Research Article   **Open Access**

Determinants of Corporate Cash Holdings "A Case of Textile Sector in Pakistan"

Shaukat Ali[1]*, Mishkat Ullah[2] and Nazir Ullah[3]

[1]Institute of Business and Management Science, The University of Agriculture, Pakistan
[2]Cecos University, Peshawar, Pakistan
[3]Department of Management sciences, International Islamic University, Pakistan

Abstract

The topic on cash holding has attracted strong debate in the field of financial management for the past half century. A number of researchers studied the topic corporate cash holding and its determinants in the past in developed economies while a little attention is given to the corporate cash holdings of developing economies. The objective of the study is to identify and measure the relationship of firm size, profitability, net working capital and leverage and their effect on corporate cash holdings. A sample of 30 textile firms of Pakistan listed on Karachi Stock Exchange (KSE) was selected for the study, for the reason of examining their relationship. Secondary data for the period 2006-2013 was selected for the study. Variance Inflation Test (VIF) was used to check the problem of multicollinearity. Multiple regression models were used to conduct the results. Results calculated by regression model show consistency with the literature available. Profitability (ROA) and firm size (FS) show a positive and significant relation with cash holding. However negative and significant relationship was found between net working capital (NWC) and leverage (LEV) with cash holding.

The findings of the study will be useful for financial managers, financial practitioners, consultants and investors.

Introduction

Cash is a significant asset for many corporations. Cash is one of the most important figures found within the assets portion in balance sheet of every firm. As per definition of Gill and Shah "Cash holding is defined as cash in hand or readily available for investment in physical assets and to distribute to investors". Therefore cash holding is considered to be convertible to cash. Cash in hand and cash in bank, money market and treasury bills, market investment are also considered cash holding. For determination of its factors and importance in working capital different approaches are used. The cost of capital invested in liquid assets is also form of cash holding. The effective profit forgone on holding large cash balance is an opportunity cost to the firm. As per the observation Adetifa [1] defines two categories of cash holding. One is opportunity cost of interest inevitable and other is purchasing power cost of firm. Cash is least profitable and most liquid asset. It plays a vital role in finances of a firm. In formation of strategies of a firm's cash holding is an important factor for financial management, which not only relates to operations and improvement of firms, but also relates to the corporate governance and the institutional surroundings. Exchange of goods or services in money is also a form of cash holding. As per definition of Sense "cash is a non-asset that every firm has on its books". To pay back debt cash is used as mean for corporation. The financial flexibility, inventory purchase and strategic planes are highly associated with it. The financial stability of company can be also measure by its positive cash flows. On the other hand money in banks decreases its value as per time value of money. And company will also lose an opportunity to invest in a project and raise its company. Therefore, without large scale purchase in coming future the management will be not in fever in cash holding. Although the clear empirical importance of such as securities and liquid able assets for the financial management of corporations, financial researchers have not been focusing on this subject for an extensive time. During the period 1950s to 1960s most of the early research efforts determined on best possible cash levels in the perspective of a short-term cash management. Behind these models the main idea is that cash fulfils a shield function between uncertain and unmatched cash outflows and

cash inflows, very much like the inventory of a firm do for production and output sold. As such, it enables the firms on one hand to keep away from frequent and therefore costly transfers of money from non-cash accounts into cash accounts. Similarly on the other hand triggers opportunity costs in the form of foregone higher income on non-cash funds. These two opposite effects related with corporate cash holdings have their roots in even earlier arguments by Keynes [2]. In his influential work, he said that economic players may hold cash mainly for three reasons. Firstly, the transaction motive which describes exactly the above reasoning of bridging short-range inflows and outflows. Secondly, the precaution motive which reflects the idea that private corporations and households may hold cash in belief that they may be able to pay future obligations which are currently totally unforeseeable for those corporations. Thirdly, speculative motive which means that financial company hold cash now in order to hypothesize on growing future interest rates. In particular the transaction motive and precaution motive may be directly transferred to companies' demand of liquid assets. Though, Keynes and the above mentioned early articles on holding money, a few research efforts only focused on the benefits and loss of cash holdings for corporations. Most significantly, in recent times financial researchers have offered theoretical models in which corporate value and cash holdings are directly linked to each other, to incorporate liquid assets into the aim function of the firm/organization. In case of suddenly low cash flows such that the optimal investment program or even the firm does not continue its operations, the firm cannot realize raising any funds is straight away possible means there is no timing benefit of liquid assets at no extra cost. Therefore, sometimes

if the firm hold more liquid assets does not have value for shareholders instead of selling debt and other alternatives for outside financing. The investment in liquid assets simply has a zero net present value in perfect capital markets. Hence, reasonable explanations for corporate liquidity holdings can only be found in a more hard-headed world of the imperfect capital/investment markets. To explain corporate cash holding three theories are used which are packing order theory, trade off theory and free cash flow theory.

Pecking Order Theory

Introduce by Myers [3] it state that firm finance their investment by retain earning and then safe debts and risky debts and then last stage of investment is equity. To finance new investment firms payback debts to gain cash. In case firms currant operational cash flows are sufficient. When retain earnings are not enough in amount to finance currant investment firms use the accumulated cash holdings and if needed then issues debts.

Trade of Theory

This state that firms set their minimum level of cash holding by measuring the marginal cost and benefits of cash holding. The main purpose is to relate cash holding and reduce the financial disaster to adopt the best possible investment policy even when financial constrain are met, Its contribution to maximize the external funds and reduce the cost or liquidate the existing assets Ferreia and Vilela [4]. As we know that marginal cost of cash holding is related with opportunity cost of capital because of miner return on liquid assets.

Free Cash Flow Theory

This theory was introduced by Jensen [5] explains that managers has cash holding to have incentives of increasing assets to gain power and control of investment decision of a firm if they have large amount of cash holding then they no need to rise external funds. Which have positive effect on shareholders investments, for the smooth operation of organization cash holding is essential it is also have positive effect on policies of dividend payment, capital structure investment and assets management and cash flow management. Explains that for smooth operations of the organization maintaining proper amount of cash holding within the firm is essential and the cash level a firm keeps is considered by its policies concerning dividend payments, capital structure, and management of cash flow, asset and investment management, working capital requirements. The decision-making of cash holdings is a core issue in the company's management, which is closely related with the companies' daily operations, dividend payments, the behaviours of financing and investment and other activities. In particular, cash is the companies' most liquid assets and also an important requirement to ensure continuous operations, so the companies have to determine the most suitable level of cash holdings to advance their operating efficiency. In Pakistani context Shah [6] explained that in the year 2003 the annual report of Oil and Gas Development Company, Pakistan (OGDCL) shows a large amount of cash balances of Rs. 19 billion which was inflated further to Rs. 25 billion in 2004 means after one year. Amount of OGDCL cash holdings was not only so huge but the the ratio of cash-to-total assets was very high also. In the year 2003 and 2004 the ratio of cash-to-total assets was 22.89% and 26.38% respectively. In the same way, Fauji Fertilizer Company, Pakistan (FFC) in the year 2003 and 2004 were Rs. 3.1 billion and Rs. 4.1 billion assets in the form of cash and cash equivalents respectively. As Afza and Adnan [7] reported that for the period 1998-2005 the mean cash ratio is about 13.5%. for a sample

of firms of Pakistan which are very close to US firms' mean cash ratio which was 17% according to Opler et al. [8] Ferreira and Vilela [4] explained that mean cash ratio of European firms' is 14.8%. Later on Shah [6] took a sample of 370 firms which were listed on Karachi Stock Exchange over the period 2000 to 2004 and explained that mean cash value is 8.61%. According to Kim et al. [9] the average cash ratio is 8.1% for US firms. Ozkan and Ozkan [10] explained that as for UK firms' average cash ratio is 9.9%. These evidences show that in Pakistan like in other developed countries there are quite high ratio of cash and act as a significant research problem. This problem or question needs to be answered because for maximization the wealth of outside investors business insiders are supposed to take a step but firstly piling up assets of firm in to least useful one which is complicated to defend. This work will complements and extends current studies by [7,11] and [12] who studied related topic.

Problem statement

Corporate cash holding and determinants of cash holdings has explored throughout the world, [8-10,13]. A little literature is available on corporate cash holding in Pakistani context [6,7,14]. Although these researchers studied cash holding in different perspectives but they gave a little attention to a specific sector like textile sector. Thus it is a very important question which needs to be answer with good reason from research point of view, which is the major attractive feature of this study. The current study aims to fill the gap by identifying corporate cash holdings determinants along their effect on textile sector in Pakistan.

Objectives of the study

The objectives of the study is

a) To identify the relationship of corporate cash holdings and its determinants in textile firms of Pakistan.

b) To investigate various determinants of corporate cash holding that might have positive or negative effect on corporate cash holdings.

Significance of the study

Cash holding has been measured as a significant monetary option in the budget of most organization. Most of firms dependently try to maintain the ultimate level of cash in proportion with aim that holding appropriate level of cash may be helpful for the improvement and execution of the firm. The current study will provide important insights for investors and will also contribute to the field of management sciences. It will help textile industries in developing countries who face the same situation like Pakistan that how to manage cash holding. The study contributes to two prominent areas of financial research. The first is cash holding, which has seen a growing body of research in recent years and the second is textile sector of Pakistan which has a significant contribution to the economy of Pakistan. Hence this study will extend the previous work in this area.

Hypothesis of the study

Following are the hypothesis of the study

▸ Hypothesis 1- H1: There is relationship between profitability and cash holdings.

▸ Hypothesis 2- H1: There is relationship between net firm size and cash holdings.

- ▸ Hypothesis 3- H1: There is relationship between net working capital and cash holdings.

- ▸ Hypothesis 4- H1: There is relationship between leverage and cash holdings

Literature Review

For firms or corporations Optimal level of cash holding is very important because cash holding makes the firms capable to pay its liabilities on specific time even hard times came. Keynes [2] work on cash holdings and focused on the money demands which are because of speculative motive, preventive motive and business motives that partly describe the assessment of cash holdings of companies or corporations. But money demands problems are his field of study in microeconomics instead of cash holding of real theory. After Keynes [2] a lot of researches are performed by many research scholars on different economies of the firms and countries concerning the topic "Cash Holding". Different Researchers work on different variables (like growth opportunities, cash flow uncertainty, leverage, working capital, dividend payment, firm size) which are the main element of more cash holding. To answering this question that "why do firms/corporation hold more cash"? These research scholars used three models or theories naming Pecking order theory presented by Myres and Majluf [15], Trade-off theory by Myers and free cash flow theory by Jension [5]. Trade-off theory by researchers concluded that optimal cash holding produce benefits and costs which play a key role in facilitating opportunities of corporation growth. Cash holdings costs are actually the opportunity costs of cash which arises from the fact that cash holdings are not invested in high return illiquid assets by Opler [8]. When Pecking order theory was used This state that firms set their minimum level of cash holding by measuring the marginal cost and benefits of cash holding. The main purpose is to relate cash holding and reduce the financial disaster to adopt the best possible investment policy even when financial constrain are met, Its contribution to maximize the external funds and reduce the cost or liquidate the existing assets Ferreia [4]. As we know that marginal cost of cash holding is related with opportunity cost of capital because of miner return on liquid assets. Free cash flow theory was introduced by Jensen [5] which explains that managers has cash holding to have incentives of increasing assets to gain power and control of investment decision of a firm if they have large amount of cash holding then they no need to rise external funds. Which have positive effect on shareholders investments, for the smooth operation of organization cash holding is essential it is also have positive effect on policies of dividend payment, capital structure investment and assets management and cash flow management. Faulkender [16] analyzed different effects of firm features of small business on cash holdings. During his study he found that those firms which holding a high cash levels they face agency problems, information asymmetry, and having high debt ratios. While the firms which have low level of these firm characteristics hold low level of cash balances. An additional important result was that taxes don't affect on cash holdings as compared to managerial /rights. Finally the study of Faulkender resulted that cash balances decrease with the size of firm or directly proportional to the firm size. Amy, Henri and Jan [17] analyzed 11,000 companies of 45 countries and resulted that in those countries where shareholders right are not well protected mostly hold double amount of cash. The main reason of this additional cash holding are managers personal wellbeing not shareholders rights. Agency problem also occurs when shareholders are not protected well. Generally this cash is used for investment purpose in future to gain more profit. Dittmar et al. [18] concluded that corporations in those countries where shareholders well-being is not in favour hold double

cash as compared to those countries where shareholders are well protected. For finding these results they studied firms of 45 countries and sample size of their study was more than 11000 corporations. From their observations they also concluded that when shareholders are well appreciated, asymmetric information and opportunities of investment become insignificant. Furthermore, their result establishes that corporations who have easy access to funds hold larger cash balances. Dittmar et al. [18] explains that agency issue is significant factors of company cash holdings. Ozkan and Ozkan [10] deliberate the factors disturbing cash holdings of corporate firms in perspective of ownership of management. Their study focus was on managerial right of delegation of power including board formation of United Kingdom (UK) firms. Their findings determined that it is a fact that cash flows, debt, leverage, growth opportunity and liquid assets were significant in shaping firms cash holdings. Deqiu, et al. [19] places their interest of research that how the policies as well as rules of the firms do is affected by the state rules. Their findings show that if there is a good government many financial constraints can be avoided and by this there could be minimized cash holdings by the firms/organizations. Ferrira and Vilela [4] collected a 400 firms sample from twelve Economic and Monetary Unit EMU countries over a period from 1987-2000 to examine cash holdings of the firms and their various determinants. They find that there is positive relationship among cash holdings and cash flow and investment opportunity and negative relationship between leverage and firm size. Cash holdings are negatively associated with bank debt which supports that there is a relationship that shows bank should keep less cash for preventive causes. Furthermore, firms in these countries where greater protection of investors are present them ownership may hold a smaller amount of cash. They also concluded that contrary to the agency view there is a negative impact of capital markets development and cash holdings. Nguyen [20] concluded assumption of cash amounts. According to cash balances has defensive motive which provide to improve volatility of functioning returns, which they used as a substitute for hazard. His conclusion shows positive relationship between cash holdings and corporations level risk. On the other hand a negative relation was found between industry risk and holding cash. Like other researchers He also found cash holding are negatively associated with size of firm and debt ratio, and positive associated with profitability, growth forecasts. Nguyen collects 9168 firms sample over a period 1992 to 2003 from Tokyo Stock Exchange (TSE). He concluded that firms hold small amount of cash which are affiliated with Keiretsu and they are also minimum risk takers.

Yuantu work on corporate governance mechanisms on cash holdings relationships and the firm level, and up to what external value of firm affected by these mechanisms [21]. He concluded that those entities that contains lose domination will be harmful incremental price related with excessively holdings of cash. They recognized that shareholders will be minor in these firms and will reflect by discounts related with such organizations. Nicolas Couderc made a use of organization level data that consist of 4515 firms. These firms were located in countries like Canada, Germany, USA, France etc. By this Couderc was able to make learn on determinants and also investigated the penalty overcome by corporate cash holdings. The time period for this study was taken from 1989 to 2002. The model of Bivariate Probit was taken in order to notice that there is a mutually relationship between cash balancing level and the future performances of the firm. The firm performance may become poor due to its extremely cash holdings. Saddour [22] analyzed corporate cash holding determinants from a sample of 297 French firms over a period of 1998 to 2002. Pecking order theory and trade-off model were used. By using

regression model he found that firms of France raise the level of cash on the base of their operations which are risky, and low their rate of cash holdings due to high leverage. As compared to grown-up corporations growth corporations hold more levels of cash. A negative relation was found between firm sizes, liquid assets in growth companies. Mature firms level of cash holdings increase with increase in firm size, investment level, and shareholders pay-out in the shape repurchase of stocks and dividends, but decreases with their praise and payment on development and research. Gueny studied the leverage impact on cash holding of firms, and concluded that there is a negative relationship between cash holdings and leverage act as a substitute to pay debts for firms. Though when firms raise in leverage amounts, they may build up large amount of cash equivalents to reduce the risk of suffering and expensiveness. So a positive precautionary effect relationship exists at high leverage and cash holdings. The conclusion suggests that there is a relationship which is non-linear between cash holdings and leverage. Additionally, detailed description of a country means creditors right protection, and ownership attention etc are the factors through which leverage strength can be identified on cash holdings. Drobetz and Gruninger [23] examined different determinants of corporate cash holdings of non-financial Swiss firms. The time duration of sample was 10 years from 1995-2004. They compare Swiss firms and UK firms on the basis of cash holdings. They find that as compared to median UK firms the median firms of US hold double cash. Furthermore a negative correlation was found between tangibility of assets and cash holding. A non-linear association was also found between leverage and holdings of cash. According to their results dividend is directly proportional to cash holdings. Though a positive relation was not proved by them between development opportunities and holdings of huge amount of cash. Hofman [24] conduct his research study on determinants of cash holdings of corporation in New Zealand. He found that the major determinants in firms of New Zealand are growth opportunities, dividend payments, leverage, flow of cash and current assets or cash substitute. Hofman clear that there exists a positive and significant relationship, growth opportunities and cash holdings and negative relation between dividend payment and cash holdings and liquid assets and substitutes [24]. Yu et al. [25] conduct a study on cash holding determinants in China over a period of 1999-2003. They find a positive and significant relation between many variables and cash holdings. They also find a negative and significant relationship among many variables and cash holdings. The positive relation variables were dividend payments, cash flow, growth opportunities. While the negative related variables include size of firm, leverage. Furthermore, a positive correlation was also found between cash holdings and outside shareholders and a negative relationship was also found between environment of government and cash holdings. Yang et al. [26] considered determinants of corporate governance on holdings of cash with the samples of A-share listed companies of China before 1999 and found that corporate governance did not affect the companies' cash holdings significantly. Han and Qui [27] analyzed the corporate precautionary/preventive cash holdings. They examined the relations between firms financial constraints; cash flow volatility and cash holdings. They find that firms which are facing financial constraints tend to keep a huge amount of cash in the case of volatility of cash flow increases. But they not found any systematic connection between holdings of cash for unrestrained corporations/firms. Cash holding as an outcome of tax outlay related with repatriate income of foreign was studied. They concluded that corporations that acquire high repatriation taxes have a propensity to hold cash and tend to hold this cash/money abroad. Jarrad et al. [28] analysed their study that those firms have low cash reserves whose structure corporate governance is

weak. They resulted that firms having weak governance give preference to repurchase. They do not increase dividends to share holdings and as a result avoid pay out commitments of future. But it is a fact that those firms in which shareholders rights are not protected have low profitability and also have lower value. Dittmar [18] analysed that corporate cash holdings and governance has a force on the value of firm. He determined the differences of cash holdings of the well governed firms and the poor governed. They determined the fact that the firms with lower level of corporate governance having higher corporate governance level generally have high cash reserves. Due to low corporate governance agency costs also arise. Wang [29] also conduct their study on determinants of corporate cash holdings of listed companies of China over a period of 1998-2002. They result a positive relation between size of firms, the growth opportunities and dividend payments significantly. They also found a negative and significant association between cash holdings and cash flows, cash reserves, leverage. In addition a non-significant relation was found between bank debts and cash holdings. Solano [30] also study cash holding of non-financial firms and work on it. Determinants of his study were cash flows, financial leverage, short ratio of debt and long term ratio of debt. He found a positive relationship between bank debt and long term debt ratio. Soku [31] studied US firms from a period of 1971 to 2006. He divided firms into three categories and explains their determinants. He reported that large mature corporations choose their internal funds and cash reserves to meet their financial constraints instead of issuing equity. Similarly in case of small firms, he found that as small firms have low level of leverage, and cash in hand is also less as compared to large and medium firmsso they will prefer issuing of equity to increase level of cash. Finally in case of US firms the author concluded that expecting future flow of cash firms hold cash and to sort out financial constraints they distinguish future plan of investments and their current liability. This idea also supported by Afza [7] and Koshio et al., [32]. Bates et al. [33] point out the fact that the U.S firms average cash ratio doubled from the period 1980-2006. The significance of it can be realized all the way through the fact that the firms with the help of these cash holdings retire their debt obligations. They concluded a relation that higher the risk of cash flows, higher will be the cash ratios. No evidence was found by them leading to the fact that an agency clash leads to an increase in the balances of cash. Hardin et al. [34] study cash holdings of firms of USA. They took a sample of 1114 firms over the period 1998-2006. They used ordinary least square regression model for their study. The results drawn by them are that cash holdings are directly proportional to external finance cost and growth opportunities and negatively related to financial leverage internal investment and credit line access and use are also negatively related with cash holdings. Their results mean that agency problems can be reduce if managers elect to hold little cash by lucidity increasing and decreasing external capital cost of future. Megginson and Wei [35] conduct a study on cash holdings and determinants of private China share issue firms. The period of their study was from 1993-2007. By using multiple regression models they concluded those firms which have high growth and which are more profitable hold a much amount of cash. Additionally, they reported that debt and net working capital have negative relationship with cash and state ownership also have negative related with cash holding. Due to holding extreme cash, firm's performance may become poor. Benjamin [36] concluded that the structure of corporate governance highly effect the corporate cash holdings. Nigerian listed companies were taken for this study. They used regression model relating to panel data for such analysis and the result showed that cash holding is affected by governance of corporation. Furthermore they also concluded Nigerian companies hold a large

amount of assets as compared to cash or cash reserves. Afza and Adnan [7] while considering the non-financial firms of Pakistan focused on non-financial firms of different sizes over a period of 1998-2005. The variables used by them were firm size, financial leverage, net working capital, growth opportunities, cash flow of uncertainty, and dividend payment to shareholders. They concluded that firm size and cash flow has a positive association with cash holdings. They also found an inverse relationship between cash holding and other independent variables like leverage, dividends, net working capital and market to book ratio. Simply their findings show that all of these determinants affect cash holdings of non-financial firms of Karachi Stock Exchange either positively or negatively. They also explain that it is very important for a firm to hold more amounts of cash and cash equivalents for smooth and sound operations of firms of Pakistan. Furthermore, policies related to capital structure and requirements of working capital are the characteristics of maintaining the level of cash in a firm Opler [8]. Daher studied in detail the data sample of more than 60000 public and private firms and the factors affecting the cash holdings from the period 1985-2005. The major findings of this study include that an increasing cash holding ratio specifically of private firms, almost double between the years 1994-2005. They mainly focused on the linkage between different features of firm and cash holding. Negative and significant relation was found between cash and different variables including size, financial leverage, Net Working capital, capital expenditures and cash flows. Iranian firms' performances to study the relationship of these firms with capital structure were studied by some researchers. According to them, for determination of expected cash flow market value and book value are often measured. More preference was given to market value of equity of Iranian firms as a responsible variable for cash holding. They found a negative relationship between cash holding and high profitability because, firms with high profitability and good performance do not need to hold more cash. They took two important decisions in their study. The first is market value and second is debt ratio. They argued that market value of equity is a key measurement of firm performance that how much of cash is in hand of corporation and debt will be less if the firm is in good position. These variables play major rule in firm cash holding. Either they hold less cash in case of performance. Alvarez examined the panel data of chilli firms. They study the topic "Liquidity crises of country and its impact on cash holdings". They find a negative relationship between cash holding and firm size, leverage, bank debt and liquid assets. On the other hand they find a positive relation between sales volatility and corporate cash holdings. Similarly they also concluded that like other firms precautionary motives was the main reason of holding large amount of cash. Kim [9] studied US restaurant firms' cash holdings. They take a sample of 125 restaurants over a period of 1997-2008. The data which they used were panel data. From their research study they institute that those restaurants which have large amount of investment opportunities have to hold more cash. Similarly the big restaurants of US other than cash also hold current assets, firms paying dividends and firms with higher capital expenditures were made known to keep low money. Kim et al also explain that in amplification of determinants of cash holding for restaurant businesses precautionary motive play a vital role. Manuel [37] determined 1875 firms as of 46 emerging countries and urbanized countries in the year 2007 and concluded that at poor governance level firms hold more cash. They also explain that net present value has negative relationship with cash holdings. If the firms maintain dividend pay-out ratios such firms can earn profit from cash holdings. Subramanium et al. [38] concluded that diversified corporations keep fewer amount of cash as compare to their oppose parts have hold. Those theories which depends on effective and efficient use of sale of assets of non-core parts of diversified firms to produce high cash level, as well as the better institute weighted expenditure in diversified firms do not present a cost-effectively significant justification for the lower cash holdings along with diversified firms discover by them. Sun et al. [39] conduct a study on cash holding of firms. They resulted that earnings low quality and cash balances have positive effect on each other and value of corporation or company cash holdings have negative effect on each other. The results of Sun et al. [39] show poor earnings quality has negative impact which may either neutralized or else high affects the effect of positiveness of surplus cash on firm value. Benjamin and Samue calculated the linkage between cash holdings of banks and the net working capital (NWC) by collecting data a sample from 1999 to 2008 of listed companies of Ghana [36]. The random effects technique was used for the analysis of findings because of panel data. He determined that profitability or return on assets was positively and significantly related with cash holdings. While different characteristics like capital, cash conversion cycle, size of bank, and debtors collection period have significantly negative connection with cash holdings of banks. By applying the co-relational test it was determined that net working capital; leverage, cash flow, profitability, and investment opportunities affect the corporate cash holdings in a significant way. The important finding was that they did not found a relationship with size of firm and growth opportunities. Sohani [40] determined those variables that have a strong impact on the cash holding decisions by considering non-financial firms of Bangladesh. To generalize the results Regression analysis was conducted. The results showed that apart from other variables volatility of cash, net working capital and Tobin's Q has a significant relation with the cash holdings of firms. Rizwan and Javed [41] studied the relationship of corporate cash holding and different variables of Pakistani firms and collected data over the period 1998 to 2007 from 300 firms which were listed in the Karachi Stock Exchange (KSE). They found that the cash holding increases with the increase in cash flow and market to book ratio. They also concluded that leverage and net working capital are negatively related to corporate cash holdings of Pakistani firms. On the basis of the literature review, it become easy to conclude that the cash holding in developed as well as in developing countries are highly affected by different firm's characteristics and variables like size of the firm, leverage, cash flow, profitability, cash flow uncertainty, dividend payments etc. Moreover these variables changes from time to time and from place to place. On the other hand most researcher consider developed countries for their studies while apart from a few researchers [7,41] who studied cash holdings and its determinants while taking all non-financial firms their total population, while a little literature is available on determinants of cash holdings in textile sector of Pakistan and other developing economies.

Research Methodology

After a detailed study of relevant literature, it is observed that researcher used various methods and techniques to study corporate cash holdings. Following Afza and Adna [7], Anjum and Malik [14] the current study aims to identify the determinants of corporate cash holdings in textile sector of Pakistan. For this purpose the following procedure is followed.

Population of the study

The population refers to the whole group of companies, businesses, events or things of interest of researcher that he wishes to study. As the current study focuses on Textile sector, so the population of the study is considered to be all the textile firms operating in Pakistan. There are

188 textile firms operating in Pakistan. Hence the size of Population is 188 firms. Textile sector is 28.5% of the total listed firms in KSE. Figure 1 shows the distribution.

Sample and sampling techniques

A Sample of 30 companies which are listed in Karachi Stock Exchange (KSE) is selected for the study. Simple Random sampling technique is used for the selection of sample. Each individual firm of the population has given an equal and independent opportunity to be selected for the sample (Kumar 2005). So the sample is considered to be a representative sample. Figure 2 shows sampled 30 textile firms and un-sampled 168 textile firms' distribution.

Data collection

Secondary data of 30 listed textile firms is selected over a period of eight years for (2006-2013) in this study. The study used variables i.e. profitability, firm size, net working capital and leverage for the calculation of textile firms cash holdings. Data for the study were collected from the data base of organization's annual reports, websites, State Bank of Pakistan and Karachi Stock Exchange (KSE).

Table 1 of the current thesis is composed of information related to selected samples of the study i.e. name, symbol and sector of the selected samples taken from non-financial sector of Pakistan.

Variables and their measurement

Extending the earlier studies of [7,8,18,41], following variables were considered.

Dependent Variable

Cash holdings

Cash holding is used as a dependent variable in the study which is taken as a ratio of cash or cash equivalents to total assets. Cash holding may be defined as Cash in hand over or in bank that can be easily available to purchase assets, products and to distribute among the investors. Daher defines Cash holdings as "the amount of cash and marketable securities that can be converted easily into cash".

Cash Holdings = Cash and Cash Equivalents / Total Assets - Cash or Cash Equivalents Independent Variables.

Figure 1: Population of the study.

Figure 2: Sample and sampling techniques.
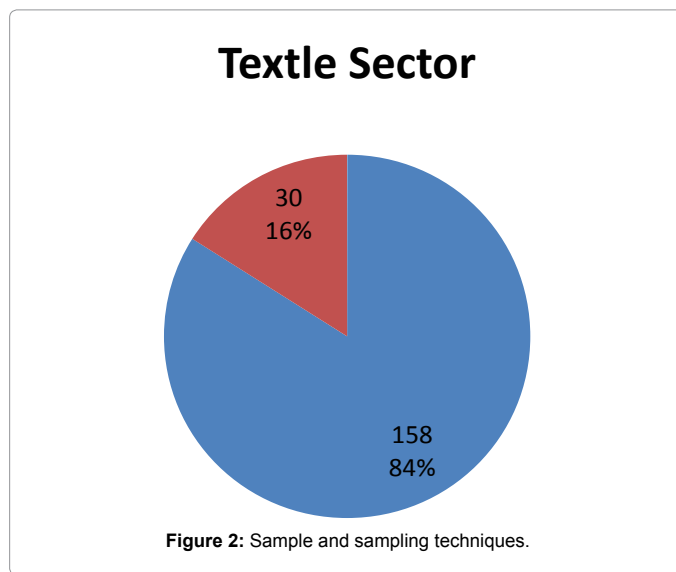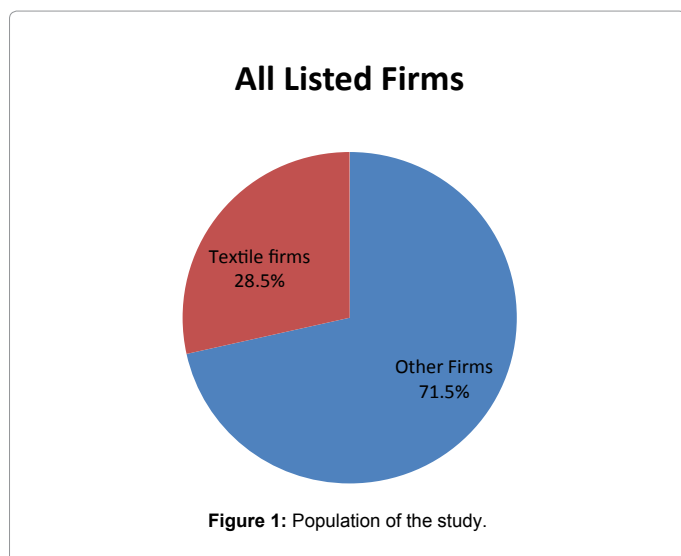
Profitability

Profitability is the capability of an entity to generate return. The key objective of many businesses is to generate profit. A business will not survive without profitability. On the other hand, a high profitable business will reward the owners with high profit margins for generation of profits relative to equity sales and assets profitability ratios are used which emphasize on the profits of a company. For this purpose Return on Assets formula is used.

"Return on Assets (ROA) = Net Profit / Total Assets"

Firm size

For measuring the firm size log of total assets of the firm is used. Firm size depends on a variety of external and internal variables. Successful business experts and entrepreneurs believe that key t finding the optimal size of firm is to grow in a controlled way. In order to survive in the market for long term, small businesses must adopt changes in response to taste and wants. On the other hand they must also be creative and should make themselves aware of their competitive tactics. Operational cash flow depends on the size of firm. Hence larger firms increase their cash holdings and therefore the relation between firm size and cash holding is positive.

Size of Firm = Logarithm of Total Assets

Net working capital

The aggregate amount of all current assets and liabilities is called net working capital. Net working capital is the ratio which is used as substitute for liquid assets. It is argued that net working capital can be use as substitute because it can also be changed into cash easily Opler [8]. The positive values of net working capital shows that the sum of small period funds which comes from short term assets are more enough for the payment of current liabilities. Negative figure shows that business may not have sufficient funds to pay for current liabilities. Net working capital gives the idea to investors about the company position that either invest in that business or not because net working capital is the measurement of company's financial strength. The subtraction of current liabilities from current assets is working capital. Current assets include debtors, cash and cash equivalents, stocks and other current

assets. Current liabilities include account payable, short term debt, and other debts.

Net Working Capital = Net Current Assets minus Cash and Cash Equivalents divided by Total Assets minus Cash and Cash Equivalents.

Leverage

When a company buy more of its assets on credit with the belief that income from these assets will be more enough than borrowed funds is called leverage. According to Finance, leverage is a technique to multiply gains and losses. An inverse association between cash holdings and leverage is predicted by pecking order theory and trade off theory. Risk factor all the time involves in leverage because some times the value of assets falls or there is a chance that borrowing costs will be larger than income. Firm having high debt ratios have low cash reserves because they have to pay out their outstanding debts. In this way leverage can be reduced.

"LEV = (Total Debt / Total Assets) – Cash and Cash Equivalents"

Theoretical model

$CASH_{i,t} = \alpha + \beta_1 ROA_{i,t} + \beta_2 FS_{i,t} + \beta_3 NWC_{i,t} + \beta_4 LEV_{i,t} + \varepsilon_t$

Whereas,

$CASH_{i,t}$ = Cash holdings of the firm

ROA = Return on assets

FS = Firm Size

NWC = Net Working Capital

LEV = Leverage

ε_t = represents error

Panel data

For determinants of corporate cash holdings panel data is used. Panel data is collected from sample of known time series and multiple observations will depend on the individual samples, as per Hsiao, 2003. For the period 2006-2013 30 textile firms are observed in this study. To test the panel data two regression models are used known as random effect model and fixed effect model was used. Further Hausman test was used for choosing best suited Model between fixed effect model and random effect model.

Fixed effect model

This model examines differences in individual intercept while assuming constant slope and variance across individuals. Fixed effect model is used for finding impact of variables that fluctuate over time. This model shows the relationship between predictors and the result variables with in an individual. Each individual has its own particular features that may affect the independent variables Reyna [42]. So while using fixed effect model we assume that something with in the individual may biased our predictor and hence results. It becomes necessary to control such effect. This is the reason behind the fixed effect model assumption about relationship between individual error terms and independent variables. This model removes or fixed the cause of these time invariant characters. As a result net effect of the predictor can be assessed. These models also assume that each individual has its own characteristics and which are not associated with invariant characteristics of other individual. There is difference in each individual, therefore each individual's error term and constant should

not correlate with the other one. Fixed effect model is not suitable when there is no correlation between the error terms and will lead to use the other model i.e. random effect model.

Random effect model

Random effect model is suitable for those individuals which drawn randomly from big population. This model examine how individual or time affect error variances. While using random effect model, intercepts and slopes are assumed to be constant and the difference among individual (time period) lies in their variance in individual specific error term Reyna [42]. In order to select most appropriate test for the data, a well-known test i.e. Hausman test will be considered.

Hausman test

For the selection of best suitable model between random effect and fixed effect model Hausman test is used in this study Greene and Park [43,44]. The standard value for Hausman test is 0.05 due to which it is decided that either fixed effect or random effect model will be used. In case of p- value less than 0.05 fixed effect model will be used while in case of p-value greater than 0.05 random effect models will be used.

In such case the following hypothesis can be made.

a) H0: Random effect model is better than fixed effect model.

b) H1: Fixed effect model is better than Random effect model.

The final decision of using the most appropriate test for data analysis is made on the basis of this test.

Multicollinearity

Multicollinearity is a high amount of relationship amongst two or more independent variables. When a large number of independent variables are included in a regression this problem commonly occurs. Actually it is a problem that usually occurs in panel data. Variance Inflation Factor (VIF) is a test which is used to check the problem of multicollinearity in the data. If the value of VIF is more than 10 then it means there is a problem of multicollinearity. If the value is less than 10 then the variables are good for study. In case of values more than 10, variables should be skipping or replaced.

Results and Discussion

This section includes results and analysis of the study. To calculate the variables and their results regression model was used. The data which is used in the study is panel data. So the problem of multicolinearity and heteroscedisticity was checked and its results were also calculated and recorded.

Diagnostic tests

The above table shows results for multicollinearity. A well-known test called Variance Inflation Test (VIF) was used to check the problem. It is believed that multicollinearity problem will arise if VIF value is more than 10 and if less than 10 it means that variables are good for study and that there is no problem of multicollinearity. In case of values more than 10, variables should be replaced. The above table show VIF values for all the independent variables. From the Table 1 it is clear that no multicollinearity problem is there because all the explanatory variables have the value less than 10.

Hausman test

For selection of one of the two models i.e. fixed effect model and random effect model Hausman test was used.

Following are the hypothesis of Hausman test.

H0: Random effect model is better than fixed effect model.

H1: Fixed effect model is better than Random effect model.

Table 2 shows results for Hausman test. The p-value = 0.0001, which lead to the rejection of null hypothesis because the value is less than 0.05 and use of fixed effect model is appropriate or effective in this study.

R square = 0.800

The model summary shows that the value of R^2 is 0.800 which means that independent variables explained 80% variation in the dependent variable. It is generally notice that if variation is more than 20% then it is favourable. From the Table 2 it is clear that profitability and cash holding has a relation which is positive and significant at 5% significance level. This relation was also being proved by pecking order theory Almeida [13]. In contrast Trade-off model predicts a negative relationship between return on assets and cash holdings [9,10,33]. The findings of this paper support the pecking order theory because the relation between cash holding and return on assets are positive and significant. Table 3 shows that for every one unit increase in return on assets the company will increase 14.9% of its cash holdings.

A company generation of earning related to assets is determined by profitability ratio which is used for measuring profits, money invested and cash flows which focus on how company manage its profitability. They emphasize how efficiently the profitability of a company is being managed. The financial strength and presentation of a company will varied on different profitability ratios. An example of gross profit is taken which the corporation used for managing its expenses. The profits of shareholders can be measured from return on investment. Since when a company buy a stock actually it buys a stake in the business, profitability is extremely significant. A company could have great products, fantastic management, and a conservative capital structure; it will not remain in business if it does not produce profit. For these purposes cash holding is very important because when a company is having cash it can invest in stocks and other products, that's why profitability is positive associated with cash holding. Firm size has significantly positive relation with cash holding as shown in the Table 2. This sign shows that large size firm hold more cash as compare to small size. Early studies of [7,41] also found positive relationship between cash holding and firm size. According to pecking order theory firm size is expected to be positive related with cash holdings by corporation. The table shows that for every one unit increase in firm size the company will increase 4.2% of its cash holdings. Successful business experts and entrepreneurs are agreeing that key to finding the optimal size of firm is to grow in a controlled way. In order to survive in the market for long term, small businesses must adopt changes in response to customer's tastes and wants. Firms with the high levels of managerial ownership tend to hold more cash. Firms hold excess amount of cash to avoid the disciplining effects from the capital markets that may accompany raising funds externally. The Table 2 shows net working capital is negative and significant relationship with cash holding. The negative sign on net working capital is dependable with the view that firms with the higher liquid assets substitutes hold less cash which is consistent with the expected relationship between the net working capital and cash holding Afaza and Adnan [7]. Table 1 shows that for every one unit increase in net working capital the company will decrease 29.5% of its cash holdings. According to the trade-off theory there is an inverse relation between net working capital and cash. This is why because net working capital mostly consists of liquid asset cash substitutes. So at a specific time period a firm can only maintain liquid assets or high levels of cash. Previous researchers like [7,8,33], also predicted the existence of similar relationship. It is argued that liquid assets can easily be converted into cash and therefore use as substitutes of cash holdings If the value of net working capital is positive then it shows that the amount of short term funds which comes from short term assets are more enough to pay for current liabilities. Similarly from the Table 2 it is observe that leverage has an inverse relation with cash holdings, and it was also predicted by trade of theory and pecking order theory. Table 2 shows that for every unit increase in leverage the company will decrease 59.9% of its cash holdings. Leverage is negative because firms that have high debt ratio must have less cash reserves as they have to pay-out outstanding debts. When a company buy more of its assets using borrowed funds with the belief that income from these assets will be more than debts is leverage. But the risk factor is always involved in leverage because sometimes the asset value falls. Due to these reasons leverage should be reduced. Financial leverage is negatively correlated with the companies cash holdings significantly, and the increase in this variable will result in the companies, lower cash holdings. Among this, the impact of financial leverage is due to greater market regulations in companies with high debts ratio and greater pressure of capital costs so they reduce high level of cash holdings. These results show that firms carry less cash on their balance sheet which have higher leverage. The overall table shows that return on assets and firm size have a positive relationship with the cash holding. While net working capital and leverage shows a significant negative relationship with cash holding.

Conclusion and Recommendations

This chapter include conclusion and recommendations which will provide an essay and concise approach towards understanding the overall research work and findings of the study. It will provide future directions especially for the students and organizations to work more and get better results.

Conclusion

Cash being an important part of balance sheet for every organization, has taken huge importance, especially in research area. Cash holding has been studied throughout the world in different perspectives. This study aimed to identify factors that have a significant

S.No.	Variables	VIF Value
1	Return on Assets	1.051
2	Firm Size	1.161
3	Net Working Capital	1.101
4	Leverage	1.216

Table 1: Results for multicollinearity.

Test	Purpose	Results	P-value	Decision
Hausman Test	Fixed effect model vs. Random effect model	F(5, 240); Chi-square (5)=25.90	0.0001	Fixed effect model is appropriate

Table 2: Results for Hausman test.

Model	Beta	Std. Error	B	t-ratio	Sig.
1 (constant)	0.494	0.054	0.065	9.181	0.000
ROA	0.149	0.062	0.072	2.417	0.016
FS	0.042	0.015	0.089	2.832	0.005
NWC	-0.295	0.146	-0.062	-.2.023	0.044
LEV	-0.599	0.022	-0.859	-26.740	0.000

Table 3: Regression results for fixed effect model.

effect on firm's decisions regarding cash holdings. To identify the effect of such determinants, a sample of 30 textile firms listed in Karachi Stock exchange were selected for the study. Data was collected from the annual reports of these firms and Balance Sheet Analysis of State Bank of Pakistan. Data was tested through multiple regression models. Results were supported by the available literature on cash holdings. From the results of the study it was concluded that profitability of firm affects the firm's decision to hold cash. The more profitable the firm is, the more will they tend to use cash. Similarly as large size firms has an extra benefit of their size and due to their large size and profitability, these firms feel no worry to hold excess cash with them. Hence it is concluded that in order to survive in the market for long term, small businesses must adopt changes in response to customer's tastes and wants. Firms with the high levels of managerial ownership tend to hold more cash. Firms hold excess amount of cash to avoid the disciplining effects from the capital markets that may accompany raising funds externally. A negative relationship of net working capital with corporate cash holdings is supported by pecking order theory. This is why because net working capital mostly consists of liquid asset cash substitutes. So at a specific time period a firm can only maintain liquid assets or high levels of cash. Previous researchers like [7,8,33], also predicted the existence of similar relationship. From the findings of Leveragel it was concluded that firms carry less cash on their balance sheet which have higher leverage. Leverage is negative because firms that have high debt ratio must have less cash reserves as they have to pay-out outstanding debts. When a company buy more of its assets using borrowed funds with the belief that income from these assets will be more than debts is leverage. But the risk factor is always involved in leverage because sometimes the asset value falls. Due to these reasons leverage should be reduced. In simple words large size profitable firms are having the ability to hold more cash while on the other hand financially leveraged firms with high net working capital resist to hold cash with them and hence possess low level of cash or cash equivalents.

Recommendations

a) The current study will help researcher to explore the determinants of corporate cash holding in other sectors like sugar sector, cement sector etc.

b) For better results, future research could be undertaken by considering some other variables that might have significant impact on corporate cash holding.

c) It will enhance the understanding and knowledge of decision makers about cash holding.

Current study will also help them in their decision making process about corporate cash holding.

d) It will guide decision makers that if their firm is large size and profitable then they have to hold high level of cash.

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