countries are also applicable to that extent in developing country like Pakistan. It is essential to find out specific and more relevant solutions to local problems of corporate governance pertaining to distinctive economic and institutional structures of firms in Pakistan. The findings suggest policy makers to keep into consideration the influence of informal institution (business groups and social networks) on corporate governance and business context of Pakistan while making policies.

5.2 LIMITATIONS AND RECOMMENDATIONS

Like other studies along with the benefits and information provided by this research work, few limitations are also attached. This study is unable to look beyond the numbers, as conclusions are made on the basis of quantitative data obtained on corporate governance practices and other variables but qualitative information and comments on whether members are fulfilling their roles and responsibilities not included. Hence, findings could be improved by collecting qualitative information on compliance with corporate governance practices through interview process because having desired processes, personnel and documentation in place only is not essential for good corporate governance but all these should operate effectively as well. Another reason for detailed and in depth data investigation is lack of its availability in published sources and

ambiguity related to various aspects of corporate governance like existence of INEDs, ownership of executive directors etc.

It is suggested that by collecting more accurate data and incorporating more variables to compute QCG index, results can be obtained with more reliability and accuracy. This may also support the key findings and highlight underlying issues which are not addressed in this research. Furthermore, subsequent developments and major economic events during the sample period 2008-2013 are also not taken into consideration in this analysis. As these factors may have impact on financial performance of the companies and on decisions whether to disgorge or accumulate cash. Further research is motivated by incorporating greater volume of data and adding more variables necessary to compute QCG. The effect of revised CODE (2012) should also be investigated on firm specific variables and financial quality reporting. The financial sector of the Pakistan covers almost one third of the total market capitalization of the listed securities, so examination of corporate governance mechanism in this sector is also encouraged. Along with the improvement of governance system in listed companies, authorities should also focus on improving the internal and external mechanism of governance operating in Non-listed companies (NLCs) of Pakistan. NLCs constitutes the major portion of business in Pakistan, with over 60,000 compared to only 604 listed companies on country stock exchanges[8](The Express Tribune, 2013).

8Karachi Stock Exchange (KSE), Lahore Stock Exchange (LSE) and Islamabad Stock Exchange (ISE).

REFERENCES

Abbas, S. A., Akitoby, M. B., Andritzky, M. J. R., Berger, M. H., Komatsuzaki, M. T., & Tyson, J. (2013).Dealing with high debt in an era of low growth. Number 13-17. International Monetary Fund.

Aftab, N. (2009). Essays in equity ownership: A case study of Pakistan. Dissertation.

Afza, T., & Adnan, M. (2007). Determinants of Corporate Cash Holdings: A case Study of Pakistan. Singapore Economic Review Conference (SERC), Organized by Singapore Economic Review, pp. 164-165.

Ammann, M., Oesch, D., &Schmid, M.M. (2011). Product Market Competition, Corporate Governance, and Firm Value: Evidence from the EU Area. *European Financial Management.*DOI: 10.1111/j.1468-036X.2011.00605.x

Azeem, M., Hassan, M., &Kouser, R. (2013). Impact of quality corporate governance on firm performance: A ten year perspective. *Pakistan Journal of commerce and Social Sciences, 7*(3), 656-670.

Azmat, A. (2011). Corporate Cash Holdings: A Growth and Mature Firm Perspective in Pakistani Context. 3rd International SAICON Conference.

Basheer, F. M. (2014). Impact of corporate governance on cash holdings: An empirical study of firms in manufacturing industry of Pakistan. *Innovative Space of Scientific Research Journals*, 7, pp. 1371-1383.

Baskin, J. (1987). Corporate Liquidity in Games of Monopoly Power.*The Review of Economics and Statistics, 69*(2): 312-319.

Bates, T.W., Kahle, K.M. &Stulz, R.M. (2006). Why do U.S. firms hold so much more cash than they used to?.*Journal of Finance, 64*(5), pp. 1985–2021.

Baumol, W. J., (1952). The transactions demand for cash: an inventory theoretic approach. *Quarterly Journal of Economics, 66*, 545-56.

Baysinger, B. D., & Butler, H. D. (1985). Corporate Governance and the Board of Directors: Performance Effects of Changes in Board Composition," *Journal of Law, Economics and Organization,* 1, pp. 101-124.

Bebchuck, L., A. Cohen, & A. Ferrell, (2009). What matters in corporate governance? *Review of Financial Studies, 22*, 783–827.

Bebchuk, L. (2002). The Case against Board Veto in Corporate Takeovers.*University of Chicago Law Review,* 69:973–1035.

Bebchuk, L., & Cohen, A. (2005).The costs of entrenched boards.*Journal of Financial Economics,* 78, 409-433.

Bebchuck, L., Cohen, A. ,& Ferrell, A. (2004). What matters in corporate governance, Harvard Law School working paper.

Berle, Adolf, & Gardiner, M. (1932).*The Modern Corporation and Private Property*.McMillan:New York.

Blanchard, O. J., F. Lopez-de-Silanes& A. Shleifer, (1994). What do Firms do with Cash Windfalls? *Journal of Financial Economics, 36*, 337-360.

Bokpin, G. A. &Isshaq, Z. (2009).Corporate governance, disclosure and foreign share ownership on the Ghana Stock Exchange. *Managerial Auditing Journal, 24*(7), pp.688 – 703.

Brennan, M., & Hughes, P. (1991).Stock prices and the supply of information. *Journal of Finance,* 46, 1665-1691.

Burki, U. (2012). Institutional voids and corporate governance: A conceptual understanding. International Journal of Business and management, 7(10), pp. 99 107.

Chan, H. W., Lu, Y., & Zhang, H. F. (2013). The effect of financial constraints, investment policy, product market competition and corporate governance on the value of cash holdings, Accounting & Finance, **53**, 339–366.

Cheema, A. (2003). Corporate Governance in Pakistan: issues and concerns. *NIPA Journal Karachi, 8*(2), pp. 07-18.

Chen, R. (2008). Corporate Governance and Cash Holdings: Listed New Economy versus Old Economy Firms. *Corporate Governance: An International Review, 16* (5), 430–442.

Chen, Y. R., & Chuang, W.T. (2008).Alignment or Entrenchment?Corporate Governance and Cash Holdings in Growing Firms," *Journal of Business Research,* 6:211–245.

Claessens, Stijn, Simeon Djankov, Joseph P. H. Fan, & Larry H. P. Lang, (2002).Disentangling the incentives and entrenchment effects of large shareholdings.*Journal of Finance, 57*, 2741–2771.

Collins, D., Rozeff, M., &Dhaliwal, D. (1981).The economic determinants of the market reaction to proposed mandatory accounting changes in the oil and gas industry. *Journal of Accounting and Economics*, 3, 37-71.

Cremers, M., & Nair, V. (2005).Governance Mechanisms and Equity Prices, *Journal of Finance* (forthcoming).

DeAngelo, H., &DeAngelo, L. (2007). Capital structure, payout policy, and financial flexibility. University of Southern California working paper.

Denis, D.J., &Sibilkov, V. (2010).Financial constraints, investment, and the value of cash holdings.*Review of Financial Studies*, 23, 247–269.

Diamond, D.W. (1984).Financial Intermediation and Delegated Monitoring.*Review of Economic Studies*, 51: 393–414.

Dittmar, A., &Mahrt-Smith, J., (2007).Corporate governance and the value of cash holdings.*Journal of Financial Economics, 83*, 599–634.

Dittmar, A., J. Mahrt-Smith, & H. Servaes, (2003).International corporate governance and corporate cash holdings.*Journal of Financial and Quantitative Analysis, 38*, 111-133.

Drobetz, W., Grüninger, M., &Hirschvogl (2009).Information asymmetry and the value of cash.FMA conference, Turin.

Duchin, R., (2010). Cash holdings and corporate diversification.*Journal of Finance, 65*, 955-92.

Dyck, A., &Zingales, L. (2004). Private Benefits of Control: An International Comparison. *Journal of Finance*, 59, 537-600.

Easterbrook, F., (1984).Two agency-cost explanations of dividends.*American Economic Review, 74*, 650–659.

Fama, E., & French.K. (1997).Industry Costs of Equity.*Journal of Financial Economics*, 93:153–94.

Faulkender, M., & Wang, R. (2006).Corporate Financial Policy and the Value of Cash.*Journal of Finance ,61*(4), pp. 1957–1990.

Fazzari, S.M., & Petersen, B. (1993). Working capital and fixed investment: New evidence on financing constraints. *Rand Journal of Economics,* 24, 328-342.

Ferreira, M.A. &Vilela, A.S. (2004). Why do firms hold cash? Evidence from EMU countries.*European Finance Management, 10*(2), pp. 295–319.

Frederiek, S., & Cynthia, V. H. (2012). Market Share and Cash Policy: Evidence from Western European Companies. *International Journal of Economics and Finance, 4*(11).

Fresard, L., (2010). Financial strength and product market behavior: The real effects of corporate cash holdings. *Journal of Finance, 64*, 1097-122.

Froot, K., Scharfstein, D., and Stein, J., 1993, Risk management: Coordinating corporate investment and financing policies, *Journal of Finance*, 48, 1624-1658.

Gani, W. I., &Ashraf , J. (2005). Corporate Governance, Business Group Affiliation, and Firm Performance: Descriptive Evidence from Pakistan. Lahore University of Management Sciences. (CMER Working Paper No 05-35).

Gill.A and Shah, C (2012). Determinants of Corporate Cash Holdings: Evidence from Canada. *International Journal of Economics and Finance*, 4(1).

Gompers, P., J. Ishii, & A. Metrick, (2003).Corporate Governance and Equity Prices.*Quarterly Journal of Economics, 118*, 107-155.

Guilford, J. P. (1956). *Fundamental statistics in psychology and education.* (3rd ed.). New York: McGraw-Hill.

Guney, Y., Ozkan, A. and Ozkan, N. (2003) Additional international evidence on corporate cash holdings.EFMA Helsinki meetings.

Han, S., &Qiu, J. (2007).Corporate precautionary cash holdings.*Journal of Corporate Finance.13*(1), pp. 43–57.

Harford, J., (1999). Corporate cash reserves and acquisitions.*Journal of Finance, 54*, 1969-1997.

Harford, J., Mansi, S. A., and W. F. Maxwell (2008), Corporate governance and firm cash holdings, Journal of Financial Economics 87, 535-555.

Hausman, J. A. (1978). *Specification Test in Econometrics*. Econometrics, 46: 1251-1271.

Hermalin, B., &Weisbach, M. (1991).The effects of board composition and direct incentives on firm performance.*Financial Management, 20*, 101–112.

Huang, P., & Zhang, Y. (2008). Does enhanced disclosure really reduce agency costs? Evidence from the value of corporate cash holdings and dividends.Working Paper.

Javid, A. Y., &Iqbal, R. (2010). Corporate Governance in Pakistan: Corporate Valuation, Ownership and Financing. Pakistan Institute of Development Economics (PIDE) Working Papers and Research Reports, 1-81.

Javid, A. Y., &Iqbal.R. (2009). Ownership Concentration, Corporate Governance and Firm Performance: Evidence from Pakistan. *The PakistanDevelopment Review,* 48:4.

Javid, A.Y., & Iqbal, R. (2006).Corporate governance and firm performance: evidence from Karachi stock exchange. *The Pakistan Development Review, 45*(4), pp. 947-964.

Jensen, M., (1986). Agency costs of the free cash flow, corporate finance and takeovers. *American Economic Review, 76*, 323–329.

Jensen, M.C., &Meckling, W.H. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics.3*(4), pp. 305–360.

John, T. A. (1993). Accounting measures of corporate liquidity, leverage, and costs of financial distress. *Financial Management Association International*, 22(3):91-100.

Kafayat, A., Rehman, K., &Farooq, M. (2014).Factors affecting corporate cash holdings of non-financial firms in Pakistan.*ActaUniversitatisDanubius, 10*(3), pp. 35-43.

Kalcheva, I., &Lins, K., (2007). International evidence on cash holdings and expected managerial agency problems.*Review of Financial Studies, 20*, 1087–1112.

Kalcheva, I, &Lins, K.V. (2004).International Evidence on Cash Holdings and Expected Managerial Agency Problems, Working Paper, University of Utah.

Keynes, J.M., (1936). The General Theory of Employment. In: Interest and Money. Harcourt Brace, London.

Kim, C., D. Mauer, & A. Sherman, (1998). The determinants of corporate liquidity: Theory and evidence. *Journal of Financial and Quantitative Analysis, 33*, 335-359.

Kuan, T. H., Li, C. S., & Chu, S. H. (2011).Cash holdings and corporate governance in family-controlled firms. *Journal of Business Research, 64*(7), 757-764.

Kusnadi, Y. (2011), "Do corporate governance mechanism matter for cash holdings and firm value?", *Pacific-Basin Finance Journal*, 19(5), 554-70.

Kusnadi, Y., & Wei, K., (2011). The determinants of corporate cash management policies: Evidence from around the world. *Journal of Corporate Finance, 17*, 725–740.

Kusnadi, Y. (2003). Corporate Cash Holdings, Board Structure, and Ownership Concentration: Evidence from Singapore. Working Paper, SSRN.

La Porta, R., Lopez-De-Silanes, F., Shleifer, A., &Vishny, R., (2000). Investor protection and corporate governance.*Journal of Financial Economics, 58*, 3–27.

La Porta, Rafael, Florencio Lopez-de-S., Shleifer, A., &Vishny, R. W. (1999). Investor protection and corporate valuation, NBER Working paper 7403.

Lee, K.W., & Lee, C.F. (2009).Cash Holdings, Corporate Governance Structure and Firm Valuation.*Review of Pacific Basin Financial Markets and Policies, 12*(03), 475-508.

Lins, K. V. (2003). Equity ownership and firm value in emerging markets. *Journal of Financial and Quantitative Analysis, 38*(1), 159-184.

Liu, Y., Muar, D.C. (2011), "Cash holdings and CEO compensation", *Journal of Financial Economics*, 102(1), 183-98.

Malik, F. M., & Shah, A. M. (2013). Value relevance of firm specific corporate governance and macroeconomic variables: *Evidence from Karachi stock exchange. Pakistan Journal of Commerce and Social sciences, 7*(2), 276 297.

Martinez, C., Garcia, P., & Martinez, (2013).Corporate cash holdings and firm value.*Applied Economics, 45*(2), pp. 161-170.

Masood, A., & Shah, A. (2014).Corporate governance and cash holdings in listed non-financial firms in Pakistan. Business Review, 9(2), pp. 48-73.

Mayer, C. (1990), "Financial systems, corporate finance, and economic development", in Hubbard, G.(Ed.), Asymmetric Information, Corporate Finance, and Investment, The University of Chicago Press,Chicago, IL, pp. 307-332.

McConnell, J., &Servaes, H. (1990).Additional evidence on equity ownership and corporate value.*Journal of Financial Economics*, *27*(2): 595-612.

Miller, M. H., & D. Orr.(1966). A model of the demand for money by firms.*Quarterly Journal of Economics, 80,* 413-35.

Mir, S. R. &Nishat, M. (2004).Corporate Governance Structure and Firm Performance in Pakistan– an Empirical Study.*Second Annual Conference in Corporate Governance*.University of Management Sciences, Lahore.

Moin, M (2008). Corporate governance in family owned companies. Retrieved from: http://www.picg.org.pk/feature.php

Myers, S. C. (1977). Determinants of Corporate Borrowing.*Journal of Financial Economics*, 5, 147-175.

Myers, S.C., &Majluf, N., (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics, 13*, 187 – 221.

Myers, S.C., & R. G. Rajan, (1998).The Paradox of Liquidity.*Quarterly Journal of Economics, 113*, 733-771.

Naqvi, A., &Ikram, A. (2004). Group Affiliation, Firm Performance and Corporate Governance in Pakistan: Evidence from the Textile Sector. LUMS-SEC Conference on Corporate Governance in Pakistan: Regulation, Supervision, and Performance. University of Management Sciences Lahore.

Nenova, &Tatiana, (2003). The Value of Corporate Votes and Control Benefits: A Cross Country Analysis. *Journal of Financial Economics,* 68, 325-351.

Ogundipe, L., Ogundipe, S., &Ajao, S., (2012). Cash holding and firm characteristics: evidence from Nigerian emerging markets. *Journal of business economics & finance, 1*(2), 45-58.

Opler, T., Pinkowitz, L., Stulz, R., Williamson, R. (2001).Corporate Cash Holdings.*Journal of Applied Corporate Finance,* 14, 55-67.

Opler, T., Pinkowitz, L., Stulz, R., Williamson, R., (1999).The determinants and implications of cash holdings, *Journal of Financial Economics, 52,* 3-46.

Ozkan, A., &Ozkan, N. (2004). Corporate cash holdings: an empirical investigation of UK companies. *Journal of Banking and Finance,* 28, 2103–2134.

Ozkan, A., &Ozkan, N. (2002). Corporate cash holdings: an empirical investigation of UK companies. http://papers.ssrn.com/

Paskelian, O.G., Bell, S., & Nguyen, C.V. (2010). Corporate governance and cash holdings: A comparative analysis of Chinese and Indian firms. *The International Journal of Business andFinance Research, 4(*4), 59-71.

P.I.C.G. (Pakistan Institute of Corporate Governance) (2008).The Corporate Governance Guide--- Family-Owned Companies. A Practical Guide to Corporate Governance "Governance Challenges for Family owned Businesses", Chapter 5, pp. 121-144.

P.I.C.G. (Pakistan Institute of Corporate Governance) (2007). A survey of corporate governance practices in Pakistan 2007. Retrieved from:http://www.picg.org.pk/admin/upload-report/Survey.pdf

Ping, T., Qing, S. C., & Li, S. (2011). Empirical Research on the Interactive Relationship between Cash Holdings and Corporate Performance of Listed Companies in China.In Management Science and Engineering (ICMSE).International Conference on IEEE, 938-949.

Pinkowitz, L., & Williamson, R. (2004). What is a dollar worth? The market value of Cash Holdings, Georgetown University working paper.

Pinkowitz, L., Stulz, R., & Williamson, R. (2006). Does the contribution of corporate cash holdings and dividends to firm value depend on governance? A cross-country analysis"*Journal of Finance, 61*(6), 2725-2751.

Pinkowitz, L., Stulz, R., & Williamson, R. (2003). Why do firms in countries with poor protection of investor rights hold more cash, working paper, NBER No.10188.

Qurat-ul-annAzmat, (2014).Fiem value and optimal cash level: evidence from Pakistan. *International Journal of Emerging markets, 9*(4), pp. 488-504.

Rizwan, M.F., &Javed, T. (2011). Determinants of corporate cash holdings: Evidence from Pakistani public sector. *Economics, Management and Financial Markets, 6*(1), 344-358.

Rozeff, M. (1982). Growth, Beta and Agency Costs as Determinants of Dividend Payout Ratios. *Journal of Financial Research, 5*, pp. 249-259.

Schauten, M., Dijk, D., & Waal, J., (2013).Corporate governance and the value of excess cash holdings of large European firms.*European Financial Management*, 19(5),991-1016.

Shah, A. (2011). The Corporate Cash Holdings: Determinants and implications. *African Journal of Business Management, 5*(34), 12939-12950

Shah, Z. A., & Butt, S., (2009). The impact of corporate governance on the cost of equity: empirical evidence from Pakistani listed companies. The *Lahore Journal of Economics, 14*(1), pp. 139-171.

Shleifer, A., &Vishny, R., (1997). A survey of corporate governance.*Journal of Finance, 52*, 737–783.

Smith, A. (1776). An Inquiry into the Nature and Causes of the Wealth of Nations.vol. 2.ed. 1.London: W. Strahan. Retrieved 2012-12-07.

Stiglitz, J., (1974). On the Irrelevance of Corporate Financial Policy.*American Economic Review*, 64, 851-866.

Stulz, R. (1990). Managerial discretion and optimal financing policies.*Journal of Financial Economics*, 26, 3-27

The Express Tribune (2013, September 18). Corporate transformation: Enhancing the success of family-run businesses. Retrieved from: http://tribune.com.pk/story/605692/corporate-transformation-enhancing-the-success-of-family-run-businesses/

Tian, G.Y., Twite, G. (2011), "Corporate governance, external market discipline and firm productivity", *Journal of Corporate Finance*,17(3),403-17.

Titman, S., &Wessels.R. (1988). The determinants of capital structure choice. *Journal of Finance*, 43, 1-19.

Whited, T. (1992). Debt, liquidity constraints, and corporate investment: Evidence from panel data. *Journal of Finance,* 47, 1425-60.

Zaidi, R. & Aslam, A. (2005). Managerial efficiency in family owned firms in Pakistan – An examination of listed firms. *CMER Working Paper Series,* pp. 6-51, available at: http://saber.eaber.org/node/22283

APPENDIX-A

Table
Definition of CGI measures

Symbol	Variable	Definition
$BIND_{jt}$	Board Independence	Independent directors divided by the total number of Directors
ACI_{jt}	Audit Committee Independence	Number of independent directors on the audit committee divided by the total number of directors on the audit committee.
$OWNCON_{j,t}$	Ownership Concentration	Percentage of total shares held by the top 5 shareholders divided by the total number of shares.
$MOWN_{j,t}$	Managerial Ownership	Percentage of total shares held by executive directors divided by the total number of shares.

CORPORATE GOVERNANCE INDEX
Scoring Criteria and their weights

	Range (%)	**Score**
Independence (Weight 55%)		
No. of independent executive directors (INEDs) in Board	0-20	1
	21-40	2
	41-60	3
	61-80	4
	80 and above	5
No. Of INEDs in Audit Committee	0-20	1
	21-40	2
	41-60	3
	61-80	4
	80 and above	5
Ownership structure (Weight 45%)		
Ownership Concentration	0-20	5
	21-40	4
	41-60	3
	61-80	2
	80 and above	1
Percentage of shares held by Board of Directors	0-20	5
	21-40	4
	41-60	3
	61-80	2
	80 and above	1

APPENDIX-B

Table
No. of sample firms from each sectors

Sr. No.	Sector	No. of companies
1	Textile	37
2	Sugar	9
3	Food Products	7
4	Chemicals & Pharmaceuticals	18
5	Other Manufacturing	2
6	Cement	12
7	Mineral Products	4
8	Motor Vehicles & Auto Parts	1
9	Fuel & Energy	1
10	Refined Petroleum Products	9
11	Paper Products	4
12	Electrical Machinery	4