

# **The Effect of Excess Cash Holding on the Value of the Firm and Stock Returns**

By

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**MASTER OF SCIENCE IN MANAGEMENT SCIENCES  
(FINANCE)**



**DEPARTMENT OF MANAGEMENT SCIENCES  
CAPITAL UNIVERSITY OF SCIENCE  
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A research thesis submitted to the Department of Management Sciences,

Capital University of Science and Technology, Islamabad

In partial fulfillment of the requirements for the degree of

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**Capital University of Science and Technology, ISLAMABAD**

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**CAPITAL UNIVERSITY OF SCIENCE & TECHNOLOGY  
ISLAMABAD**

**CERTIFICATE OF APPROVAL**

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# Certificate

This is to certify that Ms Sarah Zaheer has incorporated all observations, suggestions and comments made by the external evaluators as well as the internal examiners and thesis supervisor. The title of her Thesis is: “The effect of excess cash holding on the value of the firm and stock returns”.

Forwarded for necessary action

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## Abbreviation

V	:	Value of firm
R	:	Shareholder return
ECH	:	Excess Cash Holding
MV	:	Market value of shares
AC	:	Agency Cost ratio
CF	:	Cash flow Ratio
CAPEX:		Capital Expenditure Ratio
LTL	:	Long term Liability
P/B	:	Price to book ratio
EPS	:	Earnings per share ratio
TOBIN Q		Investment opportunity
FCF	:	Free Cash flow

## **Abstract**

Cash holding strategy is the most essential and difficult decision for the firm. Cash is the important guarantee to meet the business obligation hence it is highly related to the firms operation and development. Some researchers have found that due to the presence of agency problems excess cash is a reason for the declining value of the firm. The purpose of this paper is to study if excess cash impacts the value of the firm and stock return of the company. The data were taken from annual reports of ten years (2005-2015) of manufacturing companies listed on the Karachi Stock Exchange KSE Pakistan. Regression and correlation analyses are used to determine the effects of excess cash on firm value and stock returns. Least squares method used to estimate the effects of excess cash on the value of the firm. The outcome of this study indicates that excess cash is significantly negatively related to value of the firm. Jensen's free cash flow and agency cost theory has been used to justify this negative relationship between excess cash holding and the value of the company. Also, excess cash holding is significant and negatively related to stock returns. Therefore our results show that excess cash impacts value of the firm and stock returns materially. In addition, findings of this research would help managers to understand the effects of excess cash on value of firm and stock returns.

**Keyword:** Excess cash holding, enterprise value, stock return, agency theory, Jensen's free cash flow



# CHAPTER 1

## Introduction

Cash is the most liquid and the lowest profitable asset for firms. It is an essential guarantee for enterprise for meeting business requirements, pay back debt, obligation to pay tax and to perform other financial activities. Cash holding have always been an essential issue for the firms for decision making purpose. To determine the firm's cash holding policy is one of the most difficult problems in the financial field (Myers, 1996).The strong liquidity of cash can guarantee to meet the demand of firms' production and operating activities and reduce financial risk. Contrary to this the low liquid cash makes the company to bear certain holding cost. Too much of cash holdings possibly reduce the rate of return on investments as well as it evolves the self-interest behavior of management and controlling shareholders. Therefore it is very important to determine the correct level of cash holding and improve the value of the cash holding.

The strategy for cash holding is the most important financial decisions for the firms. Every company has its own corporate cash holding pattern. The impact of excess holding of cash on the value of the firm has been studied in this research paper. Holding high level of cash is either value creation or value destruction, which is the major concern of the investor. According to some researchers the firms who hold higher level of cash have a positive role in promoting enterprise value for the company as compare to the firms who comparatively hold less level of cash holding. Contrary to this the other group of researchers shows that the companies that have high levels of cash holdings tends to conduct activities that may lead to reduce value of the company. The second relationship which is being studied is the impact of the excess cash holding on the stock returns of the firms.

According to the argument of Keynes (1936), company holds cash mainly because of three reasons, first one is for transaction purpose, second is for precautionary purpose and thirdly for speculative purpose. Transaction purpose: Companies hold excess cash to create internal financing capacity as well as minimizing the cost of raising capital for making any investments. Precautionary purpose: companies hold excess cash to avoid any type of liquidity threat from the market, therefore by holding more cash firm create cushion against volatility in the market. Speculative purpose: Company store cash to take advantage of any unforeseen or unexpected opportunities in the future.

Those companies who have excess cash generally come under pressure from the investors to return the capital to shareholders as the excess level of cash may engage the management in the activities which are value destroying i.e. wrong investment decisions or poor takeovers (Harford, 1999). According Jensen (1986) managers may use cash reserves for their own use that is for consuming personal perquisites. The most important issue for the shareholders is the impact of excess cash reserves on the shareholder returns. Excess cash holdings are indication of past success but it will not reflect the high returns of the shareholders if left on the balance sheet. If there is excess cash with the company the managers may reduce it by investing on the value decreasing investments or for excessive perquisites which results in the lower returns of the shareholders.

Early studies have seen the impact on shareholder value indirectly by examining the use of excess cash by managers. The firms with excess cash flow keep extra cash inside the firm instead of distributing it to shareholders (Blanchard, Lopez-de-Silanes, and Shleifer, 1994). Except from the increasing payouts to the managers and target share repurchases from block holders, these activities normally becomes the reason for the decrease in shareholder value. Optimal level of cash holding is very important for the firms because cash holding makes the firms capable to pay its liabilities on specific time even in the economic downturns.

Pakistan is still a developing country and it has serious agency problems, inefficient corporate governance, weak protection of shareholders rights and undeveloped capital market. In Pakistan, not only shareholders and management layer have conflict of interest, but controlling shareholders and minority shareholders also have some serious conflicts of interests. To some extent, the conflict of interest between large shareholders and small shareholders has taken up a prominent position. These agency conflicts have made the cash holding problem more intense. European countries are highly developed countries and listed companies of these countries are under strict legal supervision and they have proper requirements for information disclosure. Therefore, on these countries' stock markets, agency problems are not the major problems and the level of investor protection and corporate governance are far better than Pakistan.

This paper mainly studies the content of two aspects. One is the relationship between excess cash holdings and enterprise value. The other is the relationship between excess cash holding and the shareholder value

### **1.1) Problem Statement**

Cash holding strategy is an important financial decision for firms. Corporate cash holding pattern is different from one company to another. Mostly companies hold high level of cash which has an additional cost. There is a need to study whether this cash holding affects the value of their company or not. The relationship of excess cash holding on the value of the firm has been studied. According to some scholars, excess cash holdings have a positive role in promoting enterprise value. Whereas the other group of researchers shows that companies holding high level of cash tend to conduct activities that may lead to reduce enterprise value. The relationship of excess cash holding and shareholder return has also been studied.

### **1.2) Research objectives**

The primary aim of this study is investigating the relationship between excess cash holding and the value of the firm as well as the impact of excess cash holding on the returns of the shareholder. More specifically, the study would try to answer the following research questions.

### **1.3) Research Questions**

- What is the Impact of the excess cash holding on the value of the firm
- Which factors enhance the relationship of excess cash holding and value of the firm
- What is the impact of the excess cash holding on the performance of the company's stock
- What factors enhance the relationship of excess cash holding and stock return of the company



#### 1.4) Theory and theorization

The theory which supports my topic is as discussed below

**Jensen's (1986) free cash flow and agency theory** was introduced by Jensen, it explains that managers hold excess cash to have incentives of increasing assets, to gain power and to gain control on the investment decision of a firm. If they have large amount of cash holdings then they don't need to raise external funds. It has a positive effect on shareholders investments. Cash holding is important for the smooth operation of the firm, it also have positive effect on policies of dividend payment, capital structure investments, assets management and cash flow management. This theory explains that for efficient operations of the firm, maintaining proper level of cash holding within the firm is essential. The level of cash holding of a firm is considered by its dividend payments policy, capital structure, cash flow management, Investment decisions and working capital requirements of the firm. The decision for holding specific level of cash is a core issue of the company's management, which depends on the daily operations of a company i.e. business payments, financing decisions, investment and other activities. Cash is the most liquid asset of a company; it is also an important requirement to make certain continuous operations.

**Agency theory** implies that there will be moral hazard, asymmetry of information and many problems due to the separation of management and ownership. Managerstry to avoid risk and care more about short-term interests rather than focusing on long-term interests of company and its shareholders, due to the conflict of interest between shareholders and manager, cash holdings of a company are the easiest assets that a manager can control so managers tend to hold cash for its own self-interest, which damages the interests of the company and results in decrease in the wealth of a company. It is being the current topic now e days. Hence all new literature is available for my thesis. Secondly all the previous work which has been done is not from this region. This topic is being covered in US, Taiwan, China, UK but still no work

is done in Pakistan. The reason why I choose this topic is the independent variables which I choose to work is not being used before therefore it is a unique topic.

**Pecking Order Theory** is introduced by Myers (1984) which states that firms finance their investment firstly by retained earnings and second priority is debt (safe debt and risky debts) and last stage of investment is equity. Management holds excess cash to avoid financing new investment through debt and equity, their priority is to finance the investment through retained earnings. When retained earnings are not enough in amount to make an investment, firms use the accumulated cash holdings and then issue debts when needed. This theory signals the public about its performance. If the management uses internal finances, it shows that it is in a strong position. If the company uses debt to finance its investment decisions, then it shows that the company is confident enough that it can meet its obligation to pay debt. When the company uses financing by issuing shares, it gives negative signals that the company overvalues its shares and makes money before its value decreases.

**Trade off Theory** states that firms set their optimal level of cash holding by measuring the marginal benefits and cost of cash holding. Due to the insufficient cash level and high cost of raising funds, the company is forced to let go of investment opportunities which are very important for the growth of the firm. The main benefit of holding cash is that the company creates a security buffer through which it can avoid liquidating its assets, and its cost of raising external funds to finance its own growth opportunity (Ferreira and Vilela, 2004). The main purpose to relate cash holding and reduce the financial disaster is to adopt the best possible investment policy in the environmental uncertainty. It's the management decision whether he wants to improve the wealth of the shareholder by distributing the cash dividends or to maintain an optimal level of cash holding to invest further for the growth of the company.

### **1.5) Significance of this topic**

It is being the current topic now e days. Hence all new literature is available for my thesis. Secondly all the previous work which has been done is not from this region. This topic is being covered in US, Taiwan, China, UK but still no work is done in Pakistan. This study will provide the opportunity to investigate whether or not the theories on excess cash holding prevail in Pakistan's market and help one to identify the major factors responsible for firm's cash holdings.

### **1.6) Contribution of the Study**

Cash asset has strong liquidity and firms holding a certain amount of cash can ensure the needs of production and management activities and reduce financial risk; on the other hand, cash holdings need to take cost because of low return of cash. In addition, excessive cash holdings will reduce the company's investment income and even lead to self-interest behavior of management and major shareholders. Therefore, it is important to find the appropriate level of cash holdings and improve cash holdings value. Excess cash holding behavior can reflect an enterprise's business strategy and financial strategy, but meanwhile, it is also affected by corporate governance, external macro economy and policy system. Cash holding policy is an important part of financial management of enterprises and it is highly related to budget management, strategic management and financial management. The change of cash holdings level directly affects the enterprise's flexibility. Therefore, suitable level of cash holdings is necessary for enterprises to avoid financial risk and it helps enterprises to adapt to macro environment. This study will help enterprises to know what methods they can employ to improve cash policy and enhance enterprise value. Thus, through this paper the effects of excess cash holding will be seen in the well-known companies in Pakistan which is never studied before.

This research paper is divided into six chapters which are described below;

Chapter 1: This chapter consists of the theme of a study, theory and theorization, significance, research objectives and identifying the gap in the previous studies.

Chapter 2: In chapter 2, I will explain the previous work which has been done by the researchers.

Chapter 3: hypothesis formulation has been done in this chapter on the basis of the literature explained in previous chapter. Four hypotheses has been made which are support by the literature

Chapter 4: In this chapter I have discussed the methodology of the data, the description and the sources from where the data has been used.

Chapter 5: The discussion of results has been done in this chapter. The interpretations of the tables and how they support my research

Chapter 6: In last chapter conclusion and recommendation have been discussed.

## **CHAPTER 2**

### **LITERATURE REVIEW AND HYPOTHESIS FORMULATION**

#### **2.1) Relation between excess cash holdings and the value of the firm**

The concern for economic effects of cash on business health rose in 1980 therefore related researches developed quickly leading to number of findings related to excess cash. In this literature review we give an overview of research work related to impact of excess cash on firm value. There are two different conclusions on the relationships between enterprise value and excess cash at present. Following are the conclusions drawn.

##### **2.1.1) Positive relation between excess cash and value of the firm**

There are many studies that have explored the effects of excess cash on firm value. Many of the theories are also related to impact of excess cash and corporate governance on value of the firm. Numerous researches suggest that excess cash holdings have positive effect in upraising the value of firm. Myers and Maljuf (1984) said that information asymmetry and transaction costs increase the cost of raising funds from external sources. Thus, excess cash is very valued in order to deal with the high cost issues created due to transaction costs and information asymmetry. Firms with high growth rate have inadequate investment and have poorer information asymmetry so they should sufficient cash.

Opler et al. (1999) examined that of US companies for the period of 1971-1994 to study the important factors that impact the corporate cash holdings. It was observed that firms with strong growth opportunities and riskier activities have to hold more cash; however firms with easy access to capital markets are likely to hold less cash. The study suggests that excess cash

has a short run effect on capital expenditure dividend payout to shareholders, and acquisition spending.

Mikkelson and Parch (2003) worked on the same topic by providing indirect proof of value of excess cash holdings using characteristics of high cash holding companies performance. They considered the performance of listed companies with cash holdings level more than 25% for five successive years and then combined it with other financial characteristics. They concluded that excess cash holdings enhance the enterprise value.

Pinkowitz and Williamson (2001) carried on with the similar studies and came up with the findings that one marginal dollar of cash holdings denote more than one dollar of market value for the enterprise. In addition they stated that company's cash holding value depends on many factors such as investment opportunities and conflicts between shareholders and creditors contrasting to the direct study of shareholder value of marginal cash holdings.

After the research results from different parts of the world, in 2006 Chinese researchers Peng Taoying and Zhou Wei empirically studied listed corporations data to get similar results. They worked on studies related to excess cash and its effects on enterprise value. Their end result was similar to others that excess cash holdings have positive effect on performance of the company. Other two Chinese researchers Zhang Zhaonan and Yang Xingquan (2009) studied the effect of corporate governance on cash holdings from the perspective of conflict of interest between controlling shareholders and other shareholders. Thus they found that cash holdings quantity and value of firm are positively correlated at 1% level of significance so, by improving corporate governance the market value of cash holdings can be increased. Later Tan Yanyan (2013) established from his work that excess cash can appreciate the value of firm from the angle of financial constraints. Also the value of excess cash held by private owned companies is considerably higher than that of state- owned organizations. Kusandi studied the data of listed firms of Singapore and Kuala Lumpur stock exchange to investigate the relationship between corporate level governance mechanisms and cash holdings alongside

their impact on firm value. He found that internal governance mechanisms are important predictors of corporate cash holdings. His findings also suggest firms with poor governance hold large amounts of cash and the results shows that holding of excess cash is negatively related to pyramidal ownership structure or family businesses. Eventually shareholders are inclined to pay less for firms which are likely to have severe agency problems.

Other two Chinese researchers Sun and Wang (2013) empirically tested the data of Chinese listed firms to study how market value of excess cash is affected by the corporate ownership structure. They established that state ownership affects positively which means the market value of excess cash is greater in state owned companies than that of privately owned companies. In private controlled firms expropriation by controlling shareholders is considerably higher than state owned firms. Thus their results were consistent with market views that controlling shareholders tend to extract private benefits related to cash reserves. Rehman and Wang (2015) analyzed the data of firms listed on Chinese Exchange for the period of 2001-2013 to study the adjustment of cash holding speed of firms and to find the factors that affect the corporate cash holdings. The end results show adjustment coefficients for Chinese firms is low as compared to companies in developed countries and the operating cash flow, size of the firm, net working capital expenditures and leverage are negatively related to cash holdings while growth is positively related to corporate cash holdings. Moreover they also found board independence has vague relationship with cash holdings but size of board shows a significant relationship with cash holdings of firms.

Sheikh and Khan (2016) tested the data of non-financial firms listed on Karachi Stock Exchange during 2008-2012 to investigate the effects of board attributes and insider ownership on corporate cash holdings and they found that insider ownership is negatively related while board independence is positively related to corporate cash holdings. They observed that family firms hold more cash as compared to non-family firms.

### **2.1.2) Negative relation between Excess cash and Value of the Firm**

There are also researches that indicate negative relationship between excess cash holdings and firm value. Harford (1999) found that companies holding large amounts of cash are expected to carry out activities that may lead to reduction in enterprise value like merger and acquisitions. The work mostly consists of decline of stock shares initiated by announcement of acquisitions and the decrease in company's operating performance after the acquisitions which mean that the value excess cash holdings could be less than its par value. Later Coude (2004) analyzed the data of 4515 companies of Canada, France, Germany, United Kingdom and United States during 1989-2002. The empirical results indicate a negative effect on firms operating performance. Schwetzler (2004) enhanced Mikkelson and Parch's work. He worked separately on the companies holding abnormal cash levels and found companies that hold excess cash for three consecutive years have worse operating performance. Moreover he also studied the relationship between firm value and cash holdings from the aspect of protection of managers' rights and shareholders. The findings also suggest that under the circumstances of weak protection of shareholders managers become more stable with control rights and their cash holdings are higher but firm value is comparatively low.

Faulkender (2006) analyzed the returns of excess stocks to determine the difference of marginal values caused by various financial policies and the impact of capital constraints on the values of cash. The results point that marginal value of cash will rise with the level of cash holdings and financial leverage. Meanwhile cash used for dividend payment will decrease the marginal value of cash if compared to stock repurchase.

Mikkelson and Parch (2003) studied the direct influence of excess cash holdings on operating performance of firm. Their research was centered on firms classified as 'persistent excess cash holders', defined as those firms who maintain cash levels greater than 25% of total assets for five consecutive years. They found that operating performance of a company is not



affected by persistent excess cash though changes in operating performance does not certainly indicate a change in shareholder value when investors expectations are factored in.

Faulkender and Wang (2008) examined the impact of excess cash on shareholder value but they did not study the relationship between the time period of cash held and shareholder value. They also find similar results that the marginal of cash decreases with large cash holdings.

In china also some researchers have established that cash holdings will leave a negative influence on the value of the enterprise. Chen Xuefeng and WengJuntu (2002) analyzed the companies with allotment of shares and examined the change in companies operating performance before and after the allotment of shares. They concluded that companies with large cash holdings have worse operating performance. Gong Kaisong and Song Shanshan (2006) worked on the data of Chinese listed corporations and used the classical enterprise value regression model to study the relationship between excess cash holdings and corporate value of listed corporations. They found a negative relation between excess cash holdings and enterprise value. In addition to this growth of the company has an effect on this relationship, the higher the growth of firm is, the weaker is the negative relation between the two. Thus, growth of firm improves the market value of excess cash. Later GuNaikang (2007) analyzed the value of cash holdings of firms listed in china from shareholders point of view. The results established that marginal value of one yuan of cash held by the companies is 0.5-0.6 yuan which is comparatively less.

### **2.1.3) Nonlinear relation between Firm Value and Cash holdings**

Over the years, researchers started to consider other internal and external factors while studying the relationship between cash holdings and firm value. Some scholars say that because of presence of information asymmetry and agency costs, cash holdings and firm value don't form a simple linear relationship.

Dittmar and Mahrt-Smith (2007) empirically tested the data of US firm for the period of 1990-2003 to find out how firm value is affected by corporate governance by paralleling the value and use of cash holdings in well and poorly governed firms. They reported that governances has material role in firms value through its effect on cash holdings. For example one dollar of cash is valued less in poorly governed firm i.e. 42 cents to 88 cents whereas good governance actually doubles this value. Moreover they also said that poorly governed firms' waste cash quickly in ways that lessen the performance of the company.

Tong zhenxu (2009) studied the impact of diversification of business on the value of cash holdings. The results showed that diversified companies have lower value of cash holdings as compared to less diversified companies. In the meantime, diversification reduces the value of cash holdings level of corporate governance is low, but relationship becomes insignificant if corporate governance level is high. Arslan (2006) examined the relationship of sensitivity of investment cash flow and financial constraints. The findings suggest that sufficient cash holdings are very helpful in case of financial distress, as the evidence suggests that sufficient cash holdings can increase the ability of company to catch more investment opportunities. Bates (2009) concluded maintaining high cash holdings are valuable for company during unstable capital market conditions.

Jiang Baoqiang and Bi Xiaofang (2006) analyzed the data of Chinese listed corporations to examine the relationship between excess cash holdings, enterprise value and performance. They found that agency cost would influence the relationship of enterprise value and excess cash holdings. The value of the firm is negatively correlated to excess cash holdings if agency costs are higher, but when agency cost are lower the value of firm becomes positively correlated to excess cash holdings. The relationship between the two is insignificant if cash holdings are below normal level. Wang Donghong and Haigang (2008) empirically tested the data of listed corporations in china and concluded that cash holdings and enterprise value have U type relationship. It infers that Chinese firms have information asymmetry and agency

problems. Information asymmetry theory plays a major role when cash holdings are limited therefore; retaining a sufficient amount of cash is beneficial to increase shareholders value. On the other hand if cash holdings increase up to a certain extent, the influence of agency problems becomes prominent and the company's value begins to decline. This is an indication that adequate excess cash holdings improves the value of firm, however too much of excess cash holdings results in decline of firm value.

## **2.2) Relationship between the excess cash holding and shareholders return**

We have seen the literature related to the shareholder returns and the excess cash holding. Positive and negative both relation have been seen in this literature through which two conclusion have been drawn. Theories related to the both conclusions have been discussed below.

### **2.2.1) Positive relation between excess cash and the shareholders return**

Recent studies have indirectly examined the effect of excess cash holding on the shareholder value i.e. examining the use of excess cash by the managers. The firms with the excess cash flow keep the extra cash inside the company rather than distributing it to shareholders (Blanchard, Lopez-de-Silanes, and Shleifer, 1994). This result in the increasing payouts to the managers as well share repurchases from the block holders. Such activity decreases the value of the shareholder. Harford (1999) identified the negative operating performance for the companies with high cash flows which causes the value destruction for the shareholders. Harford, Mansi and Maxwell (2008) later suggest that the firms with the excess cash and poor corporate governance spend cash quickly on the bad investments which affects the returns of the shareholders.

Gompers, Ishii, and Metrick (2003) tested the effect of excess cash holding on the performance of the company. They have taken the sample of the companies who are persistent excess holders. They defined persistent excess cash holders as the companies who had cash holdings more than 25% of the total assets for consecutively five years or more than that. According to their research they didn't find any impact of excess cash holding on the performance of the company, whereas change in performance of the company doesn't always change the share value of the company. Bebchuk, Cohen, and Ferrell (2005) also discover the

close relationship between the excess cash holding and the shareholder value but they didn't test the time frame of the excess cash to be hold by the company. As the large cash balances destroy the value of the company, they also find that with the large cash balances the marginal value of the cash also decreases. Bebchuk and Cohen (2005) discovered that the firms who have agency problem they have lower marginal value of cash. Oswald and Young (2008) examine the direct relationship of excess cash holding on the shareholder value also whether the length of the time in which excess cash is held for is another important factor in the destruction of the value of the shareholder.

Dittmar et al (2007) researched that for every book value of 1\$ cash holding, the market value decreased to 0.43\$ to 0.89\$ for those firms who have bad corporate governance. Contrary to this the firms who have good corporate governance the market value of the cash holdings are relatively twice of the firms with bad corporate governance.

Arslan (2006) find out the relationship between the financial restrictions and the limitations of the investment opportunities. His findings show that when economy is going down, the excess cash helps the firm to avail better investment opportunities and outperform the market. There is clear evidence that holding cash is an effective tool for the company, especially in the period of financial distress. Bates (2009) said keeping more cash is very helpful for the company at the time when external capital market is not stable. Fresard (2010) has found in his research that the companies who retain high level of cash as compare to their competitors are more profitable and their returns on asset is more better than the competitors. Some studies have shown that the companies who hold higher level of corporate cash have relatively more market share as compared to its competitor. Firm can gain the operational competitive advantage in every economic condition if the firm has some effective capital management (Vuorikari, 2012). This theory of Vuorikari sets the strategy, that the effective cash management can help the company to improve its financial performance in diverse market conditions. Opler, Pinkowitz, Stulz, and Williamson (1999) suggest that for the

companies who have large investment opportunities can hold larger amount of cash, these firms will have the positive effect on their financial performance.

The advantages of excess cash holding are directly related to the investment opportunities of the company, especially what type of investment opportunities the company avails. The firms who hold more cash can avail more investment opportunities without being restricted by capital, they have adequate capital both seen and unforeseen events like expansion of business, different market opportunities during crisis, decrease in stock price due to some bad news and so on (Ogundipe, Ogundipe, & Ajao, 2012). Excess cash holdings allow the firm to avail profitable investment opportunities that have a significant impact on the growth of the company whether it is for restructuring purpose or for availing new opportunities. Contrary to this, holding excess cash must be logical and it should be for some good reason so that it shouldn't have any negative impact on the performance of the company (Elkinawy & Stater, 2007).

### **2.2.2) Negative relation between excess cash and the shareholders return**

Jensen (1986) argued that excess cash holding is used in efficiently to gain private benefits due to the presence of insider discretions and other agency problems. Harford(1999) further support Jensen's theory by arguing that the firms who have excess cash are likely to invest more on the projects which are value decreasing like unrelated acquisitions or low returns investment. Kalcheva and Lins (2007) found that those countries that have strong shareholder protection laws place higher value on a dollar as compare to the countries that have weak shareholder protection law. Zwiebel (1995) give his suggestion on the basis of trade off model of cash holdings, that for the precautionary purpose company holds cash in order to avoid any shortage of liquidity cost. Kim et al. (1998) suggest that the excess cash would be harmful for the minority shareholders because of the insider discretion and other agency problems because it can be easily converted into private benefits. Cash which is held beyond

the optimal level is subject to insider discretion and other agency problems (Dittmar and Mahrt-Smith, 2007) hence it indicate that the excess cash holding will lead to decline the value of the firm and shareholder returns due to the wrong decisions of investment as well as self-interest of the managers.

The main means of communicating with the investor is the financial information which is being provided by the financial statements (accounting ratios, cash flow ratios, or ratios that create value for shareholders). Furthermore, researchers have tried to find the most significant and important ratios, which have an influence on stock performance, measured by changes in the price or by total return of the stock. Ball and Brown (1968) have proved the connection between the information which is being provided by the financial statements and stock price. Chen and Dodd (1997) explained that, EVA(economic value added) is the value based performance measure that represents the value creation by the management to the owners, offer more information than traditional ratios in explaining the overall performance but still must not replace traditional ratios such as Earnings Per Share (EPS), Return On Assets (ROA) or Return On Equity (ROE). Maditions et al. (2009) stated in their study the similar connection between stock return and EVA and the traditional ratios such as return on investments (ROI), ROE and EPS for the Athens Stock Exchange. The results of the test were the evidence that there is a greater association between stock return and EPS than ratios concerning creating value.

Modigliani and Miller (1958) stated that holding cash in perfect market does not make any difference because firms can raise the funds for an unpredicted low cash flow without any cost. Therefore, in such a scenario, holding low level of cash has no impact on interest rates and the wealth of the shareholder and it doesn't involve any opportunity cost. However, talking about the real world, for a firm it is costly to be short of cash and other liquid assets, and holding additional cash helps reducing potentially high interest rates and also useful in

any economic downturn. There are many reasons that can affect the decision of a firm to hold a high or low level of cash.

Iskandar-Datta and Jia (2014) recently find that corporate governance is also important factor for holding excess cash; the firms under weak governance hold less cash whereas firms operating under strong governance hold higher level of cash holding. Pinkowitz et al. (2006) has concluded that the worth of cash less when there are greater agency problems between inside and outside shareholders. Pinkowitz and Williamson (2004) maintain that the marginal value of cash is higher for a firm which has greater investment opportunities also they are more likely to adopting riskier investment strategies. The major reason that the excess cash holding of a company are valued less by the market is the reason that their managers may use excess cash in value-destroying activities (Harford, 1999).



## **Chapter 3**

### **Hypothesis Formulation**

Cash itself is one of the lowest worthwhile assets. When the business enterprise holds high quality extra cash, it indicates that the allocation of assets isn't always reasonable and the profitability of assets is decreased. At the same time, excessive cash holdings imply severe corporation issues, which mean that management can meet the needs of self-interest through unreasonable decisions. The unreasonable usages of excess cash holdings will harm company value. According to the present researches, La Porta and Silanes (2002) discovered that retaining a big sum of money is frequently associated with transaction cost, high management salaries, excessive investments, blind enlargement and different other behavior, which damages the interest of shareholders and investors. Kalcheva (2007) gave the evidence that enterprises with excessive cash holdings normally face the decline of firms' in operating performance and market price of these replicate that excess money holdings and enterprise price have negative relationship based on economic and institutional differences mentioned above, we expect the primary speculation.

On the bases of research results from worldwide, Chinese researchers use Chinese indexed corporation's information to do empirical studies and get comparable conclusions. Peng Taoying and Zhou Wei (2006) made relative researches about cash holdings and consequences of high levels of cash holdings on company value. As an end result, they also determined that excess cash holdings have tremendous impact to company's running performance. Zhang Zhaonan and Yang Xingquan (2009) analyzed the effect of corporate governance on cash holdings from the perspective of divergence of interest between controlling shareholders and other shareholders. As an end result, cash holdings quantity and

the price of organization have positive correlation at 1% level of significance, and with the aid of enhancing corporate governance surroundings it can appreciably improve the Chinese listed groups' market value of cash holdings. Tan Yanyan (2013) found that extra cash holdings can enhance enterprise value from the view of financial constraints, and the price of excess cash held by private organizations is appreciably better than that of nation-owned establishments.

*H1: Companies' excess cash holdings have an impact on enterprise value.*

Harford, Mikkelson and Partch (2003) studied the effects of cash reserves on corporate investment and performance during and after industry downturns and how cash reserves affect operating performance through their effect on spending following the downturn. They define downturn as when the substantial majority of firms within an industry experience large decline in sales following a period of growth in sales. To be more precise two conditions had to be met. Firstly, 75% of all the firms within an industry had to experience decline in sales and secondly the median of the sales decline for the firms had to be at least one standard deviation of median annual change in sales growth for the industry during the period 1980-1998. Their final sample consisted of 642 firms throughout eight industries. Their findings conclude that firms with higher cash levels are able to invest more during downturns compared to their peers and that those investments improve operating performance.

The relationship of excess cash and stock returns was the concern of Simutin (2010). To get a measure of excess cash he utilises the findings of Opler et al. (1999) as a base for his regression model. The research duration of his observe included a far longer period than preceding studies had used earlier than, 1960-2006. Simutin's results display a strong relationship between future inventory returns and extra cash holdings. Contrary to the instinct that cash would be extra precious at some point of downturns he finds the opposite to be true. Firms with higher excess cash levels perform worse than their low excess cash peers.

Furthermore he reveals that future investments are strongly and definitely correlated to extra cash.

Most studies focus on the agent problem caused by the holding of excess cash, useless management, and shareholders dissatisfaction. Jensen and Meckling (1976) proposed managers should return excess cash to shareholders and lift enough debt to distribute money. Vermilion (1981) proposed repurchasing stocks to growth shareholders' capital benefit. Jensen (1986) proposed the agent problem is due to excess free cash flow. A company may want to maintain more cash for financing functions or distribute excess cash to shareholders to reduce the excess liquidity of cash. Lehn & Poulsen (1989) proposed the merging of debt via the use of the excess cash to solve the agent problem.

*H4: Companies' excess cash holdings have an impact on its stock value.*

## CHAPTER 4

### METHODOLOGY AND DATA DESCRIPTION

#### (4.1) Data

This paper empirically investigates the effects of excess cash holding on the value of the firm and stock returns of the company. The sample set consists of 100 companies which are listed in Karachi stock exchange (KSE). 10 years data have been taken for each company. Panel data have been taken from the audited annual reports of the companies listed in KSE. I have found the stock price from the KSE publications. Data of manufacturing firms have been taken. I have target four industries that are cement industry, sugar industry, chemical industry and food industry. These industries were being selected on the basis of the availability of data. Microsoft excel has been used for data collection and variables calculation and the statistical software Eviews 8.0 has been used for multiple regression and correlation.

#### (4.2) Variables

In my research I have studied the relationship of excess cash holding with two dependent variables that is value of the firm (VoF) and stock returns (R) of the company. The proxy for the variables used in this paper is on the basis of the literature which I have done earlier and mentioned as follows.

Dependent Variables	Proxy	Calculation
Value of the company	$V_{i,t}$	Ratio of market value of

		shares + book value of total liabilities to net assets.
Return of the company	$R_{i,t}$	Ratio of (new market value of shares – previous market value of shares) / previous market value of the shares
<b>Independent Variable</b>	<b>Proxy</b>	<b>Calculation</b>
Excess cash holding	$ECS_{i,t}$	Cash and cash equivalents – current liabilities + (Current Assets – Cash and cash equivalents)
Cash flow ratio	$CF_{i,t}$	Ratio of Cash flow to Total Assets
Capital expenditure ratio	$CAPEX_{i,t}$	Ratio of Capital expenditure to Total assets
Long term liability	$LTL_{i,t}$	As reported value from annual report has been taken
Price to book ratio	$PB_{i,t}$	Ratio of price per share to book value per share
Earnings per share	$EPS_{i,t}$	Ratio of Net income to total number of shares
Investment opportunities	$TOBIN Q_{i,t}$	Ratio of Enterprise value to total assets

**(4.3) Equation for the excess cash and the value of the firm:**

To check this relationship I have used least square method to check the relationship of excess cash holding on the value of the firm accompanied with other variables. I formed the linear equation on the basis of the literature review which I have done in the previous chapter and test those factors which plays an important role in the value of the firm.

$$V_{i,t} = \beta_0 + \beta_1(ECH_{i,t}) + \beta_3 AC_{i,t} + \beta_4 CF_{i,t} + \beta_5 CAPEX_{i,t} + \beta_6 LTL_{i,t} + \varepsilon_{i,t}$$

**(4.3.1)**

Where  $V_{i,t}$  is the dependent variable in the equation which is value of the  $i$  company in time  $t$  and it is measured by the ratio of market value of the equity and total book value of liability to net assets. We have taken net assets by subtracting cash and cash equivalents from total assets. Value of the company is defined as the total worth of the company. It is also being calculated by the market capitalization but it also depends on the capital structure of the company. As in my research I have taken the companies with mix capital structure therefore I have also added the debt in the value of the company.

$$V_{i,t} = (\text{Market capitalization}_{i,t} + \text{Total Liabilities}_{i,t}) / \text{Net assets}_{i,t} \quad (4.3.2)$$

The independent variable  $ECH_{i,t}$  is the excess cash holding of  $i$  company in time  $t$ . There different proxies which have been used by the researchers but I have used the widely used calculation method of ECH i.e. by subtracting current year working capital from average working capital of the industry. The excess cash can harm the value of the company if it's not managed properly. It also results in the decreased returns on assets

$$ECH = \text{Cash and cash equivalents} - \text{current liabilities} \dots \dots \dots (i)$$

Company needs cash to fulfill its short term obligation. Cash is not the only short term item which is used to pay the obligation there are other short term assets which can be easily convert into cash and use to pay the short term obligation. Hence non cash current assets must also be included in the excess cash.

$$\text{Non cash current assets} = \text{Current Assets} - \text{Cash and cash equivalents} \dots\dots\dots (ii)$$

Adding non cash current assets in equation (i)

$$\text{ECH} = \text{Cash and cash equivalents} - \text{current liabilities} + \text{Non cash current assets} \dots (iii)$$

By putting the values of non-cash current assets in equation (iii)

$$\text{ECH} = \text{Cash and cash equivalents} - \text{current liabilities} + (\text{Current Assets} - \text{Cash and cash equivalents})$$

The independent variable **CF**<sub>i,t</sub> is the cash flow ratio which the efficiency ratio which shows the ability of the company to generate the cash on the basis of its asset. When the company is generating more cash from the more agency problem will occur therefore it is also taken as an independent factor in the equation. In low growth firms the increase cash flow volatility, decrease the average level of investments by the firms (Minton and Schrand, 1999). Hence in the low growth firms the increasing cash flows engage the managers into non value maximizing activities. It is calculated as:

$$\text{CF}_{i,t} = (\text{Cash flows from operating activities})_{i,t} / \text{Total Assets}_{i,t} \quad (4.3.5)$$

The independent variable **CAPEX**<sub>i,t</sub> is the capital expenditure ratio of i company in time t, which is being calculated by capital expenditure to total assets. In two ways the capital expenditure would affect the value of the company, if the company has consistent capital expenditure or this ratio is consistent in the company it represents the company has old assets which needs to be replaced. The consistent ratio shows the company is not working for its growth which affects the profitability and value of the company. On the other hand if we see the inconsistent ratio this shows company is investing for its growth purpose by increasing its capacity which results in the increase in the value of the company.

$$\text{CAPEX}_{i,t} = (\text{capital expenditure})_{i,t} / \text{Total Assets}_{i,t} \quad (4.3.6)$$

The independent variable  $LTL_{i,t}$  is the long term liability of the  $i$  company in time period  $t$ . It is being discussed by many researchers that long term debt has the positive relation in increasing the productivity of the company. Due to long term debt the investment decisions of the company can also be enhanced. As this factor directly affects the value of the company hence I have added this long term liability in my equation as well. I have taken as reported values from the annual reports of the companies which I have selected. To keep data and results consistent I have used natural log of long term liabilities.



#### (4.4) Equation for the excess cash and shareholder returns

The second regression equation which I have used is to check the relationship of excess cash with the shareholder return of the company. The variables and the proxy which is being used in this equation are based on the literature review which has been done in the previous chapter.

$$R_{i,t} = \beta_0 + \beta_1 ECH_{i,t} + \beta_2 P/B_{i,t} + \beta_3 EPS_{i,t} + \beta_4 \text{Tobin } Q_{i,t} + \varepsilon_{i,t} \quad (4.4.1)$$

Shareholder return  $R_{i,t}$  is the dependent variable of the equation which represents the return of the  $i$  company in time period  $t$ . It is being calculated by subtracting the previous market value of shares from new market value of shares and it is being divided by the previous market value of shares. The increasing return of the company shows the profitability of the company. The prime purpose of any business is to improve the wealth of the shareholders. It is being calculated as follows

$$R_{i,t} = (\text{new market value of shares}_{i,t} - \text{previous market value of shares}_{i,t-1}) / \text{previous market value of shares}_{i,t-1} \quad (4.4.2)$$

The independent variable  $ECH_{i,t}$  is the excess cash holding for  $i$  company in time period  $t$ . It is measured in a same way as mentioned above.

The independent variable price to book ratio  $P/B_{i,t}$  represents the ratio of  $i$  company in time period  $t$ . It is being calculated by the ratio price per share to the book value per share. This ratio affects the return of the company, as the price to book ratio is high the shareholder returns will also be high but if the price to book ratio is low the shareholder returns will also be low. Hence this ratio has a positive relation with the returns of the shareholder.

$$PB_{i,t} = \text{price per share}_{i,t} / \text{book value per share}_{i,t} \quad (4.4.3)$$

Where book value per share is defined as the ratio of total equity $_{i,t}$  to total number of shares $_{i,t}$ .

The independent variable  $EPS_{i,t}$  is the earning per share ratio of I company in time period t. It is being calculated by the ratio net income to the total number of shares. When the investor wants to invest the money he always looks at the financial performance of the company. This ratio measures the managerial efficiency and directly affects the stock price of the shares. High earnings per share ratio represents that investor will have the high income opportunity in the company therefore he will buy and hold the stock.

$$EPS_{i,t} = \text{Net income}_{i,t} / \text{Total number of shares}_{i,t} \quad (4.4.4)$$

The independent variable Tobin Q  $Q_{i,t}$  stands for the investment opportunity of the  $i^{\text{th}}$  company in time period t. the investment opportunity explains the growth opportunities and the choices of alternative investments for the company in future.

$$\text{Tobin } Q_{i,t} = \text{Enterprise value}_{i,t} / \text{Total Assets}_{i,t} \quad (4.4.5)$$

## CHAPTER 5

### RESULTS AND ANALYSIS

#### 5.1 The relationship of excess cash holding on the value of the company

As discussed in the previous chapter the companies having excess cash holding directly affect the value of the company as both positives and negative relationship have been found in the literature. When the company holds excess cash this shows that the company did not allocate its resources properly therefore the profitability of asset will also be reduced. Due to excess serious agency problem take place where manager take decisions for own self-interest rather than then increasing the value of the company. In this chapter I have check this relationship along with the other independent variables whether it has positive or negative effect on the value of firm.

##### (5.1.1) Descriptive statistics

The descriptive data related to the excess cash and value of the firm is as under. In this table the variables related to equation (4.3.1) has been taken which is mentioned in previous chapter. To keep the data consistent and smoothened I have taken the natural log on the both side of the equation, it makes the data easily manageable and consistent for the analysis. As in the equations some values were in percentages and some of them were in rupees. Hence by taking the natural log data, it is expected that more accurate results will be seen.

$$V_{i,t} = \beta_0 + \beta_1 (ECH_{i,t}) + \beta_3 AC_{i,t} + \beta_4 CF_{i,t} + \beta_5 CAPEX_{i,t} + \beta_6 LTL_{i,t} + \varepsilon_{i,t}$$

**Table 1a (4.3.1)**

<b>Variable</b>	<b>Obs.</b>	<b>Mean</b>	<b>SD</b>	<b>Minimum</b>	<b>Maximum</b>	<b>C.Variation</b>
V	1133	1013532138	1439505844	29457230	5409810467	1.4203
ECH	1133	60087434	58393276	-600041	189001233	0.9718
AC	1133	0.1280	0.1430	0.0191	0.2284	1.1180
CF	1133	0.0720	0.0930	0.0189	0.1250	1.2917
CAPEX	1133	0.1352	0.1101	0.0241	0.3457	0.8143
LTL	1133	4471590203	4921951735	566358000	8376822000	1.0801

In the above table for the year 2005 to 2015 the average value of the firm is 1013532138 which vary between the minimum and maximum range of 29457230 to 5409810467 with standard deviation 1439505844. The average value of excess cash is too low because it has negative observations as well when the companies were running short of cash as well i.e. 60087434 which vary between the minimum and maximum range of -600041 to 189001233 with standard deviation 58393276. The average value of the agency cost ratio is 0.1280 which vary between the minimum and maximum range of 0.0191 to 0.2284 with standard deviation 0.1430. The average value of the cash flow ratio is 0.0720 which vary between the minimum and maximum range of 0.0189 to 0.1250 with standard deviation 0.0930. The average value of the capital expenditure ratio is 0.1352 which vary between the minimum and maximum range of 0.0241 to 0.3457 with standard deviation 0.1101. The average value of the long term

liability is 4471590203 which vary between the minimum and maximum range of 566358000 to 8376822000 with standard deviation 4921951735.

The right column of the above table shows the coefficient of variation ( $CV = S.D/Mean$ ). The value tells the variations in the observations over the period of time (2005-2015). It tells the level of dispersion around the mean. The variation in all the observation is quite high except from the variation of excess cash holding and capital expenditure ratio.

### (5.1.2) Correlation analysis

Correlation analysis shows the strength of the relationship between the variables. In this analysis I have checked the relationship between the dependent and independent variables. There are some variables which have positive relationship with the value of the company and some have negative relationship with the dependent variable.

**Table 1b**

Variable	V	ECH	AC	CF	CAPEX	LTL
V	1.00					
ECH	-0.2910***	1.00				
AC	0.4796**	0.2173***	1.00			
CF	-0.112	0.5377**	0.2401***	1.00		
CAPEX	-0.1203	-0.1574	0.2004***	0.3611***	1.00	
LTL	0.2860***	-0.3347***	-0.2791***	0.01394	-0.03641	1.00

\* \*\* \*\*\* Significant at 1% 5% and 10% level respectively

The excess cash holding is negatively related to the value of the company but it is significant with a weak correlation. Agency cost is positively related to the value of the company as well as it has a significant effect on the value of the company where as it has a positive relationship also with the excess cash holding and market value of the company with 10 and 5 percent respectively. Cash flow ratio is negatively related to the value of the company also it is insignificant. It has a significant positive impact on the excess cash holding variable. Capital expenditure ratio is negatively related to the value of the company and the excess cash holding but it is insignificant. Long term liability is significant and has a positive impact on the value of the company and it is negatively related to excess cash holding.

Many researchers have argued about the correlation of excess cash and value of the company. In pecking order theory Mayer and Majluf (1984) explained that there is an optimal level of cash for every company. According to them floating equities in the market would be costly hence for financing and investing purpose managers hold cash but contrary to this Jensen (1986) stated that holding cash in a large amount involve excessive cost and it doesn't provide any benefit from financial activities. Therefore according to our results we can see that although managers hold cash for their feasibility but it decreases the value of the company.

### (5.1.3) Regression analysis

It is a statistical process for estimating the relationship of dependent and independent variable which is used in the above equation

**Table 1c**

<b>Dependent variable</b>	$V_o$			
<b>Independent variables</b>	<b>Coefficients</b>	<b>Standard Error</b>	<b>T-Statistic</b>	<b>Prob.</b>
<b>C</b>	0.00876	0.05336	0.086664	0.9311
<b>ECH</b>	-0.29720	0.02165	-13.7350	0.0000
<b>MV</b>	0.06138	0.02490	2.965350	0.0033
<b>AC</b>	0.00107	0.00282	0.377217	0.7063
<b>CF</b>	-0.04222	0.00977	-4.32341	0.0000
<b>CAPEX</b>	-0.25350	0.05551	-4.566215	0.0000
<b>LTL</b>	0.00924	0.0371	2.493716	0.0131
<b>R<sup>2</sup></b>	0.76394	<b>F – Statistic</b>		15.22435
<b>Adjusted R<sup>2</sup></b>	0.71346	<b>Prob. (F – Statistic)</b>		0.0000
<b>Obs.</b>	1133	<b>Durbin Watson Stat</b>		1.859129
<b>Hausman Test</b> $\chi^2$	52.63921	<b>Prob. (Hausman test)</b>		0.0000



The above table is the regression analysis of the equation (4.3.1). In this analysis we can see that all the variables are significant to the independent variable i.e. value of the company. From the results we can see that 71% percent of the variation in the regression equation is due to these variables. The Durbin Watson test is the statistical test which shows the no auto correlation between the data. If it is between the ranges of 1.5 - 2 it shows that the data has no auto correlation. In our results it is 1.85 which shows that there is no auto correlation in the present data set. Excess cash holding is negatively related to the value of the company and it has a significant impact on the value of the company. When the company hold excess cash it causes the agency problems accompanied with the wrong investment decisions which causes decrease in the value of the company. The market value of the shares and long term liability are highly significant and has a positive relation with the value of the company. The reason for this high significance may be that these two variables collectively made the value of the company. Capital expenditure ratio has a negative relation with the value of the company as the ratio increases the value of the company decreases this shows that when the company spends more on its assets for growth purpose the value of the company increases but if the capital expenditure occurred just for the maintenance of assets then the value of the company decreases.

According to the regression and correlation analysis we can say that excess cash holding has a negative effect on the value of the company. We can justify these phenomena with the help of agency theory in which managers take decision in order to avoid risk and make inappropriate decisions for their self-interest. Holding ideal cash encourages the managers to make over investment or investments which are not value increasing therefore as a result value of the firm decreases. In western countries may be the holding of excess cash may increase the value of the company because of their effective corporate governance but in Pakistan poor corporate governance causes the agency problems in the organization.



## **5.2) the relationship of excess cash holding and the shareholder returns**

Harford Mikkelson and Partch (2003) said that during the economic down turns having excess cash is beneficial for the company which results in high operating profits and growth opportunities therefore excess cash holding has a positive relationship with the investments. According to them the performance of the company increases more than they have spent. Apart from the downturns this positive relationship is not very strong. Simutin (2010) however finds the other relation true. The performance of the firms with high excess cash levels was worse during downturns as compared to their competitors but they perform better with their low cash competitors during periods of growth. Due to inconsistent findings in previous papers there is a need to establish more reliable results that will give better understanding as to whether excess cash translates into positive or negative returns for the firms' stockholders.

The advantages of excess cash holding are directly related to the investment opportunities of the company especially what type of investment opportunities the company avails. The firms who hold more cash can avail more investment opportunities without being restricted by capital they have adequate capital both seen and unforeseen events like expansion of business different market opportunities during crisis decrease in stock price due to some bad news and so on (Ogundipe Ogundipe & Ajao 2012).

### **(5.2.1) Descriptive statistics**

The descriptive statistics of excess cash and shareholder returns is as under. In this table the variables related to equation (4.4.1) has been taken which is mentioned in previous chapter. Where ECH is excess cash holding P/B is the price to book ratio EPS is earnings per share and Tobin Q stands for investment opportunity.

$$R_{it} = \beta_0 + \beta_1 ECH_{it} + \beta_2 P/B_{it} + \beta_3 EPS_{it} + \beta_4 \text{Tobin } Q_{it} + \varepsilon_{it}$$

To keep the data consistent and smoothened I have taken the natural log on the both side of the equation it makes the data easily manageable and consistent for the analysis. As in the equations some values were in percentages and some of them were in rupees. If the comparing value will be in the same form it will show the better results and it is easy to handle. Hence by taking the natural log data it is expected that more accurate results will be seen.

**Table 2a**

Variable	Obs.	Mean	SD	Minimum	Maximum	C.Variation
R	1133	0.1461	0.1912	0.0261	0.3915	1.3087
ECH	1133	60087434	58393276	-600041	189001233	0.9718
P/B	1133	2.9810	1.2721	1.0373	3.6512	0.4267
EPS	1133	0.1312	0.2418	0.0263	2.8104	1.8430
Tobin Q	1133	1.7763	0.0853	0.5419	4.5027	0.0480

In the above table for the year 2005 to 2015 the average value of shareholder return is 0.1461 which vary between the minimum and maximum range of 0.0261 to 0.3915 with standard deviation 0.1912. The average value of excess cash is too low when the companies were running short of cash as well i.e. 60087434 which vary between the minimum and maximum range of -600041 to 189001233 with standard deviation 58393276. The average price to book ratio of the shares is 2.981 which vary between the minimum and maximum range of 1.0373 to 3.6512 with standard deviation 1.2721. The average earning per share ratio of the shares is

0.1312 which vary between the minimum and maximum range of 0.0263 to 2.8104 with standard deviation 0.2418. The average value of Tobin Q that is investment opportunity is 1.7763 which varies between the minimum and maximum range of 0.5419 to 4.5027 with standard deviation 0.0853.

The right column of the above table shows the coefficient of variation. The value tells the variations in the observations over the period of time (2005-2015). It tells the level of dispersion around the mean. The variation in all the observation is quite high except from the variation of excess cash holding. The values of coefficient of variation for price to book ratio and Tobin Q are less than 0.5. The coefficient of variation has been calculated by dividing standard deviation by mean of each variable.

## Correlation analysis

**Table 2b**

Variable	R	ECH	P/B	EPS	Tobin Q
R	1				
ECH	-0.2284***	1			
P/B	0.9728*	-0.0137	1		
EPS	0.6512**	-0.3612***	0.4286**	1	
Tobin Q	0.8951*	0.5218**	0.2725***	0.3861***	1

\* \*\* \*\*\* Significant at 1% 5% and 10% level respectively

As we can see from the above correlation table excess cash holding is negatively related to the shareholder returns i.e. as the company starts to store its cash the returns of the company decreases. Price to book ratio is strongly correlated to the shareholder returns but it is negatively correlated to the excess cash holdings. Earnings per share is positively correlated to the returns of the shareholder but it is negatively correlated to the excess cash holding where as it is positively correlated to price to book ratio. Investment opportunity is strongly correlated to the returns of the shareholders as there as more good opportunities the market value of the share starts to increase. Investment opportunities and excess cash holdings are also positively correlated. When the company has excess cash it is able to avail the good investment opportunities where as if the company is running short of cash it is not able avail the expensive and profit making opportunities. Investment opportunity is positively correlated

to the price to book ratio as well as earning per share of the company. According to the table of correlation excess cash holding is significantly correlated to all the variables except price to book ratio where it has a negative relation but it is insignificant.

## Regression Analysis

**Table 2c**

<b>Dependent Variable</b>	<b>R</b>			
<b>Independent variables</b>	<b>Coefficients</b>	<b>Standard Error</b>	<b>T-Statistic</b>	<b>Prob.</b>
C	0.495	0.055	9.182	0.000
ECH	-0.296	0.147	-2.024	0.045
P/B	0.150	0.063	2.418	0.017
EPS	0.043	0.016	2.833	0.006
Tobin Q	-0.600	0.023	-26.741	0.000
<b>R<sup>2</sup></b>	0.8004	<b>F – Statistic</b>		25.90
<b>Adjusted R<sup>2</sup></b>	0.7992	<b>Prob. (F – Statistic)</b>		0.0001
<b>Obs.</b>	1133	<b>Durbin Watson Stat</b>		1.7642
<b>Hausman Test <math>\chi^2</math></b>	10.794767	<b>Prob. (Hausman Test)</b>		0.0045

From the above table we can see that all the independent variables are significant to the independent variable. Excess cash holding has a negative relation with the stock returns which our agency theory also suggests. Due to conflict of interest management take decisions which may harm the returns of the shareholders. Investment opportunity is also negatively related to the stock returns. Due to excess cash holding there might be some over investments which is done by some companies which also affects the result. The value of R<sup>2</sup> is 0.800 which shows that these variables cause 80% variation in the regression equation. The Durbin Watson test is the statistical test which shows the auto correlation between the data. If it is between the ranges of 1.5 - 2 it shows that the data has no auto correlation. In our results it is



1.7642 which shows that there is no auto correlation exists in the present data set. Price to book ratio and Earning per share is significant and positively related to the stock returns as these increasing ratios also cause increase in the market value of the share.

## **Chapter 6**

### **Conclusion and Recommendations**

The main purpose of this paper is to investigate the effect of excess cash on the value of the firm and the stock return of the company. Empirical results indicate that excess cash is negatively related to firm value. The negative relationship of excess cash and value of the firm may be due to conservative financing policy adopted by the managers due to unpredictable economic condition in the country. Therefore holding excess cash than optimal level of cash motivates the managers to invest it at below the cost of capital or waste it on the inefficiencies of the firm rather than use productively which in turn negatively affect the performance of the company. Another reason for this negative relationship is that weak corporate governance in the country may encourages the managers to waste cash in ways that significantly affect the performance of the company. Jensen's (1986) stated that debt can be an effective tool to moderate the agency problems cause between managers and shareholders. Thus reduction in agency problems may have a positive effect on the value of a firm.

The presence of agency problems is the main reason for increasing excess cash holding because management wants to keep excessive cash holdings to reduce risk and maximize self-interests. However positive excessive cash normally implies that a company has irrational distribution of capital low profitability and serious agency problems. Also unreasonable use of excess cash like overinvestment may decrease enterprise value. Therefore we reach to our hypothesis that companies' excess cash have negative impact on enterprise value. The excess cash holdings are often associated with serious information asymmetry and agency problems which will lead to companies with excess cash sparing cash for low efficiency investments or self-interest problems of management. This will be a kind

of damage to the value of the enterprise. Therefore higher excess cash holdings lead to lower enterprise value.

This paper proves that excess cash holdings have negative effect on enterprise value which provides valuable materials for further studying of developing and developed stock markets. It also gives a strong explanation to the phenomenon that some companies have plenty of excess cash holdings but they don't have satisfactory market value. For investors the value damage of excess cash holdings can provide a reference for investing which helps investors to think and notice stocks from the perspective of cash holdings and in order to avoid any investment risks.

Apart from the Jensen's free cash flow and agency theory there was other theory which also defines the excess cash holdings. According to Pecking order theory companies hold excess cash in order to finance itself internally for the growth purpose to signal the market it is performing well. Therefore in some companies' management don't distribute the retained earnings to the shareholders but invest more in business. Mostly shareholder likely to have money in hand rather than in business the low amount of dividends may cause the decrease in share price of a company. This might be a reason for the negative relation of excess cash and the shareholder returns.

Hence from the research the hypothesis related to the positive relation of the excess cash has been rejected. Although there were many theories to support that hypothesis but according to my research analysis the hypothesis with the negative relation exists in Pakistan. This is due to the lack of good corporate governance. Ownership structure of the company also helps to reduce the agency problems within the organization.

## **Recommendations**

The current study will help researcher to explore more determinants of excess cash holding and test the relation the relationship of excess cash with the value of the company and the stockholder returns on the other sectors. For carrying out better research the data could be more industry specific as cash requirements for each industry is different from the other industry. Hence it will enhance the knowledge more that how excess cash holding works for a specific industry. This study will help to understand the importance of identifying the optimal level of cash for a company in order to avoid any decline the value of the company and reduced stock value.

There is many more relationship which needs to be study further. That is the effect of corporate governance on the excess cash holding. How managers can effectively use the excess cash to make the value more profitable. Secondly the effect of over investment and under investment can be seen whether company is using its excess cash in the productive manner or not. How

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Dependent Variable: V  
 Method: Panel Least Squares  
 Date: 04/12/17 Time: 02:10  
 Sample: 2005 2015  
 Periods included: 10  
 Cross-sections included: 106  
 Total panel observations: 1133

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Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.00876	0.05336	0.086664	0.9311
ECH	-0.29720	0.02165	-13.73150	0.0000
AC	0.00107	0.00282	0.377217	0.7063
CF	-0.04222	0.00977	-4.323410	0.0000
CAPEX	-0.25350	0.05551	-4.566215	0.0000
LTL	0.00924	0.03712	2.493716	0.0131

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Effects Specification

Cross-section fixed (dummy variables)

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R-squared	0.76394	Mean dependent var	1.720593
Adjusted R-squared	0.71346	S.D. dependent var	2.337220

S.E. of regression	2.174857	Akaike info criterion	4.485144
Sum squared resid	1168.311	Schwarz criterion	4.841182
Log likelihood	-587.4647	Hannan-Quinn criter.	4.628048
F-statistic	15.22435	Durbin-Watson stat	1.859129

Prob(F-Statistic) = 0.000000

Method: Panel EGLS (Cross-section random effects)

Date: 04/12/17 Time: 03:55

Sample: 2005 2015

Periods included: 10

Cross-sections included: 106

Total panel observations: 1133

Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.027270	1.016132	1.010961	0.3129
ECH	-0.010023	0.011634	-0.861507	0.0297
AC	0.024812	0.024013	1.033286	0.0824
CF	-0.000709	0.012520	-0.056647	0.0549

CAPEX	-0.274554	0.073617	-3.729481	0.0002
LTL	0.039192	0.030460	1.286686	0.0193
Effects Specification				
			S.D.	Rho
Cross-section random			0.628095	0.0770
Idiosyncratic random			2.174857	0.9230
Weighted Statistics				
R-squared	0.585109	Mean dependent var		1.201371
Adjusted R-squared	0.409054	S.D. dependent var		2.239109
S.E. of regression	2.191307	Sum squared resid		1286.890
F-statistic	8.331595	Durbin-Watson stat		1.640457
Prob(F-statistic)	0.006164			
Unweighted Statistics				
R-squared	0.073572	Mean dependent var		1.720593
Sum squared resid	1381.571	Durbin-Watson stat		1.528033

Dependent Variable: R

Method: Panel Least Squares

Date: 04/12/17 Time: 04:27

Sample: 2005 2015

Periods included: 10

Cross-sections included: 106

Total panel observations: 1133

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Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.495131	0.055183	9.128375	0.0000
ECH	-0.296312	0.147933	-2.024141	0.0451
P/B	0.153422	0.063982	2.418613	0.0176
EPS	0.043916	0.016884	2.833913	0.0063
Tobin Q	-0.635201	0.023141	-26.74164	0.0000

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Effects Specification

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Cross-section fixed (dummy variables)

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R-squared	0.800406	Mean dependent var	73.12000
Adjusted R-squared	0.799212	S.D. dependent var	17.98043
S.E. of regression	3.518283	Akaike info criterion	5.443596
Sum squared resid	3082.200	Schwarz criterion	5.785545
Log likelihood	-722.4944	Hannan-Quinn criter.	5.580830
F-statistic	25.90924	Durbin-Watson stat	1.764221
Prob(F-statistic)	0.000010		

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Dependent Variable: R  
 Method: Panel EGLS (Cross-section random effects)  
 Date: 04/12/17 Time: 03:55  
 Sample: 2005 2015  
 Periods included: 10  
 Cross-sections included: 106  
 Total panel observations: 1133  
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.485818	1.563538	4.787742	0.0000
ECH	-1.285897	0.241526	-5.324048	0.0000
AC	0.108602	0.054936	1.976903	0.0491
CF	0.119134	0.145339	0.819702	0.0131
CAPEX	-0.154803	0.170150	-0.909804	0.0537

Effects Specification		S.D.	Rho
Cross-section random		15.04293	0.9481
Idiosyncratic random		3.518283	0.0519

Weighted Statistics			
R-squared	0.693141	Mean dependent var	4.801227
Adjusted R-squared	0.593858	S.D. dependent var	3.847416
S.E. of regression	3.617976	Sum squared resid	3534.232
F-statistic	8.938811	Durbin-Watson stat	1.552926
Prob(F-statistic)	0.000001		

Un weighted Statistics			
R-squared	-0.167821	Mean dependent var	73.12000
Sum squared resid	103449.2	Durbin-Watson stat	0.018890