The Effect of Cash Flows on Investment Evidence from Textile Sector of Pakistan

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Abstract

The objective the study is to analyze the impact of cash flows on investment decision in textile sector of Pakistan. The study utilizes sample data of fifty companies in textile companies and annual data for variables is collected from 1999 to 2014. Multiple linear regression method is used to test the hypothesis. Two models are tested with dependent variables of Inventory and Fixed Assets. In both models the independent variables are Free Cash Flow and Market to Book Ratio. The results of both models are significant except the impact of Market to Book Ratio on Fixed Assets. The results of study show that Free Cash flows has significant positive impact on Inventory whereas MBR shows negative impact on inventory. The results show that investment and cash flow are strongly linked after controlling for a firm's investment opportunities.

Keywords; Fixed assets, Inventory, Market to book ratio, Free cash flows

1.1 Introduction

The management of Cash in business depends on demand for cash in the company. The objective of liquidity management is to maintain level of funds in the company to maximize owner wealth and to fulfill the working capital requirements. Cash levels should be maintained to optimize the balance between costs and cash operating costs are sufficient funds. The type and amount of these expenses are specifically part of the company's financial strategy. In addition to the cash management of the company cash investment levels suggest increased opportunity costs, which are affected by levels of net working capital. The rise and fall of net working capital level requires a balance of future cash flow and, in turn, leads to changes in the valuation of companies. Liquidity management requires a proper balance of cash and other assets in working capital - receivables and inventory - must be ensured. If the level of liquid assets is not enough, it increases the risk of operating companies - loss of liquidity. Provide working capital generates costs that affect profitability. The decision on how to allocate national resources is at the heart of the conflict between shareholders and managers (Jensen, 1986). The risk managers spend most of their time to study the factors that cause cash flow power leverage of influence in the investment decision of a central issue in the field of corporate finance.

The most important decisions among all the decisions of a finance manager are investment decisions and financing decisions. These both are the key issues ever discussed in corporate finance. Both have major effect on firm's performance as well as firm's growth. Two major sresearcherces of finance are used to finance investment i.e. internal and external. Such modes of financing have some problems with them. Firstly, these required some return that may be fixed or vary. Secondly, organizations facing some inherent problems attached with these mode of financing i.e., agency problems, securities issues, inflexibility, issuance cost, fund availability etc. In empirical studies usually external financing and equity financing are discussed in relation with investment in long term assets i.e. PPE. Modigliani& Miller (1958) argued "the cost of capital is unchangeable irrespective the leverage ratio."Gavish &Kalay (1983), Green (1984) and Parrino &Weisbach (1999) argued that more levered firms have low investment opportunities. Modigliani & Miller gave the theory in a defense against objections raised on earlier theory presented in 1958 that corporate tax has impact on cost of capital.

Besides from long term debt and equity, internal funds are the most significant source of financing especially in countries where external funds are more costly. Cash flows of an organization is a major measure of its financial strength. According to neoclassical theory, investment is affected by macroeconomic factors not by financial constraints but according to Balance sheet theory, monetary policies of an organization has major impact on firm's investment. Empirical researches on investment paid specific intention to significance of internal funds in investment (Meyer and Kuh, 1957). In recent study by Fazzari, Hubbard, and Petersen (1988)also shows a significant relationship between cash flow and investment.

In previous studies, mostly cash flow is calculated by adding depreciation expense in net profit before extra-ordinary gains or losses i.e. income statements approach but here some problems arise with such calculation. Firstly, such amount includes some non-cash adjustments such as differed taxation, depreciation amount in cost of goods sold, share of profit from associates and subsidies etc. Secondly, it also contains gain or loss on disposal of PP&E that represents disposal of investment. So in this thesis, researcher use cash flow statement for calculating cash flow but only cash flow from operating activities.

In previous studies, investment is considered as investment made by firm in PP&E. Now in present thesis, researcher considered investment as investment in inventory. As there are two main approaches relating to current asset financing. First aggressive approach i.e. financing current asset with long term debts. Second

conservative approach i.e. use of short term maturity funds for short term assets. But here researcher consider financing of short term asset i.e. inventory by internal funds. Such financing is very significant especially in such countries where external funds are more costly or for those organizations whose balance sheet strength is not enough to attract external funds.

In this thesis, researcher studies the effect of cash flows on investment evidence from textile sector of Pakistan. Textile sector is the backbone of Pakistan's economy. Pakistan is 4th largest producer of cotton and contributes 5% to global spinning capacity after China and India. Pakistan's textile industry consists of large scale organized sector and highly fragmented spinning units and small numbers of composite units. According to Pakistan Textile Journal, Pakistan is among top 10 textile exporters of the world. There are 157 textile companies listed on KSE. According to financial statement analysis of companies listed on KSE from 2009-2014, the balance sheet size of the textile sector expanded by 3.6% with corresponding increase of 1.79% in total liabilities and 5.24% in equity in 2014.

1.2 Research problem
The inventory, fixed assets and cash flows have showed vital role in decision making for investment for companies. This research is an attempt to analyze and evaluate the role of cash flows in making decisions for investment. Also the study focuses on role of cash flows in decisions for tangible assets and inventory investment.

1.3 Research Questions
What is the impact of cash flow on firm investment?

This main question has two sub questions
1. What is the impact of cash flow on firm investment in property plant and equipment?
2. What is the impact of cash flow on firm investment in inventory?

1.4 Research Objective
- To check the impact of cash flows and market to book ratio on firm investment in inventory
- To check the impact of cash flows and market to book ratio on firm investment in property plant and equipment

1.5 Limitations of Study
The study focuses on 50 textile companies out of all registered textile companies on Pakistan stock exchange. The sample of 50 companies is selected on the basis of paid up capital. Data used as population consisted of fifteen years starting from 1999 to 2014. The year 2015 is not included in the sample because many companies from sample have not published their reports online. On this basis 2015 is excluded from the sample.

1.6 Specific Area of Research
This thesis shows the impact of cash flow on investment decision of manufacturing industries of Pakistan. The cash flow in the study was calculated through cash flow statement after making adjustments of all non-cash expenses while investment refer to investment in inventories and Property plant and equipment. 50 manufacturing companies were be taken from Textile sector listed on KSE from 1999-2014.

1.7 Significance
Over all firm/organization performance is greatly dependent on the future growth that is further linked with the matter of how much it has the findings for that purpose. So this research is of great debate for the researchers. This is significant because of the strong importance of the link of the cash flow with the investment. As this study is on the groups or categories of the investment so it might be helpful in the decision making as it has the knowledge of the factors that affect the investment decision. So it also can be said that analysis might be helpful in ignoring the agency problems when there are no ambiguities and this research will help managers in decision making in relation to the cash flows.

1.8 Thesis Organization
This study is divided into different parts. Chapter one is based on the historical background. Then the second Chapter moves towards the historical background and provides the information relating to the contribution of other wes on this study. Third Chapter explains the methods adopted to conduct the study. Next is on the evaluation of the results constructed through the methodology used on the basis of statistical test applied on the data. Finally some recommendations for future research have been provided along with what conclusion has been made depending on the analysis and evaluations.

2.1 Literature Review

Many researchers had worked on this topic. Some concluded that there is a relationship between investment and cash flows; some concluded that there is no relationship between cash flows and investment. The findings of some researchers are as follows;

The issue of that is centrally argued is the interaction of the cash flow originated from the firm with investment (Lewellen 2013). If researcher considers the neo-classical theory, then researcher found no link of cash flows with the investment. But when the researches were conducted empirically, researcher get the relationship between both the investment and cash flows, in fact, it is a strong relation in these types of studies. But still both remains a great debate for the last decades and lots of work has been done on it. The finding and effect of the relation between both factors remained the tempestuous in the history. Cuarpenter and Gaureglia (2003) did research on the same and according to them to interpret the relationship of cash flow and investment has a quite disputed history.

Many of the studies have revealed that this disputed relationship is because of the fact that of the theory of Tobin's Q. This theory is based on the opportunity in investment that is available and can be practiced by those who are participating in equity market and observing the available opportunities. It was presented by American Economist J. Tobin with the name of Tobin's Q theory in 1969. The basic theme of the theory was to recognize the cost to replace the company's assets as related to the market values of the share of that company that are being issued in the market. It is mainly based on the equation in which Q is being interpreted according to its calculated value through that equation. If the value of Q is high then it is interpreted as that the company has less cost to issue more equity funds and proving the low effect or limitations by the cash flows on investment (Abal& Oliver, 1987). This theory also describes the observable drifts in investment. Tobin's Q theory provide reasoning that firm can assemble more capital if the value of Q in the equation is greater than 1 and firm should cut off its capital if the prescribed value is less than 1. In more specified way, investment in capital is dependent on the value of Q when it is related to 1. Economic Researchers then argued for this theory that the value of Q should defined in such a way that it is quite enough for the measurement of the investment. Many studies after that had been conducted on the factors that affect the decision of investment in capital in support of the value of Tobin's Q equation for the prediction of the opportunities that are available (Muller, Yourtoglen, 1998). In another research of Caurpenter, he argued that although cash flow is in relation to the investment and effect on investment decision, but this effect has greater implication on small firms as compared to the larger one (Caurpenter, 2013). He also proved his results through that of Tobin's Q value.

Further researches were conducted on the Q theory. Fazzari with co wes Peterson &hobbert give wider elaboration of Q (1988). On the same work Deverux & Schintareli (1990), uses this wider implication of Q and elaborate their work that the costs of increasing debt also have a positive impact on the amount of debt. Their main focus of study was the small firm that they are more sensitive in relation to cash flows and investments. Bond et al (2005) suggested that investment is more directly affected by the cash flows then the effect of cash flows on investment in European economies. There way of research was based on estimated equations of investment depending on the data of four selected European countries that Belgium, France, Germany & UK. Cash flows largely have effect on investment decision of a firm if the firm is facing financial problems (Fazari et al., 1989). He provided this argument as in reaction of the imperfect information in the capital market.

In 1995 best known evaluation on cash flow curb arguments was given by Kalan. In his study, he applies the data on the same firms as were selected by the Fazrari et al. in 1989. He reached on to fact that few of those firms were found to have financial problems in investing from internal or external sources. In the same way research was conducted by two other famous economists Allayanis and Muzmendar (2001). They developed a negative impact of cash flows on the investment decision by a firm. According to their study, if the firm is facing financial crisis and has a move in downward direction then the firm invests in fewer project ts to finance their losses. In short, they are of the view that firm decision to invest is highly elastic with the cash flow scenarios.

Further researches were done on the prescribed study and the major of them is by Gugler et al. He uses the idea marginal law to investigate the investment in relation with the cash flows (1999). Working in the same scenario, Mathias et al (2005) investigated a strong relationship of cash flows and investment. According to their research, there is a positive impact of cash flows on firm's investment decisions. They provided the documented investing decision of different corporate Sectors and found that if the trend of cash flows is out flow then investment is also decreased by rationale amount. They explore dependent relation of investment with the internal cash flows of the firm. They used Tobin Q to set as basic reflection of the future expectation and the opportunities available for the investment. The null hypothesis they constitute was that cash flows have no impact on the investment decision by a corporate and the alternate of that hypothesis was that there is impact of the cash flows with the investment decision of the firm. The data used was as the manufacturing companies of Nigeria and the outcome was against the null hypothesis. Another work on the same line was done by Mizen in 2006 with the arguments that small corporate are less likely to fetch outsource financials. So they are bound to be relying on their own resources that are produces internally.

Small corporations are more dependent on internal cash flows for making future investments (Schaller 1993). They make the comparison of small and large firms and came to the outcome that the larger forms are less dependent on cash flows for investment as compare to the smaller one. On the same results Fazari et al reached on the same outcome those small firms has large co efficiency of cash flows (2000). A cross study among the larger economies of the world was conducted by Chatelian in 2007. He made research on Spain, France, Nigeria and Canadian economy for his research. His research was on the question that firm size is irrelevant to the relationship of cash flows and investment. New finding has explored the new facts between the relationship of the cash and investments. According to Dedolathomes, the more a firm is responsive to the investment the greater they was be affected by the cash flows (2008). The reason for that they have provided was the sensitivity of the firm's side cost to real cost.

The work of Modigliani miller provides strong information on the financial annexes (1958). Many other studies made further contribution to this line. The concept of financial system is playing a significant role in the economic fluctuationary factors and particularly in investment decisions has become now an ancient trend one can review the Gartlar study that was published in 1990. Financial system that comes from the market was that in which financial providers lend their finance with the use of some thesis that was traded commercially, bonds issued by the large firms or the equity trading system. These all means were the one that were very sensitive in relation to change in the cash flow situations. This relation with cash flow with all above investment opportunities is strong enough to put heavy security on the shoulders of the borrowers so that investor or the lender has less chance to be hit by the change in internal cash flow. Rajen and Zing provided an informative research on the same pattern. They provided their readers a principal on the basis of which differentiation between both terms lie (2004). He exemplified the economy of Germany and Uk and make the comparison of both countries for their financial system. He had argued that these are the good economies for the result orientation regarding the cash flow and investment. If researcher make comparison of both economies, UK economy is much greater than that of Germany in GDP terms. UK's firms are under the control of the financial markets and banks are not the part of it. Similarly bond trading is much less in Germany and even in UK if researcher move comparison to USA economy. Both countries' economy trade largely on the internally generated funds and from 1995 to 2005 is of important years for the development of financial sectors in these countries (Rajen& Zing 2004). They showed that this is the type of economy where there is no or less control of financial sectors have a greater impact on investment decision in relation to cash flow as they are largely effected by even the small changes in the cash flows. Investment is greatly dependent in this type of economy. So researcher can say that the economies that are trading on market basis finance are more sensitive to the cash flows in terms of investment and opposite is the case where there is strong financial system is controlling the overall financings. One of many comparative studies for the relationship of investment and cash flow is remarkable work Bond et al. defining with different finance system (2004). They have estimated the equation for investment by considering the data from 4 countries including Germany, France, UK and Brazil. They had chosen these countries on basis of the differences of financial terms for trading, like Germany is market based country while that of UK run their trade on the basis of the relationship. But they also highlighted other factors that may impact on their study. Before this work of Bond et al many other researches had been done on the same pattern. If researcher move back to the history then researcher was get the literature on the same pattern, like Schaller & Cherinko in 1996 had used the same methodology for thei research, hobbard et al in 1996, chalomir 1996, summary work on prescribed pattern in 1998 by hobbardetc are the major work studies on underlying methodology.

But after a decade, from 2005 to onward many new factors had been added to the literature of this study. A well known name Kaplan and Zige discussed in their studies that the research approach towards this relationship had classified among the firms is not correct (1996-2001). They use annual report's information in the financial analysis and criticize the work of fizari (1990). They use the financial statements that are reported on annual basis by the firm and corporate, in order to categories the alike firms on the same pattern by dividing them into three groups of constrained investment, financial and possibly constrained groups. Depending upon this classification they orient the results that firms in financial system have low relation towards the cash flows. Celery on a large sample size conducted the same result that if the firm has strong backing on the financial system then the chances to be hit with the change in cash flows of that firm in relation to the investment (2001). Allyannis &Mozumenre also argued on the working of Kaplan and explain it a way of observation explanation (2007). But Clary (2001) argued the results with the negative relation of cash flow and investment. Both Kaplan and Clary were particular on same fact that firm under the anguish flows of cash then in that type of case sensitivity towards the cash flow decreases, so in this case when the firms are passing through severe curb then the research in literature finds the opposite result of the relationship. So in my opinion that one must be aware of these facts before the interpretation of firm investment sensitivity to the cash flow as an indicator of financial curb is the cash flow that predicts the upcoming profit returns or growth in sales. But bond et al (2004), the outcome shows that it is of no significance in this type of research.

2.2 Sensitivity of Cash Flow with Financial Procedure

Financial procedure of a region finds the solution for the issues of the asymmetry information for their solutions. The concept of significance of the financial process in the economic cycles particularly in investment decision is not in practice now.

In market align financial processes creditors lend their funds through commercial thesis, mainly traded funds are corporate bonds and equity funds are highly sensitive to the cash flows. While on the other side those market that are on the basis of relational management encourage the closest and clear display that agree them to utilize more inspection over the lender funds and because of that clear display fund investors have low chances to be sensitized by the change in cash flow. A makeable work done by the Rajen&Zinge (2004) on the rules on the basis of which difference between the two underlying exists. Their results were further supported by the Allin and Gill (2006) by indicating the studies based on the Germany Economy and researcher compared to the UK economy. They found the wide spread of the financial rule in the economy of Europe. Capitalized market structure in European economy was found 3 times to the percent GDP as compared to that of Germany and therefore in Germany mostly the firms and large organizations are being controlled by the financial system instead of the banking control. It is not wrongly said that the bond trading is weak in the Germany premises if researcher make its comparison with the economies of America and Europe. The reason of despite of the fact of the different economical structures of economies, they are highly dependent on the internal cash flows for funding their investment so one can consider these countries as sensitive to the cash flow in relation to the investment decisions (Rajen &Zinge, 2004). Analyzing of these countries for the economical structure was show that their decision making for investment of the fund highly depends on internal cash flow situations. Many studies show the trend of high sensitivity of the firms towards the cash flow where the economy is market based and opposite for the opposing case, because the financial base is dependent on the cash flow structures. Research of the Bond et al is on the same analysis in which he examines and compares the impact of cash flow to the investment on several counties' financial system. Bond et al conduct a study that was comprised on the comparison of some countries for the impact of cash flow on the investment decision (2006). The countries he had chosen were on different pattern of the financial system. Estimation of the results of the studies of these countries was on the basis of the equation for investment used for those four European countries, France, Germany, Belgium and Uk. They founded that the countries that are trading on market basis and those that are relationship basis are different from each other. But they also showed the impact of the other factors to support their outcomes.

2.3 Sensitivity of Cash flow & Size of Firm

Size of any firm is the indication of larger external funds of that firm (Gilchrist, 2000). The more a firm is smaller in size the more risk is associated with it, and also it was have less ability to attract the funding from out sources. Studies showed that usually small enterprises are more affected by any change in the cash flow. They are even affected by the changes in the monetary policy as when there is tight policy come they have short of cash and therefore do less investment for sustainability. In the study of Gilchrist he provided the evidence that the tight policy of money is of great importance for any small organization in estimation the level of the inventories a firm is holding, its decision for investment, its future sales, short-term and long term debt situations etc. (2006). He then further makes contribution along with Himberg in 2007 to measure the sensitivity of small groups and the firms that have no bond or share issuance. Another contribution in the same line was presented by Schaller in 2007, who made his studies on same small firms. He further elaborated hid study by knowing the impact of cash flow for the firms that are not registered on stock and also added the findings from the firms that have no link with the large organizations for their funding. He founded that all mentioned groups showed more sensitivity for their cash flow in relation to the investment decisions.

Till now we have just mentioned the studies that have given the results of positive relation of small firms. But there are the studies and evident who have shown that there is no impact of the cash flows with the investment. Hou and schian in early 2000 chooses the firms as the sample which are financially restricted and found that firms' size is not directly related to close attention of the owner of that small firm which ultimately reduces the problem of conflict among high management and share holders.

Theory of investment framework model is related to empirical concerns of the investment. Firm size are not the diversified way to describe the financially restrictions of the firm (Criniko 2002). Individual must be of full knowledgeable while contemplating the result originated through different researches done on the economies of UK on USA firms or vice versa. The reason is that both economies are trading in different ways. The USA firms' comparison of small and large organization id separated from each other as the larger firms have the excess over the bond market of their frequent trade shares and bonds in equity market. Grouping was made on the basis of the firms that get their funding from banking system and the other is those firms that get their funding from financial markets.

In disparity to this bond traded markets that are being practiced in USA are less famous in the Germany and

Europe. It is that type of trading in which both small and large organization disparity is usually low between financial markets and the banking system financings. Researcher all was agree the sensitivity of the firms with the monetary policies and the firm size is of great importance in this regard because it has different impact on the firms with different size and this difference is because of the relation of the size of firms with snitching of external cash flows (Eichanbaun, 2011). Most of the firms either they are on larger scales or smaller, are financed through banking system. In comparison study of four European countries chatelaine (2004), who found an important impact of cash flow for small firms just in case of Italy. So analyzing the above study it is hard to say that small firma are always on risk of financial problems/restrictions as compare to the large firms as in case of Europe and Germany.

2.4 Sensitivity in relation to industrial Size

Carlino (2001) found in his studies the geographical impact of the money policy showed that there is divergent effect in the USA economy in responsiveness of changes occur in the policy during the period of 1957 to 1997 at geographical level. In this study he argued that the geographical difference effect the causation of different industrial size of a particular region. Manufacturing industrial side that are in conservative area are very sensitive to monetary policy changes as compare the industries that are in diversified area. Not only the state matter but also when there are a large number of small firms exist in the economy then they have more tendency to be changed in response to change in the monetary policy and therefore have the trend of sensitive cash flow in relation to investment decision.

New research studies are on the above mentioned pattern. The findings therefore modified to know the sensitivity of cash flow with respect to the size of a particular industry and comparison turn over the amount of the production regarding the concept of the industries of the different countries and how then they differ in response to impact of change in internal cash flow to the investment among the different countries.

Barthe&Remay studied the different impacts of change of cash flow position and make a link of the changes in this flow to the demand and cost of investment in the light of the monetary policy effects (2000), and these links are further related to the types of the manufacturing industries that also important impact toward these changes. Industrial frames that have the powers like investments on larger scales, open and long lasting and reliable goods are shown on greater sensitive situation that have a great influence on investment in response to change in the cash flows the reason for which is that the internal cost is strongly dependant on the capital cost (Dedola& Lippi, 2005). The same study was conducted by Pearson in 2005 in which he also argued that these type of industries that have dependency on the capital cost are also very dependent on the change of interest rate as compare to the other industries that shows the fact that interest rate of change has direct impact on the monetary policy and that further links to change in internal cash flow, so have an impact on the overall production/Outcome cyclical flow (Stephan, 2005).

Another study by Seyed Hossein Khatami et al. showed in his analysis that the most difficult situation for industry to fetch the finance having a high demand for new capital extensions and having the capacity as well to attract the lenders for borrowing of funds have been found to be have a greater effectiveness of changes in the policies of cash flow channels and hence on the their investment decisions (2015). The study was conducted on the sample testing of the 25 industries of five different countries on their VAR services. Further explanation of sample was on almost 76 industries' growth by using the regression equation and the result was concluded. The analyses that were conducted were based on the impact of policies practiced by a particular industry in order to explain a specific industry with the factors of reliability and ability of that firm to produce goods and services.

2.5 Cash flow sensitivity and creditworthiness

All above mentioned sensitivity of cash flows that are based on the different criteria goes towards another important indicator that can be said a root of all differences that is credit position of a firm or organization. The firms that have week balance payments are on more risk of shortage of finance (Shiantareli, 2002).

> "cashflow could be important because investment decisions react with a delay either to changes in financing constraints or to the information about investment opportunities contained in cashflow"
> (Jonathan Lewellen, 2014)

Katharnia study the sensitivity of investing decision of a firm in relation to the cash flow situation. She took the data from 1997 – 2009 of US firms. She also reached at the result that the firm that are least constraint are more sensitive to the cash flow and having less dollar investment as compare to high constraint firms (2014). A firm that has high stream of cash flow has liberalized position to stock and have greater opportunities to invest (Sheng Sian chen, Robin K., 2009).

Hu and Schiantarelli (1998) Önd that Örms with weaker balance sheets are more likely constrained. Clearly (1999) Önds that proÖtability and sales growth are the two most important variables in a discriminant analysis used to select Örms that increase or decrease dividends (which he interprets as reáecting the absence or presence of Önancing constraints). Researcher examine whether these indicators of creditworthiness are correlated with

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sensitivity to cash áow in researcher industry and size classes. In other words, researcher determine whether there are some industries or some Örm classes that are more sensitive to cash áow than others (even if they are the same industries in di§erent countries) because their poor performance on these criteria makes them more reliant on internal Önance for investment at the margin. Researcher do not espouse any one model in this thesis, rather researcher approach each literature from an agnostic point of view. The thesis devises sample-splitting and sample-matching methods to determine whether the predictions of each literature can be supported empirically. By evaluating the models for more than one country and making comparisons between them we hope to shed more light on the underlying reasons for cash áow sensitivity in investment equations. The next section explains researcher methodology in detail. Fazzari, Hubbard, and Petersen (1988) and Kaplan and Zingales (1997) approximate investment-cash flow sensitivity of 0.20–0.70 for developed rigid for the time period of 1970 to1984. They found it considerable immobile for stiff that do not appear to be financially constrained. Cleary (1999) and Baker, Stein, and Wurgler (2003) report substantially lower values of 0.05–0.15, the former for a sample of 1,317

October 2013 researcher study the investment-cashflow sensitivities of U.S. firms from 1971–2009. Their tests extend the text in more than a few explanation traditions and make available sturdy proof that cashflow clarify investment further than its correlation with Q. In straightforward OLS regressions, a dollar of present- and prior-year cashflow is connected with $0.53 of additional speculation for firms that are the smallest amount probable to be controlled and $0.67 for items that are the most likely to be embarrassed. Investment-cashflow sensitivities for the two faction drop to a unadventurously expected but still important 0.32 and 0.63, in that order, following accurate for dimension miscalculation in M/B. Their results put it to somebody that financing restraint and free cashflow evils are significant for speculation decisions.

R. Glenn Hubbard Michael Devereux and Fabio Schiantarelli 1990 in their thesis Investment, Financial Factors, and Cash Flow: Evidence from U.K. they used Panel Data in their research thesis.The consequences thrash out in their research thesis propose to, inside every belongings, cash flow is significantly connected by means of asset. Stock events of liquidity do not engage in recreation a significant experiential function. Cash flow does come into view to fluctuate diagonally firm in the size of its crash on investment. In exacting, it come into view to engage in recreation a more vital position for outsized firms as evaluate to diminutive firms.

Fazzari, Hubbard, and Petersen (1988) expand *Q* model by counting a finest for issuing innovative share, base on the unhelpful choice case put further by Myers and Majluf (1984). The continuation of this premium raises the charge degree of difference flanked by interior finance and innovative equity, and it amplify the chances with the purpose of the firm was discover itself at the summit of discontinuity where all profits are maintained, no dividends are rewarded, and the firm's future prospects are not good enough to induce it to issue new shares. For those firms *Q* does not issue, while cash flow does issue.

In one more collection of documents the function along with cost for investment of Informational limitation are further intimately examined. In this background the quantity of remaining property that are be capable of worn like security is a determinant of the organization price of exterior finance plus has an consequence on asset. The particular informational irregularity and the particulars regarding equipment be different crossways documents, excluding the ordinary topic is with the intention of insiders have a smaller amount motivation to deceive and more motivation to proceed in the concentration of outer depositor after their risk in the venture is better (see the donations by Bernanke and Gertler 1989; Gertler 1988; and Gertler and Hubbard 1988). The relationship among the firm's cost and the small percentage of capitalist assets deposits in the venture is as well put emphasis on by Leland and Pyle (1977). in view of the fact that the borrower's net value is likely to be procyclical, encouragement difficulty possibly was be for the most part ruthless in a depression. This might show the way to an asymmetric consequence of monetary variables on venture throughout the commerce cycle.

The survival of informational asymmetries that boundary the hard ability to raise outer surface fairness show business a vital role in addition in the document by Greenwald and Stiglitz (1988).They demonstrate that manufacture and speculation depend in the lead the impartiality position. In view of the truth that there is only inadequate right to use to impartiality markets, the most important system to revolutionize firm justice is to mount up cash flow, net of fiscal responsibility. All these models imply that can amplify in collateralizable network worth may arouse asset. The more accurate model of the informational asymmetries and of the likelihood of insolvency is evidently a might of these representation. On the other hand, they do not acquiesce an asset equation that put in plain words how monetary cause and potential on the subject of firm prediction mutually establish venture.

2.6 Hypothesis
Depending on the objectives of the study; three types of the findings are conducted that makes the hypothesis as under

H_{0a} = There is no significant impact of cash flow and Market to book ratio on the investment in PP&E

H_{1a} = There is a significant effect of cash flow and Market to book ratioon investment on Tangible Fixed Assets.

H_{0b} = cash flow and Market to book ratio has no important effect on the inventories

H_{1b} = Cash flow and Market to book ratio has an important effect on the inventories

Research Methodology

There is a well reputed relationship between cash flow and investment spending but it was not consistent in the Modigliani & Miller that was presented in 1958. The goal of my research is to find the importance of the internal cash flow of a firm on its decisions towards the investment. First of all I developed the theoretical frame of work for free cash flow and Pecking Order (PO).

3.1 Theoretical frame of work

Financial management decisions include investment decisions, financing decisions and management decisions. Financing decision is the most important decision among the other. According to agency theory there may be conflict of interest arises between shareholders and management on using external financing. Packing order theory explains the hierarchy of financing.

The research is based on the following variables that are used to reach on certain results that what is the effect of the cash flows on the decisions of a firm/company regarding the investments. These variables are on the course of research conducted on the same study by Stephen C. (2009) and Minton (2001).

3.1.1. Independent variables

In this research study the independent variables are Cash flow and Market to Book Ratio. Cash flow is used to check its impact on the investment decision and how it has the influence on the company/firm decision to increase or decrease and how a company changes its decision with the increase or decrease of the available cash and their inflow.

3.2.1.1 Cash Flow

There are different factors involves in measurement of cash flow. For example the dividend policy can largely affect the cash flow. So in one case cash flow itself is a dependent variable but as far as this study is concern, it is assumed that all factors as constant and only considering the cash flow itself as independent variable.

Cash flow=net income + depreciation+ non-cash expenses-gain on disposal of Tangible Fixed Assets.

Free cash flows are calculated by making non cash adjustments i.e., gain /loss on disposal of noncurrent assets and depreciation on PP&E or amortization on intangible assets as per IAS 38.

3.2.2. Dependent Variables

Depending on the demand of the current study to research dependent variable is quite challenging because many things that come under the investment category that may vary firm to firm and even sector to sector.

Investment is a vast phenomenon that has different values for every organization. Many researchers checked the impact of cash flow on investment in different ways like if talk about the work of Fazzari, Hubard (2001), they develop the concept of the impact of the cash flow on the investment spending and used the Tobin Q model of investing. Similarly Himmelberg studied the impact of the cash flow on R & D. so there is wide range of the investment.

Although Dependent variable is investment but I have divided this into three categories that are;

- Investment in PP&E
- Inventory

These variables are on the course of research conducted on the same study by Stephen C. vogut in 2009 and Minton in 2001. These are three major investments that every industry is involved in them. Advertisement expenses as well as inventory are the necessary parts of the investment that every firm is in need to invest in order to grow.

3.3. Conceptual framework

Independent Variables   **Dependent Variables**

Cash Flows		Investment in PP&E
Market to Book Ratio		Investment in Inventory
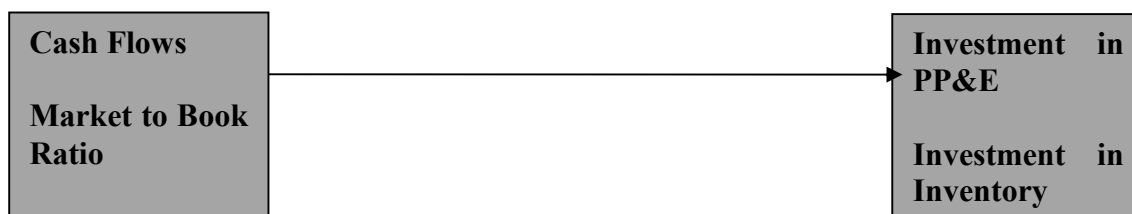
3.4. Research Design

3.4.1. Population & Sampling Size

Secondary data was used for this study for the empirical investigations of the required. Textile sector of the

Pakistan was taken as population and from that samples were made. The sample size of the research is based on the 50 firms that are listed on the Islamabad stock exchange. 15 years data was taken for these firms that are from 1999 – 2014.

3.4.2. Selection Criteria

As the sample 50 textile firms listed on Islamabad stock exchange the selection were on the basis of the paid up capital which is not less than 3 million.

3.4.3 Study Period:

This study covers the period from 1999 to 2014. The reasons for choosing this period was that the latest for investigation was available for this period.

3.5 Data Collection Method

For the process of the investigation of the main objective of the study data was chosen from the Islamabad stock exchange mainly. For a prescribed time period audit annual reports of the listed firms of the required firms was taken from the Islamabad stock exchange. Further besides those reports financial statements were also required for the findings that were taken from the site of State Bank of Pakistan (SBP).

3.6 Econometric Model

$$Inv_{it} = \beta_0 + \beta_1(FCF)_{it} + \beta_2(MBR)_{it} + e_{it}$$
$$FA_{it} = \beta_0 + \beta_1(FCF)_{it} + \beta_2(MBR)_{it} + e_{it}$$

Where

Inv=Inventory

FA=Fixed assets

β_0=Intercept

FCF=free cash flows

MBR=market to book ratio

e=error term

$_{it}$=cross section and time series

3.7 Description of Variables

3.7.1. Independent variables

In this research independent variable as the name of the study indicates is Cash flow. Cash flow is used to check its impact on the investment decision and how it has the influence on the company/firm decision to increase or decrease and how a company changes its decision with the increase or decrease of the available cash and their inflow.

3.7.2 Cash Flow

There are different factors that have effect on the cash flow. So discussion can go in larger exposure, like the dividend policy can largely affect the cash flow. So in one case cash flow itself is a dependent variable but as far as my study is concern I am going to assume all these effecting factors as constant and only considering the cash flow itself. So

Cash flow=net income + depreciation+ non-cash expenses-gain on disposal of PP&E

Free cash flows are calculated by making non cash adjustments i.e., gain /loss on disposal of noncurrent assets and depreciation on PP&E or amortization on intangible assets as per IAS 38.

3.7.3. Dependent Variables

Depending on the demand of the current study to research dependent variable is quite challenging because many things that come under the investment category that may vary firm to firm and even sector to sector.

Investment is a vast phenomenon that has different values for every organization. Many researchers checked the impact of cash flow on investment in different ways like if talk about the work of Fazzari, Hubard (2001), they develop the concept of the impact of the cash flow on the investment spending and used the Tobin Q model of investing. Similarly Himmelberg studied the impact of the cash flow on R & D. so there is wide range of the investment.

Although Dependent variable is investment but I have divided this into three categories that are;

- Investment in PP&E
- Inventory

These variables are on the course of research conducted on the same study by Stephen C. Vogut in 2009 and Minton in 2001. These are three major investments that every industry is involved in them. Advertisement expenses as well as inventory are the necessary parts of the investment that every firm is in need to invest in order to grow.

3.8 Data Analysis and Techniques

There are several methods for finding the association among oil prices, gold prices and exchange rate. In this thesis, researcher focus on examining the association among oil prices, gold prices and exchange rate through the following techniques of statistics:

3.8.1Descriptive statistic

Descriptive study portrays your apparent information being investigated. Information are accumulate and later than that expressive statistics is utilize to observe these type of files. Therefore descriptive exploration moderator simply a single variable at a time as well as is also naturally the entry-level kind of investigate in a nature of latest part of investigation. Expressive research usually makes clear what come into view to be experience and what the peak variables are. Descriptive statistics is used to find out the performance of variables. it is in addition used to discover the maximum return and minimum return. It is used to inspect the instability in chosen variables. This statistics contain jarquebera, variance, standard deviation, variance, maximum and minimum means etc.

3.8.2Correlation statistics

Correlation matrix is used to examine the quantity of relationship, path and power of relationship among the selected variables. to find out the relationship between cash flows and investment this technique is used. After applying this test researcher may find positive, negative or no correlation in the data.

3.8.3 Regression

Regression is used to find out the relationship between two or more variables. In this thesis regression is used to find out the relationship between cashflows and investment. In statistics modeling, *regression analysis* is a arithmetical procedure for approximation of the associations surrounded by variables. It comprise several method for representation and examine numerous variables, when the focal point is on the association among a dependent variable and one or more independent variables (or 'predictors').

3.9. Results & Analysis

For analysis and the result for my findings I used the descriptive statistic. For this purpose I used the fixed analysis effect method for which the recommended model was Hussmann test. So first of all I run the panel regression on my data and test the results through Hussmann model. Then the results are transferred to summary sheet and transferred to excel sheet for regression. As the panel regression is being used to detect the analysis descriptive statistics permit me for meaningful description of data.

Results and Analysis

4.1 Descriptive Statistics

Descriptive study portrays your apparent information being investigated. Information are accumulate and later than that expressive statistics is utilize to observe these type of files. therefore descriptive exploration moderator simply a single variable at a time as well as is also naturally the entry-level kind of investigate in a nature of latest part of investigation. Expressive research usually makes clear what come into view to be experience and what the peak variables are. Descriptive statistics is used to find out the performance of variables. it is in addition used to discover the maximum return and minimum return. It is used to inspect the instability in chosen variables. This statistics contain variance, standard deviation, variance, maximum and minimum means etc.

TABLE 1

Table 1 shows the values of descriptive statistics

	FA	FCF	INV	MBR
Mean	-8.3744	28053.91	100364.0	1.0775
Median	0.0400	49.05000	163.0200	1.0504
Maximum	0.9999	2210756.	6549617	95.0025
Minimum	-7323.81	-81280	0.0000	-75.0137
Std. Dev.	248.3026	165739.9	536848.2	4.5449

Descriptive statistics shows the characteristics of data as the above table shows that the maximum, minimum, mean and standard deviation value of three variables is given in above table. Fixed assets have a mean value 8.37447, maximum value 0.999, minimum value 0.7323 and standard deviation of 0.248.3026.Inventory has a mean value 100364, maximum value 6549617, minimum value 0.00 and standard deviation of 536848.2. Similarly descriptive

statistics of independent variables shows Free cash flows have mean value 28053.91, maximum value 2210756, minimum value -81280 and standard deviation of 165739.9. Market to book ratio has mean value 1.077548, maximum value 95.00250, minimum value -75.0137 and standard deviation of 4.544956.

4.2 Correlation Analysis

Correlation matrix is used to examine the quantity of relationship, path and power of relationship among the

selected variables. to find out the relationship between cash flows and investment this technique is used. After applying this test the researcher may find positive, negative or no correlation in the data.

TABLE 2

Table 2 shows the values of correlation

	FA	FCF	INV	MBR
FA	1			
FCF	0.0057	1		
INV	0.0062	0.8752	1	
MBR	0.0006	-0.0055	-0.0066	1

The correlation shows the direction between two variables and secondly it shows the strength of associations between two variables.

As the above table shows that fixed asset has a week correlation with free cash flows and market to book ratio i.e., 0.005729 and 0.00065 respectively. Above statistics shows strong correlation between inventory and free cash flows i.e., 0.875273 but negatively correlated with market to book ratio i.e. -0.00661.

4.3 Panel Regression Analysis

Regression is used to find out the relationship between two or more variables. In this thesis regression is used to find out the relationship between cashflows and investment. In statistics modeling, *regression analysis* is a arithmetical procedure for approximation of the associations surrounded by variables. It comprises several method for representation and examine numerous variables, when the focal point is on the association among a dependent variable and one or more independent variables (or 'predictors').

TABLE 3

Fixed Effect Model $\text{Inv}_{it} = \beta_0 + \beta_1(\text{FCF})_{it} + \beta_2(\text{MBR})_{it} + e_{it}$

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	547.4382	30.4127	18.0003	0.0000
FCF_?	0.5026	0.0568	8.8385	0.0000
MBR_?	-1.7727	7.6163	-0.2327	0.8160

Effects Specification			

R^2	0.5905		
Adjusted R^2	0.5593		
F-statistic	18.9441		
Prob(F-statistic)	0.0000		

The coefficient value of inventory with free cash is 0.50264.The corresponding t-statistics value is 8.8385 which is greater than 1.96 it means that model is fit to study. The common intercept is 547.4382 that is explained in Index.

Moreover, The values of R^2 is 59%, which means that 59 percent variation in inventory has been explain by the variations of independent variable, which is free cash flow and The value of AdjR^2 is 55.9%, shows that if the researcher incorporate more relevant variables than it was adjust R^2 at the rate of 55.9 percent. Model is found statistically significant as the corresponding value of f-statistics is less than 5% so this model is a good fitted model.

TABLE 4:

Table 4 shows the values of Hausmen test

Correlated Random Effects - Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	20.5094	2	0.0000

Panel regression consists of three major effects which are Common Effect, Fixed Effect and Random Effect. For the purpose of selecting appropriate Effect Model for the study, Hausman test has been tested. The *p* value of the cross-section random is 0.000, which shows that fixed Effect Model is the best model for the study.

Fixed Effect Model FA $\text{FA}_{it} = \beta_0 + \beta_1(\text{FCF})_{it} + \beta_2(\text{MBR})_{it} + e_{it}$

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1583.645	45.91147	34.49346	0.0000
FCF_?	0.453827	0.091295	4.971022	0.0000
MBR_?	15.79688	9.939801	1.589255	0.1124

Effects Specification				
R^2	0.684882			
Adjusted R^2	0.663438			
F-statistic	31.93816			
Prob(F-statistic)	0.000000			

The coefficient value of cash is 0.4538827 which and free cash flow has significant positive impact on fixed assets as it is clear from above table that the corresponding probability value of t-statistics is less than 5%. The value of common intercept is 1583.645 which is explained in Index B.

Moreover, The values of R^2 is 68.488%, which means that 68.488 percent variation in fixed assets has been explain by the variations of independent variable, which is free cash flow and The value of $AdjR^2$ is 66.34%, shows that if the researcher incorporate more relevant variables than it was adjust R^2 at the rate of 66.34% percent. Model is found statistically significant as the corresponding value of f-statistics is less than 5% so this model is good fitted model.

Correlated Random Effects - Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	61.3694	2	0.0000

Fixed effect model is selected the appropriate model as the Hausman test shows the probability value of cross section random is less than 5%.

5.1 Conclusion

Researcher has conducted thesis on topic "The effect of cash flows on investment, evidence from the textile sector of Pakistan". His results suggest that investment and cash flow are strongly linked after controlling for a firm's investment opportunities, especially for firms that are the most likely to require external funds. The stronger effect for constrained firms suggests that financing frictions have a significant impact on investment decisions, but some of researcher results also suggest that free cash flow problems play a role. To be more specific, researcher thesis reports followings key findings:

Inventory and free cash flow are highly correlated after controlling for M/B. In researcher full sample, one unit increase in free cash flows was result in 0.6 unit increase in inventory. These cash flow effects are statistically significant and economically large. Investment is more strongly related to a firm's expected cash flow than to its total cash flow. Controlling for M/B, past returns, cash holdings, and debt, a rupee of expected cash flow leads to an extra Rs 0.68 of total fixed investment, Correlation statistics shoes that fixed assets are weekly correlated with free cash flows. Firms always face financial constraints while making financial decisions. Firms have major two sources of finance that are internal and external. As results shows firms generally finance their long term assets with long term funds and current investments with free cash flows. This is true But in case of financially constrained firms whose free cash flows are negative even then they required to finance their short term investments with externally generated funds.

Collectively, researcher results do not fit neatly into any single model of investment. According to Hedging principle long term assets should be financed through long term debts and short term assets should be through short term debts or internal funds. But according to the working capital financing approach short term assets may be finance through long term debts. In case of free cash flows if firms make investments by using it free cash flows then share holder may claim for their dividend that may create conflict of interest.

5.2 Recommendations

The present study focuses on impact of cash flows on investment for textile sector of Pakistan for the period of 1999 to 2014. However, the scope of the study may be extended, provided data availability, to longer time period. Secondly, other variables may also be included in model to check the collective impact of those variables on investment. Moreover, other sectors of Pakistan may also address and comparative analysis may be done for textile sector with other sectors.

References

Almeida, Heitor and Murillo Campello, 2007. Financial constraints, asset tangibility, and corporate investment. *Review of Financial Studies 20, 1429–1460.*

AydinOzkan, JanninePoletti-Hughes, AgnieszkaTrzeciakiewicz, Directors' share dealings and corporate insolvencies: evidence from the UK, *The European Journal of Finance*, 2015, 1

Baker, Malcolm, Jeremy Stein, and Jeffrey Wurgler, 2003. When does the market matter? Stock prices and the investment of equity-dependent firms. *Quarterly Journal of Economics 118, 969–1005.*

Barbara A. Bliss, Yingmei Cheng, David J. Denis, Corporate payout, cash retention, and the supply of credit: Evidence from the 2008–2009 credit crisis, *Journal of Financial Economics*, 2015, 115, 3, 521

Chen, Huafeng and Shaojun Chen, 2012. Investment-cash flow sensitivity cannot be a good measure of financial constraints: Evidence from the time series. *Journal of Financial Economics 103, 393–410.*

Cleary, Sean, 1999. The relationship between firm investment and financial status. *Journal of Finance 54, 673–692.*

Cohen, Randy, Christopher Polk, and TuomoVuolteenaho, 2009. The price is (almost) right. *Journal of Finance 64, 2739–2782.*

ElyasElyasiani, Ling Zhang, CEO entrenchment and corporate liquidity management, *Journal of Banking & Finance*,2015, 54, 115

Erickson, Timothy and Toni Whited, 2000. Measurement error and the relationship between investment and q. *Journal of Political Economy 108, 1027–1057.*

Erickson, Timothy and Toni Whited, 2012. Treating measurement error in Tobin's q. *Review of Financial Studies 25, 1286–1329.*

EvangelinaDardati, Julio Riutort, Cap-and-Trade and Financial Constraints: Is Investment Independent of Permit Holdings?, *Environmental and Resource Economics*, 2015

Fama, Eugene and Kenneth French, 2005. Financing decisions: Who issues stock? *Journal of Financial Economics 76, 549–582.*

Frank, Murray and VidhanGoyal, 2003. Testing the pecking order theory of capital structure. *Journal of Financial Economics 67, 217–248.*

G., M. Harris, and R. Stulz (Eds.), Handbook of the Economics of Finance. Elsevier Science, Amsterdam, 109–163.

Hennessy, Christopher, 2004. Tobin's Q, debt overhang, and investment. Journal of Finance 59, 1717–1742. Hennessy, Christopher, Amnon Levy, and Toni Whited, 2007. Testing Q theory with financing frictions. Journal of Financial Economics 83, 691–717.

Hoboken, NJ. Lamont, Owen, 1997. Cash flow and investment: Evidence from internal capital markets. *Journal of Finance 52, 83–109.*

Hoshi, Takeo, Anil Kashyap, and David Scharfstein, 1991. Corporate structure, liquidity, and investment: Evidence from Japanese industrial groups. *Quarterly Journal of Economics 106, 33–60.*

Hubbard, R. Glenn, 1998. Capital market imperfections and investment. Journal of Economic Literature 36, 193–225.

ISIL EREL, YEEJIN JANG, MICHAEL S. WEISBACH, Do Acquisitions Relieve Target Firms' Financial Constraints?, *The Journal of Finance*, 2015, 70, 1, 289Wiley Online Library

Jennifer Itzkowitz, Buyers as stakeholders: How relationships affect suppliers' financial constraints, *Journal of Corporate Finance*, 2015, 31, 5

Jensen, Michael, 1986. Agency costs of free cash flow, corporate finance, and takeovers. *American Economic Review 79, 323–329.*

Jianlei Han, Zheyao Pan, HenkBerkman, CEO inside debt and investment-cash flow sensitivity, *Accounting & Finance*, 2015, n/aWiley Online Library

Kaplan, Steven and Luigi Zingales, 1997. Do investment-cash flow sensitivities provide useful measures of financing constraints? *Quarterly Journal of Economics 112, 169–215.*

Kashyap, Anil, Owen Lamont, and Jeremy Stein, 1994. Credit conditions and the cyclical behavior of inventories. *Quarterly Journal of Economics 109, 565–592.*

Kieso, Donald, Jerry Weygandt, and Terry Warfield, 2011. Intermediate Accounting (14th edition). John Wiley and Sons, Inc.

MaríaBelén Lozano, Simone Caltabiano, Cross institutional cash and dividend policies: focusing on Brazilian firms, *Applied Economics*, 2015, 47, 3, 239

Mohamed Ghaly, Viet Anh Dang, Konstantinos Stathopoulos, Cash holdings and employee welfare, *Journal of Corporate Finance*, 2015, 33, 53

Morck, Randall, Andrei Shleifer, and Robert Vishny, 1990. The stock market and investment: Is the market a sideshow? *Brookings Thesiss on Economic Activity 2, 157–202.*

Moyen, Natalie, 2004. Investment-cash flow sensitivities: constrained vs. unconstrained firms. *Journal of*

Finance 59, 2061–2092.

Petersen, Mitchell, 2009. Estimating standard errors in finance panel data sets: Comparing approaches. *Review of Financial Studies 22, 435–480.*

Pinghsun Huang, Jun Guo, Tongshu Ma, Yan Zhang, Does the value of cash holdings deteriorate or improve with material weaknesses in internal control over financial reporting?, *Journal of Banking & Finance*, 2015, 54, 30

Rauh, Joshua, 2006. Investment and financing constraints: Evidence from the funding of corporate pension plans. Journal of Finance 61, 33–71.

Research Journal of Finance and Accounting www.iiste.org ISSN 2222-1697 (Thesis) ISSN 2222-2847 (Online) Vol.4, No.12, 2013

SeyedHossein Khatami, Maria-Teresa Marchica, Roberto Mura, Corporate acquisitions and financial constraints,*International Review of Financial Analysis*, 2015, 40, 107

Stambaugh, Robert, 1999. Predictive regressions. Journal of Financial Economics 54, 375–421. Stein, Jeremy, 2003. Agency, information and corporate investment. In: Constantinides,

Sunny Li Sun, Jigao Zhu, Kangtao Ye, Board Openness During an Economic Crisis, *Journal of Business Ethics*, 2015,129, 2, 363

Tu Nguyen, H.G. Lily Nguyen, Xiangkang Yin, Corporate Governance and Corporate Financing and Investment during the 2007-2008 Financial Crisis, *Financial Management*, 2015, 44, 1, 115Wiley Online Library

Whited, Toni, 1992. Debt, liquidity constraints, and corporate investment: Evidence from panel data. Journal of Finance 47, 1425–1460.

YongjianShen, Lei Zou, Donghua Chen, Does EVA performance evaluation improve the value of cash holdings? Evidence from China, *China Journal of Accounting Research*, 2015, 8, 3, 213

YONG-SEOK CHOI, INSIK MIN, CASH HOLDINGS WITH THE PRECAUTIONARY MOTIVE AMONG KOREAN CHAEBOL AND NON-CHAEBOL FIRMS, *The Singapore Economic Review*, 2015, 1550047

YuantoKusnadi, Cross-listings and corporate cash savings: International evidence, *Journal of Corporate Finance*,2015, 32, 91

Zhenzhen Sun, Yaping Wang, Corporate precautionary savings: Evidence from the recent financial crisis, *The Quarterly Review of Economics and Finance*, 2015, 56, 175