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Does Firm Size Matter? The Impact of Liquidity Constraints on Firm Investment Behavior in Pakistan

by

Muhammad Mohsin Zaheer

A thesis submitted in partial fulfillment for the degree of Master of Science

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Dedicated to My Parents and Supervisor for their Never-ending Support and their Guidance

CERTIFICATE OF APPROVAL

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Abstract

The main purpose of this study is to examine the impact of liquidity constraint on investment in different sizes of firms. Sample of study is 100 firms listed on Pakistan Stock Exchange (PSX). Period of study is from 2000 to 2014. Change in fixed asset was used as proxy of firm's investment behavior and cash flow used as the proxy of liquidity constraints. Lag of firms investment behavior, net sales and Tobin Q were used as control variables. Firms are divided into three different sizes which are captured through dummy variable. Study used Generalized Method of Moments estimation model for the purpose of data analysis. The results reveal that the liquidity has positive and significant impact on firm's investment behavior.The results also show that the behavior is different among different sizes of firms.

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Chapter 1

Introduction

1.1 Theoretical Background

Different authors suggest the definitions of liquidity constraints differently. Likewise, Liquidity constraint is the inability to make a purchase due to the lack of cash (Johnson, 2002).A liquidity constraint is an arbitrary limit on the amount an individual can borrow, or an arbitrary alteration in the interest rate they pay. By raising the costs of borrowing, they prevent individuals from fully optimizing their behavior over time (Johnson, 2004). Liquidity constraint is a limitation on the principal amount an firm can borrow for use, or the substitution of the arbitrary in the rate of the interest they will pay. By raising the expenditure of lending, they avoid investors by fully reforms their actions over time. By raising the cost of borrowing or restricting the amount of borrowing, it prevents firms by fully reforms their actions over time. The effects of liquidity constraint is the capability of the investor's business willl to move their possessions in different time periods, into the different uncertain states of character related to income. It means the investor lose their investment in a big lose of the business (Edison, 2011). Liquidity constraint can be measured by two different phases, one is the lender side and other is the side of borrower. Likewise the lender ask the query is why a lender have limitation about the lending to borrow the money at the fixed interest rate of market, in case of requiring the maximum rate of interest (Michal Kalecki,

1937). The response of this query from the creditors affects the higher probability of the loss from the bankruptcy of debtor, and this probability of the loss rely on debtor-s assets on the amount which he borrowed (Sirkin, 1970 and Mccain 2014). On the other side of creditors, they have one query that how creditor implement limitations on lending the decision or behavior of the debtors.

All organizations have different rules and regulations and also have different procedures and behaviors to show the different portfolio of the investment. They are earning the different profits. And also all firms have different goals and objectives to make their organization profitable. Every firm makes different strategies to achieve the organizational goal. Some organization takes high risk for high return and some of the firm takes small risk for small return. In this strategy organization should be cost effective (Emma, 2001). There are three forms of business. First one is sole proprietorship; in this form business have less investment. In the partnership business have more money as compared to the sole proprietorship. But in the corporation business have more money as compared to the sole proprietorship and partnership.

All form of the business have different portfolio (Emily, 2003). Corporate sectors companies are better than other companies because it has a large capital, it also have a limited liability and the sustainability is also here. The positive behavior of the employees within the organization will lead good brand image. If the brand image is good then the organization will be more strength within the competitive environment (George, 1992). Thomas suggest that the good behavior of the firm is the signed of the profit maximization. It will enhance its production, internal and external environment quality and the quantity of the product, its price charges in the market, its technology etc. The study suggest the firms which cost is lower as compared to their competitors, they get maximum profit from their competitors (George, 1992).

The study refers to the firm investment opportunities. This Q investment framework is based on the condition that if there is no market imperfection and taxes, firm will continue to maximize its value through invest the price of capital marginal

unit Q exceed unity. Q is stated that the market value of the firm over the book value of the firm. Q found the behavior of the investment in the firm.

The study of liquidity constraints are related to firm's investment behavior on the basis of Q theory of investment. The value of the Q will be getting from the market value over the replacement cost As earlier discussed that Q theory is taken the market value of the organization listed on stock exchanges where as the cost of replacement is priced on goods sector of the invested capital. If consumers have more demand for the capital good, then it will increase the prices of capital goods.

On the off chance if $Q > 1$, at that point firm have motivations to raise their capital stock since capital once introduced and invention of the products is estimated more than its cost. In the event that $Q < 1$, at that point the firm should scrap capital, close plant and so forth.

If the Prices of the stock rise more than the value of the equity that is funded by the shareholders then the principal will sell their share because he will get the maximum profit in this situation. Both market value and the book value are very important to sell or buy the shares of the particular company or sell or buy the whole company. The value of the numerator of Q gives the proper director and value of the organizations as well.

If $Q > 1$ it means organization is profitable in nature. It will get more capital. It assets are more than its liability.

If $Q < 1$ it means organizations is suffering from loss. Its liability is more over its assets. The organization moved towards insolvency

1.2 Problem Statement

When the firm faces liquidity constraints, it will be very costly substitute if the firm gets external finance from any other financial institution. Most of the financial institutions offers finance with a very high cost, that will be more dangerous for the development or even sustainability of the organization within the competitive environment. The other financial institution will charge a very high interest rate

which discourages the current level of the organization. If asymmetric information is available among the managers and the investor of the organizations can be more severe in the developing or less developing countries for smaller sized organizations (Akerlof, 1989). The narrow research about the size of the different firms and the liquidity constraints in Pakistan is an important evidence to select this topic. This study is clearly focus on the non financial sector of the developing country like Pakistan.

The study is finding the impact of liquidity constraints on organization's investment behavior at the non financial sector of the Pakistan. It also looks whether the firm's size effects in investment behavior of individual or firm. The effect of size of the firm in both investment behavior and liquidity constraint in Pakistani firm is field of interest in this the study. Recent studies highlight the effects of these variables in developed economies but neglect its effect in underdeveloped economies. So it is the need of time to explore this widely accepted approach in the context of Pakistan.

1.3 Research Questions

Following are the research questions of the study are:

- What is the relationship between liquidity constraints and investment behavior at the non financial sector of Pakistan?
- Does Size affect on firm-s investment?

1.4 Research Objectives

Objectives of the study are:

- To examine the impact of liquidity constraint on organizational investment behavior.

- To examine the impact of liquidity constraint on firm-s investment behavior in the firms of different sizes.

1.5 Significance of the Study

This empirically study help to investors, academics, firm management and other stakeholders and also improve the performance and decision-making process (Budina, 1999). This study investigates the relationship of the liquidity constraints in organizational investment behavior in presence of different sizes of the firm (Levitas, 2009). This study helps to make benchmark for their employes and higher authorities to increase its level of performance. The evidence of this study also encourages and provide wide domain to the future researcher.

The purpose of study is to find a better analysis technique for investors in situations of liquidity constraint and different sizes of the firms (Alfaro, 2012).

This empirically study highlight relationship among liquidity constraints and organizational investment behavior. This relation can also influence the firms and other stakeholder's decision and as well as performance so this relationship play major role for investors, policy makers, risk managers, and also for firm management (Chaney, 2016). In every company Liquidity considers strengthen the probability of firm's financial condition. There are many implementations that may help to dealers, stock exchange, officials, brokers, traders, market maker and trader in listed firm. Hence the individual investor and also institutional investor prefer to invest less liquidity constraint firm (Misra, 2005).

1.6 Organization of the Study

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Introduction of the study is included in Chapter 1. Literature review base on empirical findings are described in Chapter 2. Methodology used in the study is comprised in chapter 3. Results analysis and discussions are summarized in

Chapter 4. Where Chapter 5 include conclusion, recommendation and directions for future research.

Chapter 2

Review of Literature

After 1990 a lot of new variations occurred in the structure of macroeconomics that refers both modern and advance financial structure of firm (Baer & Coes, 2001). The impact of liquidity constraints on firm investment decision is a broad concept in modern days. Many scholars have different opinion about the impact of liquidity constraints as mentioned in numerous literatures. As according to study analysis of Chirinko (1993) financial structure and liquidity constraints play a mix role in investment decision.

More commonly the experimental analysis for the investment of firm has different views for interpreting the organizations where market reacts differently in the stock market. Firms investment model depend upon the assumption of agent of organization that will react about prices sets in the market where securities buy and sale. Definitely, all firm have same right of entry in the financial market, each firm have diverse reaction to the cost of the capital and taxes rates, it is due to the distinctive financial structure of the firm investment demand (FHP, 1988). Similarly from this, study evaluates that financial structure have not only important role in the investment decision because firms always access to cheap investment from equity or loan. The impact of financial structure to the investment behavior of firm can be applied to developed businesses.

Liquidity is clear and understandable with a significant role in the price of assets.

The latest literature suggested that the organization is directly related to liquidity of the organization. if the firms have more liquidity then it will maximum probability of profit and the investors are attract by those firms. If difficulty in a business is obtained, then liquidity is a great opportunity to increase capital, so the company adjusts to liquidity (Yiu and Fung, 1998).liquidity constraints discourage the internal and external finance of the organization that invest by the investors (Boyle and Guthrie, 2003). From the empirical analysis of major studies, it recommends that the significance of internal financing is the good factor in investment performance (Hadlock, 1998). More developed countries have nowadays attempted to set up an information bank and standardize the law, to promote liquidity of performance approach and to make human rights . (Ann, 2000).

The evidence revealed that the size of the business is an important determinant of the liquidity constraints in the dispute because it is linked to the core elements of the business, which could affect the liquidity. Investments in the small firms or younger projects are mostly considered risky, so-called rising costs of loans, bonds issued and the issue of shares. Likewise, smaller organizations tend to offer less security for loan assurance. Audretsch & Elston (2002) undertakes a study on different country markets and diverse organization. According to the empirical study of this study it suggests that size of the firm has a direct influence on financial policy of firm investment.

Recently, most of studies found evidences that the size of the different organizations is a sign of liquidity constraints and also the different sizes of organization and its age is influencing liquidity constraint. The multinational evidence shows that small organizations are more powerful in the outcome of market shortcoming that lead to liquidity constraints. (Hadlock & Pierce, 2010).

The difference in the concentration of the ownership must be very influenced by the growth of the company. In the German company, they have a banking structure and a specialized institutional structure, they borrow a long-term loan, they avoid liquidity limit and their also exist an inverse relationship among the organizational and liquidity constraints (Daid & Ann, 2000).

2.1 Liquidity Constraints

Evans and Leighton, (1989) define liquidity constraints, as the threat of self-employment is persistent in age. According to the studies and analysis of Johnson (1978), Jovanovic, (1979) and Miller, (1984) it discovered that individuals would be going to do more hard and riskier job like entrepreneurship, when they are fresh. In this stage entrepreneurship cannot be an option for qualifies and experienced officials and the people who need it start doing business with liquidity constraints, it is the hard for a young worker to get a appropriate loan in the finance collections.

liquidity constraint is a limitation on the principal amount an firm can borrow for use, or the substitution of the arbitrary in the rate of the interest they will pay. By raising the expenditure of lending, they avoid investors by fully reforms their actions over time. In America, liquidity is raised by the offering the shares to the public.When there are high chances of liquidity constraints these brokers and dealers charge very low prices where as in low chances of liquidity constraints they charge a low a high price (Amihud, 2002). The result of liquidity constraints limits your costs, investors pay low price for the security having low liquidity. Furthermore the companies don't use external financing for covering short falling of all type of cash flow, but in the last moment, they shut investment. Cash flows volatility operating from external financing are always been associated to high cost.Cost related to capital investment is affected by volatility on the grounds that asymmetric information exists in the imperfection of capital market.

The liquidity is core part of organizational sustainability. It affects the monetary policy of the organization directly. It helps to increase the growth of the organization. All those firms which have less liquidity May high probability of the loss it also affect the risk and return of the company. The importance of liquidity means that it is more important for organizational change for development. Recent evidence of investment behavior of liquidity constraints of the small firm have danger from the liquidity constraints of the medium sized firm and the larger sized firms. In considered, there is stronger evidence that the investment in small sized firms

within the liquidity constraints is more sensitive as compared to the other medium and large sized firms (Weinberg, 1992). The study found the effects of liquidity constraints may depend within the size of the firms, the explanation of different behavior in asymmetric information in different sizes of the firms is exogenous. Symmetric information will help the organization more liquidity and the asymmetric information will be the more danger for the organization and also danger for the liquidity, it will lead to the organization in liquidity constraints. Systematic evidence suggests that the liquidity constraints are not significantly related to the firms size. The study cannot assume longer that the market is efficient and also cannot assume longer the external finance is cost less than the internal finance or capital (Audretsch, 2002). The study indicates that the medium sized firm is more liquidity constraints as compared to the small and large firms. Interest rate influences differently with the different classes of the borrower. . The amount of the companies is normally not same with respect to the firms size. The most of the studies found that the small firms are more harmful affects by the liquidity constraints as compared to the other medium sized firms and the lager sized firms.

Empirically the research demonstrates a negative and monotonic relationship between size and liquidity constraint and a positive and monotonic relationship between liquidity constraint and risk-adjusted performance. Most of the researcher have used different models for making the investment of the firm portfolio to examine the existence of the liquidity in the different sizes of the firms. The smaller firms show the maximum level of asymmetry information. Likewise, these firms bear higher expenses in the issuance of the new equity through shareholders. If this assumption is true it means the small sized organizations are focus towards the internal funds through shares as compared to the others, because financial institutions feels hesitate to provide loan to a small sized of organization because there is a big chance of the loss. The companies of Bulgarian are liquidity constraints and the size of the firm of this country may help to determine the more or less liquidity constraints organizations. Empirical evidences suggested that the liquidity constraints can give different explanation in term of changing in the economic as compared to the other Western economies sectors (Budina, 2000). Empirical

evidence found that the investment of different poor firms facing financially constraints is more powerfully affect by financial variables like cash flow or liquidity as compared to the investment of well firms. The study tends to creativity more focus towards credit offering is not same as compared to the size of organization (Stiglitz & Weiss, 1981). Recent research found that different choices with different markets have asymmetric information the probability of loan rationing tends to increase as the organizational size decreases. The literature found that liquidity constraints is binding as the reduction of the organizational size (Fazzari, 1988). The study found that the evidence of significance of monetary structure and liquidity constraints, their sources and information still remain an open questions (Chirinko, 1993).

Many researchers found that the development of the finance in both macroeconomic and micro economic level originates by the different investment and the development of the firms (Darrat, Elkhal & Mccallum, 2006). Levine (2002) found that the growth of the finance is positively associated to the well-being and development of the economies, this evidences is suggested after the sample size of the 48 countries. Other different evidences also suggest that the same object like the financial development by increasing the financial growth in both orientations of market and bank based.

In the early 1990s some of the financial structure of macroeconomics changes (Baer & Coes, 2001). These changes are in the form of banking sector, the conversion of the businesses in private sector. The improvement of the financial sector started in the 1980s with structure of government banks, which are regulating the privatization of national banks in the early 1990s. The development of financial institution are shaped most rigidity in world because its works more efficiently and its output or productivity is high, they provide better value to their customers. The exterior liberalization continuously works on the attraction of new consumers then they take a competitive edge and increase in competitive environment in Brazil.

Establishing the civil rights of shareholders and enhancing the productivity of different agreements is the will lead towards economic growth and helpful affect on financial structure (Shlefer & Visny, 2000). Most of the evidences also suggest

that shareholder will threat from the external funds because in case of dissolving the organization or ending the period of the organization creditors have a first right to liquidate its assets, after them preference shareholders are involve and they are claim their assets and the shareholders will claim after them. So the shareholders mostly dont like the external finance which bans the different organizations in different environments (Shlefer, 2002). In the history of the Brazil they have some legal rights for the protection of the investment of the businessmen. They also have the very high ownership concentration with creditors and the others people who are directly or indirectly influence the organization.

Investment in the smaller or younger different projects, firms are typically measured as riskier, then the firm will suffer by the increasing costs of debt. Furthermore, smaller companies tend to be less surety for the protection of loan. Previous research in different financial and non financial sectors are using several samples of the organization. These sample described that organizational size must effects the policy of the financial sector (Audretsch & Elston, 2002). The evidence has suggested that smaller firms have more effects on the market imperfections that tend to be more liquidity constraints.

The recent study found relationship of liquidity constraints on the firms investment decision. The research representations about different industries in investment point of view is usually rely on the statement of organization that will about the securities of the investor that Brazil are offering. Certainly, if most of the organizations have equivalent right to access to the short term loan then firms have different reactions about to variation in the cost of asset and that asset will be depend on tax aversion because of variation in the demand of investment. Every organization have different financial structure. Each structure will not be very effective and efficient for the organization and also does not fit for each organization. Each financial structure is good for the investment in different sector. When the organization has costless substitutes from the external investment for internal capital, it will be more benefit for the organization. if the internal finance is less expensive then the external finance, then it will be more benefit for those

organizations. Firm particular investment decisions are usually independent of the financial condition of those organizations.

The assumption of the perfect market have faced but we cannot assume more longer assume the internal finance is more expensive than the external finance. A suggestion of this opinion is that the access of internal money, obtain fresh that is raise by the equity or loan. The financial structure of the conventional companies is not related to the decision of the investment and may apply on developed firms with good predictions. Some of the other organizations, money issues can matter that exterior finance are not more adequate substitute for inner finance, especially in money market. For example, administrative risk avoidance to abundance debts and management decision over investment (Chirinko & Schaller, 1995).

There are several reasons that why financial constraints get decreases the additional organizational size. Stiglitz and Weiss (1981) suggested that, unfortunately different industries, the credit rationing is unusual in value of goods and rate of interest is not essentially at the market. The different studies suggest that the interest rate is more influence on the demand of the finance for any business. Interest rate also effects the decision of the debtor anout taking the loan from any financial institution.

As the interest rate rises, so prepares the dangerousness of debtors, top dealers of finance to agree to the boundary of the amount of credit they get at any specific rate of the interest. The valuable information about creativity is usually not same with the respect to size.

Liquidity constraints is focus of the literature that discussed and suggest that the high cost external finance resources of firms used for internal funds, so that this management action make investment projects more depend on the availability of liquidity. Recent studies widely explore the impact of capital market imperfection on the real economy (Bernanke et al. 1996).

The sensitivity of the cash flow is also the bad signal of the liquidity constraints. It the cash flow is positive its mean the cash inflow is greater than the cash outflow. These will the good sign of the companies financial or liquidity constraints.

If the cash outflow is more than the cash inflow it means liquidity constraints occur. This is the bad signal for the investors (Bond, Harhoff & Van Reenen, 2003). These empirical investigations suggests that the investment of firms confronting extreme liquidity constraints is greatly influenced by financial factors, for example, cash flows or liquidity which are healthy investment of companies. Some firms very slowly achieve their optimal level of capital stock due to financial constraints. Therefore, because of this sleepy change of capital stock, such firms' speculation returns are probably going to show an alternate conduct from that of the unconstrained firms. The main purpose of the study is to find relationship between the firms investment behavior in liquidity constrained which differs from other non-constrained or healthy firms.

Previous studies identified different factor that affect the firm investments behavior. Nevertheless, many empirical studies explore the affect of cash flow on investments behavior of the firms.

As like liquidity also affect stock prices. If the asset prices of the firm are decreasing this indicates that liquidity of the firm is decreasing, and thus refers that the firm is going toward liquidity constraints. Liquidity constraints play a vital role in asset pricing of equity market as well as bonds. Firm in higher liquidity constraints will face a high trading cost and will generate less return on their investment or stock (Amihud, 1991).

2.2 Firm Size

Different countries takes different rules to find the size of the firm some countries takes on the basis of the number of the employees and some countries are based on the market capitalization (Banz, 1981). This factor is incorporated into Fama - French three-factor display, which has been tried over the globe in different investigations. Size defines that firm having low market capitalization will generate high return than those having large market capitalization Basu (1983). It is very compulsory for the firm's economic growth to have a good stock performance and

thus major studies indicates that small businesses firm have a lot of opportunities for its economic growth.

Recent literature in finance unveiled the effect of size such as the studies of Banz, (1981), Basu (1983), Fama and French, (1993) and so many more from all over the globe elaborates the effect with empirical evidences. From the empirical analysis of these studies there exist a negative relationship between size of the firm and its return. Banz (1981) found that size is an essential factor for variation in stock return.

2.3 Firm's Size and Liquidity

Liquidity of firm having small size are low because they have very few opportunities, so the lack of opportunity can obtain the large loan, as well as they have lack of the resources to borrow the loan (Whited, 1992). According to German studies so literature suggests that the liquidity constraints are more for the firm having medium-sized capitalizations compared to big and small size firms. According the empirical analysis of Sting and Weiz, (1988) it refers that credit rationing is not same like for all sized firms. Firms having small size can finance their resources by issuing shares or equity (Audretsch, 2002).

Liquidity restrictions become simpler as the size of the company is decreasing. According to the study of Stiglitz and Weiss (1981), it discovers that, many credit markets are excellent in the price of the product; the interest rate is not at all in that equilibrium in the market. It is the interest rate which affects the demand for capital, the risk of investors, the risk of borrowers, lender, supplier and others. According to Hu and Schiantarelli (1998) discovered that the chances for liquidity constraints increase when there is a persistent increase in the firm size. However some previous literature shows that size cannot capture aspects of sufficient aspects, which can influence a strong financial power and ability to increase its external financing. An empirical evidence of the study suggests medium sized organization faces more chances of liquidity constraint in their investment appraisals

than small and big firms. The study further suggests that unusual German companies have planned to make sure that small businesses have definitely increased in some degrees such liquidity constraints (Audretsch, Elston, 2000).

Ann (2001) suggested that different sizes of firms have different kind of investment. The quantity of loan also varies to the size of the firm. The study also indicates that firms have the outmost responsibility to examine the pension takers and retired employees as they are source of financing. The accessibility of these funds can give relief to the liquidity constraints of the firm (Elston, 2001). The literature focus on this statement in broad assumptions. When small size firms need financing for capital investment, they mostly move toward banks for financing. Whereas the study of Stoll (1984) indicates that for credit costs, small size firm always face more difficulties than those firm having big size.

Loungani (1996) found the liquidity constraints have a significant impact on small and large firms investment. The study indicates that there is a better significant impact of liquidity constraints on small organization. Uncertainty impact is required and had a significance influence on large investment.The study further suggests that chances of insolvency for small and medium sized firm are higher than those of big sized firm. It is due to the fact the financial institution offer loan on low interest rate to big size firm as related to small and medium organizations.

In the case of Germany, most of the recent literature observed that the cash flow of medium and big sized company is significantly positive where as cash flow is negative for small size firm, and thus this cash flow resembles to liquidity constraints. In this regard the study of David (2001) explains that the exchange within the impact of liquidity constraints on the investment selection within the bottom and principal organization, determined that financial firm of Germany deliver a category of investment that is distinctive by means of the Anglo-Saxon, in particular in that financing constraints might be weakened inside the smallest firms.

The study of Levine (2002) unveiled the evidences from the sample length of the forty-eight global markets that financial development is definitely associated with the economic well-being. Additionally the study also indicates the equal aspect

that financial increase from maximizing the economic development in each financial institution and marketplace primarily based orientated. Most of the researchers from all around the world suggest that the economic development in micro and macroeconomic stage comes from the funding and the growth of the business enterprise (Darrat, Elkhal, & McCallum, 2006).

Liquidity constraints of firms differ from one industry to another. The empirical evidence from the study of Fazzari, Hubbard, Petersen, Blinder, and Poterba (1988) suggests that when firm size decreases the possibility of liquidity constraints rises. The study further explains that their exists a negative relations between firm size and liquidity constraints, as evidently discovered in the United States and some more economies.

2.4 Liquidity Constraints and Investment Decision

Liquidity constraint is a limitation on the principal amount an firm can borrow for use, or the substitution of the arbitrary in the rate of the interest they will pay. . By raising the expenditure of lending, they avoid investors by fully reforms their actions over time.

For firm investment decision liquidity constraints is a non-negligible and important variable. According to Frank Knight and Joseph Schumpeter (1921, 1934) the liquidity constraints play a vital role in the investment nature and its investments.

Liquidity constraint can be measured by two different phases, one is the lender side and other is the side of borrower. Likewise the lender ask the query is why a lender have limitation about the lending to borrow the money at the fixed interest rate of market, in case of requiring the maximum rate of interest" (Michal Kalecki, 1937). The response of this query from the creditors affects the higher probability of the loss from the bankruptcy of debtor, and this probability of the loss rely on debtor's assets on the amount which he borrowed (Sirkin, 1970 and Mccain 2014). On the other side of creditors, they have two queries. First, how creditor

implement limitations on lending the decision or behavior of the debtors? It was suggested by Baumol (1953) says that in many new studies for definite devotions in economics of small business, between others. Second, why the firms those who are facing the liquidity constraints can be a small non-profitable organizations than delaying opportunities of investment. Consumers are also affects by the liquidity constraints.

Recent studies indicate that firm's investment is to be considered as one of the important factor of liquidity constraints in investment decisions of the organization (Meyer and Kuh, 1957).Whereas firms having no liquidity constraints face high agency and monitoring cost. But in the case of Japan and Germany the result are different, the literature suggests that firms which are in liquidity constrained are highly sensitive in investment choices and faces high monitoring cost, where as firms in no liquidity constraints faces low agency cost. All these finding are important and in the favor of policy makers, investors and managers (aggarwal, 2007).

Many recent literatures also suggests that financial constraints of the firm is caused by asymmetric information and agency cost problem, it directly affect the financial structure of the organization and its investment in different kinds of projects (Fazzari et al, 1988). Such firms in financial constraints also face complications in financing capital externally for investment projects. Myers and Majluf (1984) argues that the pecking order of arranging funds for investment is internal financing. However some firm are in big mistakes of not defining their financial structure and then face the problems of liquidity constraints (Majluf, 1984). If the financially constrained firms have the shortage of internal fund then they have very low opportunities for investments. Thus the firm cannot locate their resources in efficient way and cause a decrease in output.

In the suggestion of different sizes of firms in Japanese (Storbacca. 2009). The larger firms especially the financial institutions are have basic or primary source to obtain from external finance. The other kinds of firms have weaker in enhancing capital.According to the research the firms size directly related to the profit, cash flow and liquidity constraint. Asymmetric information is the huge problem in

the investor or finance provider and the liquidity constraints. In this evidence suggest that the liquidity constraints is more severe to the access of smaller firms and medium sized firm for the access of the capital from the internal or external source as compared to the larger sized organization (Eleston, 2002).

The basic idea is that management tend to be increased the size of the organization, although it shows that the organization accepts bad investment plans. The capacity of organization is that cash flow can be more controlled for highly leveraged firms due to the project investments form loan or more external financing. The study further proposes that investment of firm is profitable when there is suitable allocation of resources, if not then the firm have to borrow. However if the resources are sufficient then firm capital is raised. It is the financial status of the firm, which creates productive and profitable investment. These characteristics depend upon the firm performance on its investments (Somaya, 2012).

If the financially constrained firms have the shortage of internal fund then they have very low opportunities for investments. Thus the firm cannot locate their resources in efficient way and cause a decrease in output.

Poterba (1988) suggests that when firm size decreases the possibility of liquidity constraints rises. The study further explains that there exists a negative relations between firm size and liquidity constraints, as evidently discovered in the United States and some more economies.The brokers also need to offer such offerings. When there are high chances of liquidity constraints these brokers and dealers charge very low prices where as in low chances of liquidity constraints they charge a low a high price (Amihud, 2002).The evidence revealed that the size of the business is an important determinant of the liquidity constraints in the dispute because it is linked to the core elements of the business, which could affect the liquidity. Investments in the small firms or younger projects are mostly considered risky, so-called rising costs of loans, bonds issued and the issue of shares. Likewise, smaller organizations tend to offer less security for loan assurance (Audretsch, 2002).

The companies of Bulgarian are liquidity constraints and the size of the firm and the financial sector of this country may help to determine the more or less liquidity constraints organizations. Empirical evidences suggested that the liquidity constraints can give different explanation in term of changing in the economic as compared to the other Western economies sectors (Budina, 2000). Poterba (1988) suggests that when firm size decreases the possibility of liquidity constraints rises. The study further explains that there exists a negative relations between firm size and liquidity constraints, as evidently discovered in the United States and some more economies.

Greenway and Al. (2007) suggests that there are minimal exposure to exporters and importers compared to non-exported exports in liquidity constraints. In United kingdom manufacturing firms it has come to know that the export firm are in low liquidity constraints and good health, better contribution to continuous export markets is better organized financial health than other non exporters (Bellone, Musso, Nesta, & Schiavo, 2010). Furthermore the study also suggests that the French Export firms are significantly affected by liquidity constraints. Whereas the study of (Guariglia & Mateu 2010). The firms of United Kingdom are not in financial constraints due to their cash flows. Liquidity constraints has a significant impact on the problems of stability of the firm, the authors found that if the firm is in good financial health and can easily arrange internal finance can be more effective for better accessibility and can make it better for exports (Bellone et. al 2010).

Liquidity of the firm is also positively influenced by firm's investment in plants and machineries that are replicated with the organization current cost of assets, however the organization's financial constraints is increase if the market is imperfect (Tailor and Francis, 2001). Traders do not trade in long-time period sources of investment whilst there is a probable extra profit, if the entire liquidity constraints are low, the long-time period deposit trading rate fully reflects their excessive overall performance, which improves the extent of intake of the deposits, the primary customers, the command to shop for marketers overdue (Bhattacharya, 1999).

According to Knight (1921) it is very important for entrepreneurship to control risk in its investment. Recognizes that this is due to the problem of ethical risk and the opposite choice problems provide by stock market (Leroy and Singell 1987). For this purpose entrepreneurs have to finance themselves form external source and control their risk of failure. The finding of (Schumpeter 1934, 1950) is somehow in line with many researchers, it refers some points of view of the rules of the sole proprietorship and the business that was relatively divides. The main and important role of the entrepreneurial business is to find out the different profitable opportunities inside in the economic system, at the same time as current inventory markets normally enable him to invention a entrepreneurial to control risk of the investments. For the need of investment financing firm go externally through the issue of new shares and loan. Beside this firm for their investment growth may use internal financing.

On the other hand it certainly understood that stock market do not provide best or sufficient budget for entrepreneurs in new opening businesses. In the case of America small size firm are supported by the U.S administration by offering handsome loan and debt to build up their new venue. There are some special budget and packages in Britain, French, Netherland and Belgium for support packages for jobless workers and entrepreneurs who are willing to begin new business (Bendick and Egan 1987). In U.S there is a special department, department of economic support which give prominent support and choice to the jobless applicants for building up a new business, specially finance them besides giving them bonuses or unemployment incentives. The U.S. department of economic supports application to behavior an trial in which a version of joblessness guarantee applicants will be given the choice of getting commercial enterprise build-up finance in place of unemployment incentives and bonuses. Firms are supposed to meet their investments by different resources (external and internal) to finance their component. This financial plan can be approved on behalf of cost and benefit analysis if their predictable performance exceeds the investment cost given that it's far assumed to be the same for all companies. On this assumption of the financial markets both external and internal financing are ideal options and the asset can in no way be

restrained through the lack of financing and investment. If these alternatives of financing are not efficient then firm investment will dace high info cost which are not indicated by possible gain. Firm which face high info cost in their investment supposed to be highly constrained where as low constrained will be those which have low info cost, it is due to internal financing. For this point of view Fazzari, Hubbard and Petersen (1988), Chirinko (1993) Ees and Garretsen (1994) propose a basic idea that liquidity constraints are important in firm investments.

In addition, some particular companies since 1974, have constrained through regulation to keep pension finances for their ability employees. These finances are the essential source of internal finance, especially for the larger companies. It is going to be predictable that such funds decrease the impact of liquidity constraints throughout distinct business enterprise, however mainly for the biggest companies. The literature discovered that to be dependable with the perspectives that lifestyles of those finance might also reducing the liquidity constraints of the businesses. According to empirical evidences from the study that indicates that single way to conquer the liquidity constraints to hold a great relationship with the providers and vendors (Petersen & Rajan, 1992),. Such kind of relationships allows the creditor to collect data of the debtor and its worth to investigate every activities of the debtor. The economic structures of England model are capable of free liquidity constraints compulsory on different organizations, and especially for small organizations.

The sale on discount and buying on superiorly is the negative impact on liquidity (Amhod, Madison, 2000). All of the marketers and investors require the maximum expected return returns on assets, which are the highest liquidity level for their investments (Stambers, 2013). Investment in liquidity has a negative impact as it affects the effective price, stock repayment and obligations; this negative relationship exploits a continuous performance plan (Pirra, Zhang, 2012). In addition, according to the empirical analysis of Georgia, (Rainbowboag, 2001) the cost of internal financing will be lower than the price of external financing, it is due to liquidity. Portable increase mostly benefits private owners because of liquidity, as the issuer is expected to sell more profits (Amhoud, Madison, 1 991). If liquidity is

a valuable factor for the return of investment, then the manager also acknowledges a valuable strength and good health in investment and capital (Bai, Pool, 2006).

2.5 Size and Investment Decision

Size of the firm plays a very important role in the literature for innovative activities. Too much literature suggests that firm size has a responsive role in the formation of knowledge and innovations. According to well know economist Schumpeter (1958) states that the large organizations have a large capital so they have a a lot of opportunities to work on innovation and development. In the literature of America from the few years suggest that the lower sized of the organizations are not very important because the fast changes in the environment is very expensive for all firms, so the small organizations cannot work continuously on the innovation of the new product. Small organizations also have narrow segmentation in which they are offering their products (Somaya, 2012). It further suggests that optimal size for the firm in an industry at a specific period of time is the minimum cost per unit of its overall production.

Literature also suggests that large size firms have more good success of external capital because of too many reasons like lowest transaction cost and less liable asymmetric information. Zarzeski (1996) indicates that it is challenging to obtain the full and final information for the large companies; one can positively see the availability of large firm's shareholder as a limit on administrative activities. According to the study of Gertler and Gilchrist (1994) the small real activities of small firms are affected by its strict financial policies as compares to big size firms. More studies focus that investment in small firms is low because of uncertainty of the firm in the same industry due to investor's expectations.

Firm size has also an effective role in the development of firm as well as economies. In this regard take a study on analyzing a sample of firm categorizing on small, medium and big firms (Poschke, 2014). The study proposes that there is a positive relation between firm size and development. It is because the more size grows, the

more it grows toward innovations, increasing number of shareholders and spreading internationally. But where as Alfaro and Bollard (2014) propose a negative relationship between size and development. The study further proposes that investment of firm is profitable when there is suitable allocation of resources, if not then the firm have to borrow. However if the resources are sufficient then firm capital is raised. It is the financial status of the firm, which creates productive and profitable investment. These characteristics depend upon the firm performance on its investments (Somaya, 2012).

Recent literature has also been discovered that size of the organizations is the important cause of foreign direct investment. As more when the firm went out from the initial limits of foreign production, the size of the company has no effect on the part of the company resources related to foreign activities (Lipsey, 1986).

The increase in Size of the firm sometimes may also cause agency problem. In this regard, according to the study of Jensen and Meckling (1976) investors believes that firm size increased by the managers for their own interest, not for the sake of its shareholders interest. Due to this difference in interest of shareholders and managers, it cause agency problems in the firm. Managers tend to be good profitable in short run where as shareholders want better performance for a smooth and long run. Small organizations are monitored by experts, which prove to be highly asymmetric information between the institution and its finance sources. Transaction cost for small firm also increases and will use more internal funds because of high cost of external sources. This increase the agency cost for small firm than large firm. This assumption always raises the problems of the agency, which is linked to ownership associated with different parts of the world, and gives the fact that investments can be extended to the large firms. The empirical evidence from the study of Segev (1978) also propose that the firm size is directly linked to the information system, and it has been indicated that research on the information system environment in large firms cannot be done in small firms.

The smaller firms show the maximum level of asymmetry information. Likewise, these firms bear higher expenses in the issuance of the new equity through shareholders. If this assumption is true it means the small sized organizations are focus

towards the internal funds through shares as compared to the others, because financial institutions feels hesitate to provide loan to a small sized of organization because there is a big chance of the loss. The companies of Bulgarian are liquidity constraints and the size of the firm and the financial sector of this country may help to determine the more or less liquidity constraints organizations.

The size of the company is significantly linked to the investment of the firm. Larger is the firm firms size, larger be the value of the firm in its investment performance. Due to weaknesses in access to foreign capital markets due to policy problems of the country, the availability of limitations in the activities of investors, especially these restrictions are stronger for small firm. These complications will generally be dangerous in emerging countries, where small firm are ready to beat their large counterparts firms (Kumar and Riddick, 1997).

The size of the firm also play a vital role in firm cash flows and its R & D. for larger firm the sensitivity of its cash flow is greater than the small firms (Athlay, 2015). As more the size of the firm grows its research and development department raises. Thus the author suggests a positive relation between research and development and firm size from its empirical evidences. According to the study of Cohen (2015) the investment in research and development department increases with the increase in firm size. The study further suggests that uncertainty also decreases when the size of the firm grows. Small firm are more uncertain in their future return on their investments. This concept is also been underlined n the study Ghosal (1996) that uncertainty in the whole industry will not majorly affect the big firms in the same industry.

The study of Hossein (2005) proposes a different concept on the impact of size on investments. Although size is positively linked with dividend. The study further proposes that there exist a significant correlation between firm cash flows and its investment choices. The increase in firm size can increase return but decrease investment resources in long run (Dastgir et al., 2012).

Large, medium and small-sized firms greatly encourage investment, where the investment of large firms are mostly unaffected by uncertainty, large firm have little reaction to the uncertainty of the market (Czarnitzki and Andrew, 2012). The

performance of small firms is only profitable by experience wisdom in investment. During crices or in financial disaster, the non-financial business and firms reduced its investment. Empirical analysis of the study proposes that big firms are highly sensitive to Informal Sector than small and medium organizations. These effects are clearer in enterprises in which firms reduced their total investment in financial crisis or economic downfall (Kuchler, 2015).

Literature shows that business has been harmed to take advantage of high level and reducing investment in this organization, especially for small and medium organizations. Therefore, the main impact of high leverage can destroy firm reputation and image in customer mind. The effects are widely clear in those firms that have reduced their total investment during the economic crises and down fall (Kocher, 2015). The basic idea is that management can be a trend to increase the size of the organization, although it shows that the organization accepts bad investment plans. The capacity of organization is that cash flow can be more controlled for highly leveraged firms due to the project investments form loan or more external financing.

Small organizations naturally relate to their clients in a more precise way and focus on establishing relations with their clients to achieve high financial income or the return on their investment to make their organization effective (Pollard, Morales, 2012). In fact it is concerned about small and medium firms with relatively large panels that control negative significance proposed in the concept of corporate boards (Jensen, 1993; Lipton and Lorsch, 1992).

Based on market investment, small organizations have to show maximum investment rates and variables from a larger organization. The study also provides evidence of the same link between the size of the high varieties in the investment rate (Stanley, 1996).

Positive relationship between investment and profits indicates the availability of liquidity, predictable on investment level is stable by size and profitable relationship. As from the study of Grazzi (2013) literature shows that the sensitivity of

investment in big firms is greater than the smaller companies. Taking size sample from different countries the study elaborate the impact of size on investment. There are positive effects of size and profitable investment and output.

Decision-making process of investors has challenged the characteristics of small and medium enterprises that there are more barriers in information to reduce the uncertainty of their investment than other large organizations (Cobham, 2000). From the literary evidence, the study further shows that there are more possibilities to increase the organization's insolvency in small and medium firms because financial institutions are letting credit at low interest rates to large firm as compared to small firms. Gibran's model in this regard also indicates that growth of the firm is directly dependent on the size of the firm (Wagner, 1992). As size increases the growth in investment of firm also increases. Hughes (2012) also takes a study to elaborate empirical findings in regards of size and investment. The study indicates from its analysis that only those small firms are only which are in a rapid growth.

All the firms which are greater in size have more liquidity but if has a small ratio to increase the liquidity when it increases. They have fewer ratios to increase. Some evidence suggest that the when the firms have more liquidity constraints, its growth is very low but when we are talking about the small sizes of the firms its growth cannot be effect by the liquidity constraints (vargas, 2015). The literature suggest that the liquidity and the sizes of the firms which is the most concerning topic of recent years, there can be the existence of cross sectional data and panel data that are designed the well reputed organizations (vargas, 2015). The success of the organization will determined by its output, its performance and its productivity. Liquidity constraints can be considered by the external factors which effect the decision of the shareholders or others companies competitive moves (vargas, 2015). Liquidity constraints not only occur in the bad management moves, without perfect information and perfect decision making or irrationality in the organizations, it also occurs by corruption, political pressure, economic pressure, social pressure and bad governance. Some literature suggest that the most large

and medium sized firms are facing liquidity constraints for the electricity problem, gases problem and the transportation problem (vargas, 2015).

The evidence suggests that the medium sized firms are more effects by the liquidity constraints than the other smaller and larger sized firms (Somaya, 2012). Under the uncertainty small and medium sized firms are more probability to death than the smaller and medium sized firms (Cobham, 2000). The evidence suggests that the liquidity constraints are more dangerous to small and medium sized firms as compared to the large firms. The study shows that the higher authorities are more binding to control the liquidity constraints in the small and medium sized firms as compared to the other large sized firms (Cobham, 2000). They have a less chance to survive within competitive environment under the pressure of liquidity constraints and the uncertainty (Cobham, 2000). The access of the financial institution of larger firm to obtain liquidity under the liquidity constraints is more easily than the smaller and larger firms. Because the existence of the internal funds is more in the large sized firms as compared to the other small and medium sized firms (Cobham, 2000).

The evidence suggest that the large firms organization have less chance to have a liquidity constraints, hence proved that there is negative relationship between larger sized firms and liquidity constraints. All the firms which have more liquidity, it will the sign of great profitability and the firms which have less liquidity this is harmful for the companies productivity and its performance. If the firm have are operated in loss it will control its loss for the sale of liquidity of the firms for achieve the breakeven point. Liquidity is the bone of contention of every firm. If the shareholders provide liquidity services to the firms, it will be more beneficial for the company (Moeiller & Sclinggemann, 2003). Mostly firms are categories of the firms size into three different sizes. Most evidence is measuring the size of the firm by their number of the employees but in the Pakistani context we measure the size of the firm by the natural log of the asset (Czarnitzki, 2013). Most of the literature used small area of the large firms which are bearing the liquidity constraints because there are the few industries which are the large but liquidity constraints (Czarnitzki, 2013). Higher leverage firms have more liquidity

constraints. There is the less chance of of probability if the firms have more sales but they are facing liquidity constraints. The liquidity ratio of those firms which have higher liquidity are more than ten percent and the liquidity ratio of those firms which have liquidity constraints are less than ten or equal to the ten percent (Kuchler, 2015). Liquidity is the worth or value of the cash, securities and equity which are in the firm. There is the significant impact on the size of the firm and liquidity either high or low liquidity (Kuchler, 2015). The firms which have higher liquidity have less chance to obtain external finance from the outside like other financial institution and the firm which have low liquidity have more chance to obtain the liquid asset from the external finance. The literature found that the new firms are more obtain external finance from the internal finance as compared to the old firms (Kuchler, 2015). The increasing the ratios of obtaining the external loan from the financial institution are getting higher day to day this is because of the competitive environment and sustainability in the competitive environment. The entire firm makes different strategy to make organization effectiveness. The firms which are exceed the level of high debt this is only because of the liquidity constraints (Kuchler, 2015).

In the 1990s the evidence from the literature on United Kingdom the access of finance on the small firms tend to be increase but the medium sized firms are facing the liquidity constraints, in these years the shareholders of United Kingdom taken away the investment where they invest (Edisons, 2002). Asymmetric information is the huge problem in the investor or finance provider and the liquidity constraints. In this evidence suggest that the liquidity constraints is more severe to the access of smaller firms and medium sized firm for the access of the capital from the internal or external source as compared to the larger sized organization (Eleston, 2002). The larger firms of Germany grew faster as compared to the smaller or medium sized firms. But the some literatures are different from this suggestion. It gives evidence that smaller organization are more rapidly grow in the liquidity constraints because its liquidity constraints is limited but the larger firms have less control over the liquidity constraints because its liquidity constraints are not limited. When the shareholders or higher authorities of firms control over cash

flow then it is easier to control over liquidity (Eleston, 2002). The firms which have R & D grew faster either they have liquidity constraints or not. Without liquidity constraints, the smaller firms are grown faster as compared to the larger firms because its variation among the change in the fixed asset is more as compared to the medium and large sized organizations. When the larger firms grew its value increases with a very small ratio, similarly the smaller firms grew with liquidity constraints or without liquidity constraints, its ratio of change in fixed asset increases as a large value (Eleston, 2002). The evidence of literature there are a large number of innovations that are require for improvement but larger firms have limited innovation for improvement. The smaller firms required new technology for taking the competitive edge in the competitive environment but the larger firms required moves for the sustainability of firms within the competitive environment (Eleston, 2002).

Low cash flow means the liquidity constraints and the higher cash flow means the less binding on the liquidity constraint. The smaller firms which less liquidity constraints can take can overcome its constraints through offering the better strategy or better management move (Fezzi, 2004). They can overcome the problem through offering the shares to those investors who have excellent, knowledge, skill and abilities (Kumar, 1997). Behavior of shareholders and the strategy of the shareholders are very important in liquidity constraints. On the other hand liquidity constraints are not good for the other than the larger firms (Fezzi, 2004). Larger firms taken the money from external institutions that are offering money to the needy firms they are offering to those on the credit basis. In this situation good will or reputation is more important for the small, medium and large sized firms because financial institutions are offering money in the light of their past experience. If their experiences are good then they offered credit with a very condition which is beneficial for both of the companies (Fezzi, 2004). If their experiences are bad with other financial institutions, then they are offering borrowing with very strict conditions. These firms are taken loan or debt on very high condition. This is not very good beneficial for the firms, but these firms have not any other good option to obtain. Compare the cost of capital and cost of debt or loan if one cost

is increases then the other cost it will leading to the liquidity constraints (Fezzi, 2004).

Literature suggest that when the firm have more liquidity constraints it will harmful for the firms growth, it will negatively impact on the size of the firm, some literature evidence suggest that small firms which are suffering from more liquidity will grow more quickly but on the other hand when large size firm faces liquidity constraints, it create negative impact (Hubbard 1998). Meanwhile the study found that liquidity is more important for all level of the firms, it will help to grow the firms, either small or large sized firms. Another literature suggest that the asymmetric information in those market whose preferred loan or preference shareholders will badly effect the health of firms to obtain more external finance from the investor or financial institutions. As the literature suggest that smaller firms have narrow access on the external finance from financial institutions so it would be more affected by the internal finance because, its internal finance are more than external finance. if firms have les internal finance then they will face more liquidity constraints. If they have less external finance then firms can manage its structure or maintain its company more profitable (Hubbard 1998).

The earliest literature suggests that cash flow will positive when firms were facing the liquidity constraints. Generally liquidity constraints are higher than in the larger firms size organizations and have narrow in the narrow sized organizations (Hubbard 1998). When the firms in liquidity constraints of the smaller firms, it constraints are limited. The investors or shareholders can overcome its liquidity constraints by purchasing, enhancing and invested some dollars in the asset. The literature suggest that the those firms who have internal liquidity will grow more as compared to those firms who more capital is finance by external finance. The valuable prediction suggests that there are very few firms which access the external finance. These kinds of predictions will be encourage by China whose conclude this after testing 1600 firms with different sectors (Storbacca. 2009). The study found that the firms which are finance by internal or external access finance from shareholders, it depends on nature of business. The other study found that most

firms in Pakistan are facing liquidity constraints which are owned by Government of Pakistan.

The understanding of liquidity to inner part whose cash flow is more for organizations that suggest more hurdles to take exterior finance. In the evidence from China that innovation, effectiveness and productivity is more in those firms who dont have link with government connections (Storbacca. 2009). The different economies seeks that different sizes of firms have differently impact on the economies. There are a lot of small firms which ratio of growing the product is more than the larger firms. The dissolution of the larger firms in liquidity constraints is more in the with the smaller firms. Growth of firms also has the same condition. The output of small firms is more as compared to large firms. In the suggestion of different sizes of firms in Japanese (Storbacca. 2009). The larger firms especially the financial institutions are have basic or primary source to obtain from external finance. The other kinds of firms have weaker to obtain grater problem to enhancing capital. The investment of firm is sensitive more in liquidity constraints. The study found that liquidity is more than the firm sustainability its development is high. Liquidity enhances the firms growth. if the firms have more liquidity constraints favor the entry of new firms, development of firms for perfect competition, it is bad harmful for all stages (Storbacca. 2009). The other literature found that liquidity constraints is more severe for both larger or smaller sized firm, the study conclude that the larger firms are more affected by liquidity constraint more from larger sized organizations. This evidence is come from Sweden. The firms which have less liquidity constraints will be more severe for those who bear external finance with the high cost (Storbacca. 2009).

Capital market is larger as compare to other markets inherently and capital market distinct as compare to all other markets due to risk which is associated to the demand side. Blinders (1988) study the liquidity constraints in the capital market. The rationing is not a neutral process and it is not related to firm size and rationing increase if the size of firm size decrease and these rationing very close to the firm size. The links shows that the liquidity constraints restricted in the United Kingdom, United State and many other countries. The liquidity

constraints are related to firm size and this relation explained by Q theory. The financial infrastructure of Germany is different as compare to other countries like United Kingdom and United State. The Germany infrastructure based on two features which impact on liquidity constraints. The first feature is that the firms used banks as external source for financial development. The second feature is that the banks are intermediately supplier of firms as well as a part of firm supervisory committee. Due to this purpose the larger and smaller firms are very lowers in Germany as compare to United Kingdom and United State. Due to these features the medium and smaller firms are affected.

2.6 Q Theory

Q theory based on assumptions which tells that the taxes are absent and if Q increased to unity the value of firm maximum. The equilibrium value attain if marginal unit will equal to the cost of capital replacement. Due to these measures of the Q control for assessment of market which provides investment opportunities to firm. Due to the Q, profitable opportunities available by the means of physical investment but these opportunities depending on availability of circumstances. The Q theory estimate by the investment equation which is obtained from the scale production and adjustment cost. In Q theory the equation contains cash investment, sales and lagged investment. The average amount of Q used to control the opportunities of investment for the firm. According to the equation the Q theory depend on the two factors one is the investment and the second is time in the other word the investment of firm at time. The investment structure of any of the firm is primarily shaped with different variables. The definition of Q indicated that the marketed cost of any firm divided by the replacement cost. It is also calculated by the equality of firm over the firm capital stock. When Q formula apply then face some difficulties but for the understanding of smaller and medium firm structure Germany it is neccessory to apply the Q model or theory because without this model its difficult to understand the firm structure because this tell

about the investor cost, firm size, capital stock and replacement cost and it tells about the basic structure of firm.

According to the results the infrastructure of Germany supports the medium firms as compare smaller or higher firms because medium firms shows large liquidity constraints. Due to these results the infrastructure of Germany is different as compare to the United Kingdom and United State. This research also fever the hypothesis which tells that the infrastructure of Germany support the different firm in the inter nationalism in 1980s. The liquidity plays main role to hinder the people to start business. The many factors involve for hindrance for example self-employment which is difficult task while other is risk and very minimum time to develop the business and liquidity or funds for the starting if business. These above factors mainly cause hindrance to start a new business especially for young.

The capital market does not provided funds for the starting a businesses and for this purpose government facilities the businessmans to run a small business by giving all subsidized loan or subsidized by introducing very low margin loan sachems and facilities the small as well as medium firms. Different governments have different policies like United State government provided subsidize loan for small firm or business for initial running of business. Netherland, Belgium, Great Britain and France also provided the loan for starting small business and overcome the unemployment. United State also provided loans for small business to decrease the unemployment the U.S government also provided loan as well as insurance for unemployed younger's.

This model based on statics and at the starting the sample or individual must decide that they work or himself (own business) or they work for others or else (employ of others). For this purpose, the 1500 white males study in 1976. The results show that the employers do not earn to much money and liquidity constrains are very low while the small, medium or large firm owners or business and very rapidly develop and liquidity constraints of firms or firm owners are maximum as compares to the employers and according the results the firms are more beneficial for liquidity constraints as compare to the employers. The starting of business or firm is difficult but after starting to much benefits shows as compare to

the employment and the one is liquidity constraints. So, if see both business and employment on parallel then the results indicated that the liquidity constrains are much higher as compare to the employment.

By the experience firm hierarchy, if the external financial source available and compare with the internal source then results shows that the external source is more expensive as compare to internal sources and this condition is more offensive if the firm is small. The external financial source creates more hazards in capital or main market if checked the economics because the external financial source gives loan to small firms at very strict conditions and theyre for is dangerous for especially small firms and due to these conditions, the firms contact with banks for loan and gives subsities. Every small mostly firm attached with any bank for credit and for liquidity constraints. The research conduct to check the relation between the financial source and firms. After research the figures of results shows that the financial support mainly depend upon the size of firm as well as liquidity constraints. If the size of firm is smaller and liquidity constraints are lowers then financial supporter not easily available to support the firm because in smaller size firms the risk is maximum there for financial source not easily not invest the money on small firms and if financial source invest in small firms then it gives very strong term and conditions which very hazardous for firms there for the these firm prefer banks for financial assistance and prefer the banks as a external financial source as compare to others.

The external or internal financial not differed in the main or capital market there for due to mixing if external and internal source created different problems especially for small firms. The small firms avoid external sources and relay on internal sources because external sources have very difficult and strong term and conditions and very less profit chance for small firms due higher profit goes to the external source and due this reason the liquidity constraints do not increase, and firm do not develop gradually. Due to these conditions the managers of smaller firms complaint that the profit and liquidity constraints are minimum if relay on financial support. According to the researchers the liquidity constraints are minimum of smaller firms due to less profit and the main reason of less profit of small firms

is due to the external financial funds and lack of internal or government funding or due to poor government policies and due the policies the smaller firms depend upon external source because do not availability of internal financial sources or due lack of funding for running of small firms and due to this reason the profit and liquidity constraints are minimum of smaller firms as compare to the middle or larger firms. The financial investment depends upon the size of firm. If the size of firms is middle or larger the funding source easily available and if size of firm smaller the funding source not easily available and if funding or financial source available, they do not give easily loan or funds available and funds are not available for under develop firms. There for the firms mainly depends on bank loan or bank credit because bank is the reliable funding or financial source. The smaller firms are not helpless but difficult to get financial source as compare to the middle and lager firms bit the smaller firms are more efficient as compare to the middle and larger firms.

The research conducted in china to check liquidity constraints of different sized firms (smaller firms, middle firms and larger firms) and results of this research indicated that the liquidity constrains of smaller firms are larger when compared with other firms and smaller firms are more efficient as compare to others and higher cash flow of smaller firms indicate that the smaller firms have higher cash flow shows that smaller firms have higher profit and due to higher profit obviously the liquidity constraints are also higher as compare to others. This research shows the relation between financial sources or funds and investment with the size of firms in the people of china and results shows that the size of firm strongly related to the financial or funding source and investment. If the size of firm larger then financial or funding source easily available and financial or funding source easily available, then investment easily available and due large investment the cash flow and profit increase and by increasing the cash and profit the liquidity constraints increased. So, according to the research the firms size directly related to the profit, cash flow and liquidity constraint. The smaller firms have many advantages like these are provide jobs to many unemployed people and overcome the burden of government. So, these smaller firms and contribute to providing a job many peoples and this

is mainly helpful for people as well as government. The main two advantages of smaller firms are that first of all good liquidity constraints and second provide a job for unemployed peoples and help the government and overcoming the burden and reducing the unemployment and gives the taxes to the government. The mainly liquidity constraints and financial or funding source depend on the size of firm and if the firms size is larger than funds are easily available and run firm easily but if the size of firms is not larger then funds are not easily available and funds available on very strict term and conditions and difficult for small firms to search the funding source and their for these are mainly related to banks for credit.

Some other evidences suggest that the constraints of liquidity is the limit of an arbitrary of the amount an firm or organization borrow hardly, because the bear high cost from external financer (Lintner, 1965). External people charged higher cost when they give the loan to these firms. At that time their behavior is changed overtime. Some other evidences suggest that small sized organization bears or suffer more liquidity constraints because its profit is too low as compared to the medium and small sized organization. Lower profitable organization suffering more liquidity constraints as compared to others (Lintner, 1965).

The entire firms have different investors. Every investors have different behavior. Some investors are risk taker and some investors do not take risk in any kind of projects (Banz, 1981). The literature also suggest that higher risk and higher return. Some literature suggests that there are a lot of biases involved in each investor. So every behavior have a different biases. So they think differently their action will be different from each other (Banz, 1981).

The literature suggests that there are three forms of business one is sole proprietorship, next one is partnership and the third one is joint stock or corporation. Sole proprietorship business owned by the single owner (Basu, 1983). There are a lot of difficulties involved in it. Because single mind does not enough to run the business successfully or efficiently. In the partnership two to twenty minds are involve in it (Basu, 1983).

They have different ideas; their capital is more than the sole proprietorship. They can run the business good as compared to single owner of the business (Fama,

1993). In the joint stock companies, they have a large capital from other sole proprietorship and partnership. Shareholders are involved in it. Boards of directors are also involved in it. Their coordination is more important to run the business successfully. The profit is higher as compared to the other (Fama, 1993).

Large firms have more capital as compared to the medium and small sized organizations or firms. They take external loan easily as compared to the others (Hawawini, 2000). Its capital is very large. So the financial institution is easy to grant loan to these kinds of companies. Because they are protected to pay back the loan as the pre determined period (Hawawini, 2000). Financial institutions also sure for the protection of loan. Because they also want to minimize its bad debts. They also want to run the business effectively and efficiently.

Large sized organizations are more secure for the liquidity constraints because they paid higher salaries to the hard worker and intelligent employee (Fazzari, 1988). Small organization does pay handsome money to their employees. Multinational companies are mostly based on the large sized organization, so employees are very happy to be a part of these kinds of companies. Because these kinds of companies have higher competitive environment (Fazzari, 1988). So they are more focusing on training and development of employees. They give higher intrinsic and extrinsic motivation to their employees. Employees feel comfortable to join that kind of organizations (Fazzari, 1988).

There are a lot of asymmetric information are involved in different sizes of the organizations. If the firms have more asymmetric information, firms will move towards the liquidity constraints (Bellone, 2010). Asymmetric information is negatively influence to the growth of the firm either it is small sized organizations, medium sized organization or larger sized organization. It is very harmful to make the organization effective and efficient (Bellone, 2010).

Some literature suggest differently as the above mentioned literature. They suggest that small organization if it is suffering from the liquidity constraints. It will be very limited (Hawawini, 2010). Organization can overcome it by offering good strategies. They can overcome its problem of liquidity constraints by taking a good

management moves. Organization is less binding from the liquidity constraints in the reduction of the size (Hawawini, 2010).

Author of other paper suggest that the small sized organizations is suffering from more liquidity constraints as compared to the other sized organization (Ramsey. 1928). They suggest that smaller firms have less capital from the medium and larger sized organizations. So they have a less surety for the protection of loan. External institution of finance does not give enough loans to these kinds of companies because they thinks that this organization will not pay back the loan in due time. So we also attack by liquidity constraints (Ramsey. 1928).

In the liquidity constraints. It will be a very expensive substitute to for sizes of the firms to obtain loan from the financial institutions in a very low interest rate (Wagner, 1992). The financial institutions take benefits from these kinds of firms. They have a good opinion. We are also taking the protection from the return of the loan. At that time the companies bear the high cost by obtaining the loan from the financial institutions. Mostly there is no religion involve in business. Every investors is work for maximize its profit through its business (Wagner, 1992).

The developed countries are more focusing towards the liquidity constraints, but in under developed countries have less focus towards the liquidity constraints (Audretsch, 2002). The developed countries take step against the liquidity constraints but the under developed countries cant take a good management move in against liquidity constraints (Audretsch, 2002). In the developed countries financial institutions are offering good package to the firms which are facing liquidity constraints, but in the under developed countries. They are not offering a good package to those firms who are offering liquidity constraints, so developed countries are better for under developed countries (Audretsch, 2002).

Monetary policy affects the liquidity a lot. If the firms have more liquidity it means it has a good monetary policy (Abel, 1986). Some authors suggest that sales and other department except finance department have play a big role in to make the organization profitable, but finance is also very important to make the organization profitable (Abel, 1986). Finance department is the bone of contention of every firm because it is a financial manager responsibility to invest money in

profitable projects. To manage the money and to manage the flow of money. They control to waste money. To get the finance is first objective to start the business (Abel, 1986).

The liquidity is big opportunity to make money or to adopt the opportunity in which business can be making profitable. Business make profitable if they get the good opportunity (Bates, 2005). Strict policy of finance help to make organizations effectiveness and the business run very efficiently. The allocation of resources is very important to the success of the business. Those financial managers are very good for the for the business which is good for the allocations of resources (Bates, 2005).

Agency problem is very harmful for the business. The literature suggests that the conflict arising among the managers and shareholders on any manner. It will lead to the business towards the loss. This conflict does not only harmful for the investor and finance, it is also dangerous for every operation of the business, and either it is sales department, production or engineering department. Agency theory always negatively influence on the performance of the organizations.

The literatures suggest that the size of the firms is more positive influence on the development of the organization. If the sizes of the organization are more it more the development is more (Fodio, 2013). It helps the growth of the organization. if the company growth is higher it means the company is good in innovations, it is very good in competition. It is also still profitable within the good competitive environment (Fodio, 2013).

All those firms which are bearing high cost in borrowing, it means firms is moving towards the liquidity constraints. Firms should work for adopting the lower cost. It is beneficial for the firm. High cost will lead the firms towards the loss (Melandar, 2017). Firms need to invest in less risky projects in which firms have less chance to to suffer a loss. They work for decreasing the cost of supplier. But one thing will be more considered. Quality of the product will not be compromised (Melandar, 2017).

The internal source of finance is better for the firms especially larger sized organizations as compared to the smaller and medium sized organization. The internal

source cost can be manageable through increase in the price of the share through reserve (Anderson, 1997). But the external finance is not more beneficial for the organization, because the organizations are responsible to pay back to the loan with in the due date. If the organizations fail to pay back the loan on the due date. The cost of borrowing or interest rate will be higher over time. This happens the company to make the liquidity constraints which is not good for the image or reputation of the firm (Anderson, 1997).

If the capital market is imperfect, it will be the sign of bad thing to make the market imperfect. The investors do not trade in a long run. Because the investor bear loss due to the imperfection of the capital market. So the price of the country is falling due to inflation (Berglof, 1998). The investors avoid investing the money in this sense the companies will moving towards the liquidity constraints. This is not good for the company and market. Both would be declined (Berglof, 1998).

The literature suggests that due to the bad governance the companies will suffer the loss. If the value of countrys export is greater than its imports, then the countrys market will show a balance in surplus (Claessens, 1997). If the value of the countrys export is not greater than the value of its imports then the countrys market will suffer the loss, its balance is showing in the amount of deficit. If the countries are in deficit position its means the whole market is suffering from the liquidity constraints. This is the bad sign of the investor to invest in that kind of market. In these days, Pakistan is suffering from this scenario (Claessens, 1997).

There is a difference results in the liquidity constraints in the financial sector and non financial sectors. Financial sector is more badly influence by the liquidity constraints as compared to the non financial sector (Van, 1994). In Pakistan when the company are facing the liquidity constraints its strategy is merging their company with another company, or the acquire one of the good company to that company who are facing the liquidity constraints (Van, 1994).

The literatures have different suggestion about the liquidity constraints some literature of United Kingdom suggest that the small sized organization have significantly and negatively influence by the liquidity constraints (Drawbek, 1994). In the literature from Germany, they suggest that the medium sized organizations

are facing more liquidity constraints it is significantly and negative influence by the liquidity constraints. In the country of Japan, the literature suggests that the larger sized organization is significantly and negatively influence in the liquidity constraints (Drawbek, 1994).

Liquidity exist in the company play a mix role in the investment behavior likewise the larger sized organization have liquidity, it is very good for larger sizes organization (Scharfstein, 1991). They can invest the finance in the big projects. They can earn profit from these kinds of projects. The borrowing cost is very low from the borrowers because the borrowers have more surety for receive back the loan (Scharfstein, 1991). They can take profit through offering a good interest rate. Small organization have liquidity, it means they can invest the finance in small projects. They can easily take benefit from these kinds of small opportunities (Scharfstein, 1991).

The literature suggests that firm can increase its liquidity by offering the shares in the general public. This is not only the solution of increasing the liquidity (Hubbard, 1998). Through offering the shares in the general public can be not beneficial for shareholders because they can loss their power if one man buys a large amount of shares. They can be made the next valuable shareholder (Hubbard, 1998).

The location, political pressure, through modern technology, through perfect competition cans also the variable to make liquidity constraints(Kornae, 1997). It is all firms sizes are involve in it. If the company could not adopt the fast changes in the technology within the competitive environment and the competitors take better move towards adopting the new technology. In this case the firm will face liquidity constraints, if they do not install the fast or modern technology (Kornae, 1997).

Tax rate also influence the company. The government rules and regulation and its high tax rate and the sanction of government will lead the organization towards loss (Sterken, 1998). This will discourage the investors; either investor is local for foreigner. Small organization are less influence by the technological change or

tax rate change as compares to the medium and larger sized organization. The companies must have a reserve for the uncertainties (Sterken, 1998).

The sizes of the firm increases when its growth will be high. Smaller sized organization have more rapidly ratio of growing as compared to the medium and larger sized organizations. Liquidity is depend upon the sizes of the firm if the firm size is larger (Mihailov, 1998). The liquidity is more, if the firm size is medium the liquidity is medium and if the firm size is smaller the liquidity is also smaller for other medium and large sizes organization (Mihailov, 1998).

The result suggests that in case of the liquidity constraints the small firm is tend towards the end its operation and it is close to the death. Medium and larger sized organization can be recovering its operation by taking the good management move (Pesaran, 1994). If the firms have higher the liquidity either it is small, medium or large sized organization will moving towards the profitability of the organizations. If all sizes of the firms facing the liquidity constraints it will suffer the big amount of loss (Pesaran, 1994).

The literature suggest that the liquidity constraints of the smaller firm can be recoverable by adopting the better management move, but the medium sized and the larger sized organization are not easy to recover its position (Krajewski, 1993). The firms liquidity is directly related to the R and D, if it more the firms will have the liquidity, if it is low in the company, the firm will have suffer the loss. Skills, knowledge and abilities of the workers to make the organization profitable (Krajewski, 1993).

Most of the evidences also suggest that shareholder will threat from the external funds because incase of dissolving the organization or ending the period of the organization credit or shave a first right to liquidate its assets, after them preference share holders are involve and they are claim their assets and the shareholders will claim after them (Shelfer, 2000). If the financially constrained firms have the shortage of internal fund then they have very low opportunities for investments. Thus the firm cannot locate their resources in efficient way and cause a decrease in output (Shelfer, 2000). According to the study of Gertler and Gilchrist (1994) the small real activities of small firms are affected by its strict financial policies

as compares to big size firms. More studies focus that investment in small firms is low because of uncertainty of the firm in the same industry due to investors expectations. The sensitivity of investment in big firms is greater than the smaller companies. Taking size sample from different countries the study elaborate the impact of size on investment. There are positive effects of size and profitable investment and output (Gertler, 1994).

The smaller firms required new technology for taking the competitive edge in the competitive environment but the larger firms required moves for the sustainability of firms within the competitive environment (Eleston,2002). The research conduct to check the relation between the financial source and firms. After research the figures of results shows that the financial support mainly depend upon the size of firm as well as liquidity constraints (Elston, 2002). If the size of firm larger then financial or funding source easily available and financial or funding source easily available, then investment easily available and due large investment the cash flow and profit increase and by increasing the cash and profit the liquidity constraints increased (Elston, 2002).

2.7 Hypothesis

1. Liquidity constraints as a significant negative impact on firm investment.
2. Firms of different sizes have different investment behavior.

Chapter 3

Data Description and Methodology

3.1 Data Sample Selection

3.1.1 Data Description and Sample

The purpose of study is to find the impact of liquidity constraint on firm's investment behavior. The study used the secondary data. Data were taken from companies' financial statement, Pakistan Stock Exchange and State bank of Pakistan for the period of 2000 to 2014.

Companies were selected based on the market capitalization and data availability. Firms were selected from different sectors of market which included,

- Oil & Gas.
- Steel Industry.
- Refinery Industry.
- Textile Industries.
- Telecommunication.

- Cement Industries.

The reason behind selecting only non-financial sector was the different capital structure of financial and non-financial companies.

3.2 Model Specification

$$I_{jt}/K_{jt} = \beta_0 + \beta_1(I_{jt-1}/K_{jt-1}) + \beta_2(Q_{jt-1}) + \beta_3(CF_{jt-1}/K_{jt-1}) + \beta_4(Y_{jt-1}/K_{jt-1}) + + \beta_5 Size_{jt} + \varepsilon_t$$

Where

"J" sign represents the company and "t" sign shows the time period.

I_{jt}/K_{jt} : "I" represents the investment of firm and K is the capital stock of firm .

(I_{jt-1}/K_{jt-1}) : J_{jt-1} shows the investment of the firm in the previous year, K_{jt-1} is the capital stock of firm in the previous year.

Q_{jt-1}: represents the market to book ratio

(CF_{jt-1}): shows the cash flow

Y_{jt-1}: shows the net sales of firm

$Size_{jt}$: represents the size of firm.

3.3 Dependent Variable

3.3.1 Firm Investment Behavior

A firm investment strategy is a set of rules, behaviors or procedures, designed to guide a firm's selection of an investment portfolio (Emma, 2005). All organizations are always making plan to make their organization effectiveness. Every firm set different goals and make different objectives to achieve those goals. The basic objective of every firm is to make profit maximization. If the organization will be profitable it will enhance the worth of the shareholders, so the shareholders take

keen interest in hiring the knowledgeable, having high skills and honest workers. At this time of hiring, shareholders select the employees on the basis of select right firm at the right job at the right time. In general perceptive, the study use to calculate the firm investment change in the fixed asset. The value of change in fixed asset is taken from the balance sheet of the different companies that are non financial sector of Pakistan. The study calculate the change in fixed asset by the value of the current year fixed asset minus the value of the previous year fixed asset (Bruinshoofd, 2003).

Firm's investment behavior = Fixed asset of current year Fixed asset of Base year
It means change in fixed asset over the year

3.4 Independent Variable

3.4.1 Cash Flow

According to Fazzari, Ferri and Greenberg (2003) cash flow refer to total amount of money being transferred into and out of a business, especially as affecting liquidity.

As per Fazzari, Ferri and Greenberg (2003) arguments if firms have insufficient cash flow for Investment Company take the debt. Hence company investment process must be depending on internal finance.They also found that cash flow is negatively related with firm investment behavior. Recent empirical studies prove that the capital market imperfection and asymmetries information as well as capital expenditure influenced the generation of internal funds (Williaamson; 2001 and Batesl et al. 2009).

To capture the Cash, flow the following proxy.

Cash flow = Net Income + Depreciation.

Positive cash flow shows that liquidity does not exist.

Negative cash flow values indicate the existence of liquidity constrain.

Depreciation and net income are involved in company balance sheet so the value of both variables takes from each hundred company.

3.4.2 Net Sale

Sales will be taken by the value of the goods of firms sold in the current accounting year. It is the major source of revenue of every business. Business cant survive if its sale is low. If the sales of firm increases, it will be more beneficial for the organization. in the gross sales of every companies, no deduction will be charged in the gross sales. After the gross sales some deduction are charged for taking more accurate values of the sales. It is written in the income statement of the company (Bragg, 1976). Net sales are the amount of a firm's gross sales which would be less than its returns, allowances, and discounts. It measures the firms output or productivity.

Net Sales = Gross sales Sales return Sales discount and Allowance

3.4.3 Size

Most commonly Firm size determined by the natural log of the total assets. Many theories suggest the positive and some of them support the negative relationship between firm size and firm investing behavior Faul-kendra et al. (2002) found the negative and significant relationship between firm size and firm investing behavior. The firms size play important role in firm investing sensitivity (Williaamson; 2001 and Batesl et al. 2009). The study further use size as a dummy variable. There are three kinds of sizes of firms are involved in this study. That is lager firms, medium sized firms and the largest sized firms. All are distributed on the market capitalization basis. the size 1 is the smallest size organization, its value is if the firms capital is between 0 to 3.5 millions. It is considered as smaller sized organization. If the firm which capital value is between the 3.35 to 5, it is considered as the medium sized organization or firm. If the firms value is more than 5 million than it is considered as largest sized firm. In Germany they are taking the size of

the firm through the number of employees the sizes 1 small sized firms are those which employees are less than 500 and the medium sized firms are those which employees are 500 to 1300. And the larger firms are those which employees are more than the 1300 (Julie, 2002).

According to Ozkan & Ozkan; (2004) firm size has direct relationship with firm investing behavior. Opler et al. (2009) also observed the positive relationship between firm investing sensitivity and size of the firms. Firm's size measure by the following formula.

$$\textbf{Firm Size} = \textbf{Natural Log of Total Assets}$$

Firm's size is based on three classifications. This study will distribute the data on the basis of the firm's total assets. Size 1 indicates the largest firms, Size 2 indicates the medium firms and Size 3 indicates the smallest firms.

3.4.4 Q Theory

The Q theory shades light on firm opportunity of firm's investment. It shows the firm investment opportunities. The Q theory structure based on absence of capital market imperfections and tax assumption. Q theory state that the firm that maximizing their value continuously invest when shadow price of marginal unit of capital Q cross the unit. The Q theory defined as the market value of the organization over the book value of the organization. Q captures the behavior of firm investment. Q is calculated by following proxy:

$$\mathbf{Q} = \frac{\textbf{Market value of the firm}}{\textbf{Book value of the firm}}$$

The market value shows If Q is greater than 1, ($Q > 1$) its means the organization are producing a lot of their varieties of the goods and services and it price are more than its cost.

If $Q < 1$, it means the organization facing insolvency. Its liability is more from its assets. The result of it is close the factory.

3.5 Estimation Technique

The study is suggested to use the panel data that allows capturing unobservable heterogeneity effect of liquidity on firms. (Arellano & Bover, 1990) Unobservable particular errors can be removing by variable transformation by lag term or first differences. In empirically research system estimator of used (Arellano & Bond's 1998). The system estimator technique gives more reliable results (Blundell & Bond 1998).

When sample size is consisted of time series and cross-sectional data the Panel data estimation technique is the most effective because it is unobservable and heterogeneity of data (Crisostomo, 2012). OLS (ordinary least squares model is biased and inappropriate when unobserved effect is co-related to predicting variable. To overcome this heterogeneity issue in this study used the first differences or the fixed effects model. When fixed exogeneity estimator fails, in both condition and show the inconsistent and unlike possibility limits (Wooldrigde, 2002). The general approach models that does not appropriable for unobservable effects and to deal with endogenity. Hence, this empirically research used Blundell & Bond (1998) adjusted standard errors two-step system estimations technique (SE) for potential heteroskedasticity.

This econometric technique considers in unobserved impact changing the factors into first difference, the study deal with the endogenety issues by using th generalized method of moments (GMM). These distinctions are reflect the nature of the instrument included (Levine, 2000). Thus, to overcome the problem of heterogeneity the study should utilize an estimator, substitute the requirement in differences with the original regression specified in levels such as the system estimator (Blundell & Bonds, 2009). In this study GMM model involve two type of equations system estimator with their own instruments. The first equation involves instruments lagged term with independent variables & dependent variable. The second equations involved in the first differences between with the levels of the dependent variable and the independent variables as instruments (Antoniou & Guney, 2002).

The study used Arellano and Bond (1998) estimation model Generalized Method of Moments (GMM) the study first remove the firm fixed effect by run on first differenced data through helpful variables of T22 and that lagged values of variables are the lagged of the investment, Q theory of investment, cash flow and the sales. All of the dependent and independent variables are divided by the capital stock of the firm for capturing the endogeniety in this model. The effects of liquidity constraints on organizational investment behavior are representing by Equations. (1) Organizational size and different years that explore the question, Is the investment behavior can vary in the different sizes of the organization where organizations are in liquidity constraints?

Chapter 4

Result and Discussion

4.1 Descriptive Statistics

As it is mentioned in earlier chapters that dependent variable is investment whereas we have seven (7) independent variables such cash flow, value of market to book ratio, net sales, firm size which are further categorized into small firms, medium and large size. Table 4.1 shows the descriptive statistics of the variable in this study.

Table 4.1: Descriptive Statistics

Observations	Mean	Maximum	Minimum	Std. Dev.
IK	8.705739	139.4928	-5.0612	12.9437
LCF	2.142478	42.91329	-136.10	6.80177
LMBR	0.938210	7.384089	-8.7815	0.92368
LNS	1.436605	38.89067	0.0000	7.35773
SIZE	4.645178	8.737133	1.5092	1.76013
SMALL	0.325768	3.496418	0.0000	0.46882
MEDIUM	0.306409	4.971214	0.0000	0.46116
LARGE	0.363818	8.737133	0.0000	0.48126

The table shows that mean value of investment observed during this time period is 8.705739 whereas the maximum value observed was 139.4928 and the minimum value is -5.06122. It means the average change in the lag of investment in a year is 8.7057. The range of cash flow witnessed was from -136.1 to 42.91329 whereas the average value was 2.142478. It means the average change of lag of cash flow in

a year is 2.1424 million. Similarly market to book ratio ranged from -8.78149 to 7.384089 whereas the mean value of market to book ratio was 0.93821. It means the average change in market to book ratio in a year is 0.93821. Our third independent variable was net sales which ranged from 0.0000 to 38.89067 whereas the mean value for net sale observed during this time period is 1.436605. The mean of it the average change in the sales is 1.436605 during the year. The average value of size observed 4.645178 whereas the minimum and maximum values of these variables were 1.509203 and 8.737133. It means the average change in the size of the firm is 4.645178 in a year. We further divided size into small, medium and large size. The average value of small firm was 0.325768. It means the average change of the small firm is 0325768 in a year. The maximum value of small sizes firm is 3.496718 and for medium size it was 0.306409 and for large size the mean value was 0.363818. It mean the average change in small medium and large is 0.325768, 0.306498 and 0.363818 respectively in a year. The minimum and maximum value of the small sized firm is 0 to 3.496718and the minimum and maximum of medium size organization is 0 and 4.971214 and the minimum and maximum value of large size organization is 0 and 8.737133. The study distributed the size of the firm in three different categories. The study uses dummy variable in this cause. It is random base category. The study takes the all value of the small sized firm which is less than 3.35 and 3.35 to 5 for medium sized firm and all those values which are greater than 5 will be taken as large sized firm.

Table 4.2: Correlation Matrix of the Study

	IK	LCF	LMBR	LNS	SIZE	SMALL	MEDIUM	LARGE
IK	1							
LCF	0.400071*	1						
LMBR	0.003011	-0.01294	1					
LNS	0.303529*	0.182873	-0.00778	1				
SIZE	0.186733*	0.061478	0.012156	0.045152	1			
SMALL	-0.16614*	-0.0573	-0.06915	-0.06784	-0.68574	1		
MEDIUM	0.027515*	0.042532	0.061897	0.050068	-0.25638	-0.46201	1	
LARGE	0.129697*	0.012421	0.004667	0.016674	0.919604	-0.52566	-0.50263	1

Correlation result is also helpful to find potential multicollinearity among the independent variables used in the study. For instance, as the author (Gujarati, 2009) suggested that when linear association between two or more independent variables is perfect, this concept refers to as multicollinearity. Majority researchers

agreed at this point that a serious problem of multicollinearity exist when the correlation coefficient value is (.8) or above (Gujarati, 2009). However in this particular study we noticed .4 as the highest correlation coefficient which was observed between investment and cash flow. Thus on the basis on this correlation table we can conclude that there is no suspicion of multicollinearity problem.

4.2 Choosing of Regression Model

As our study is based on panel data research and conventional model used for panel data is pooled, random effect and fixed effect model. In order to select this adequate model, the study depends on Hausman test statistics. The null hypothesis of hausman test is that random applied is appropriate model. If the P-value is insignificant then it said to be considered that random effect model or otherwise fixed effect model is considered Gujarati (2009). In this study, we found that P-value of Hausman test is significant (P .05) which mean acceptance of alternative hypothesis that fixed effect model is appropriate and rejection of our null hypothesis.

However we further observed that our data is suspected by heteroscedasticity, autocorrelation and endogeneity problem which means violation of assumption of OLS model and on the basis of these result we move to dynamic panel data model and selected that Generalized Method of moments (GMM) is most appropriate model of the study.

4.3 Normality Test

It is the standard error is one of the most important assumptions of classical linear regression where the error is normally distributed with the mean of error being zero as positive error will offset the negative error. Usually researchers used two kind of different test to check normality. The first and the informal way of checking normality and understand the pattern of residual is using graphs such as histogram etc. another important and formal way to examine normality of standard errors is

Jarque - Bera test. In this regards, value of skewness and Kurtosis is required to measure the values of Jarque - Bera test. In current study we applied both ways of normality checking i.e. Informal approach (histogram) and Formal approach (Jarque - Bera test). The results show that P-value of Jarque - Bera test is 0.2115 which means the null hypothesis of normality of error is accepted.

4.4 Autocorrelation

Another important diagnostics test of OLS assumption is Autocorrelation which suggest that zero covariance of error terms over time. It describe that error relation with one observation should be uncorrelated with another error of another variable (Advisor & Siyum, 2014). In our study, we applied Wooldridge test for Autocorrelation. The study investigates the autocorrelation test by Wooldridge test for the investigation of the autocorrelation. The test shows the result that P value is 0.000 which mean the data rejects the null hypothesis and found that our data is affected by autocorrelation also

H_0: no first order autocorrelation

Table 4.3: Wooldridge Test for Autocorrelation in Panel Data

F (1, 29) = 55.549
Prob > F = 0.0000

4.5 Generalized Method of Moments

As it is discussed in earlier paragraphs that our data is suspected by heteroscedasticity, autocorrelation and endogeneity issue so it necessary to correct these in order to unbiased our results. In this regard, researcher usually prefers GMM (Generalized Method of Moments) Wooldridge (2015). Below table 4.3 shows the detail of output of Generalized Method of Moments (GMM) regression.

Table 4.4: Generalized Method of Moments

Dependent Variable; Investment				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.273713	3.371341	26.02	0.0000
LCF	0.229581	0.154351	1.990	0.0480
LMBR	0.131952	0.145384	0.913	0.3642
LNS	0.154989	0.10841	3.873	0.0000
SIZE	0.731915	0.509757	2.024	0.0440
SMALL	-5.69177	2.823522	-2.015	0.0440
MEDIUM	-5.22284	2.69622	-1.937	0.0529
LARGE	-6.19865	3.082958	-2.0106	0.0445
IK(-1)	0.677924	0.074635	9.0832	0.0000
R- Squared			0.609127	
Adjusted R- Squared			0.607026	
F value			6.1300	
Prob (F-statistic)			0.0000	

The table 4.3 show that value of R-squared is .609127 showing that 60.91% variation in our dependent variable (investment) is because of our independent variables i.e. cash flow, value of market to book ratio, net sales, firm size (small firms, medium and large size) and Lag of investment whereas the P-value is 0.000 explaining that joint effect of all independent variables on dependent variable is significant. If we look at our main hypothesis, it is observed that results supported our first hypothesis that is there is significant relationship between cash flow and investment as coefficient of Cash flow (LCF) is .229581 whereas the P value is 0.0480 (P .05) which mean that there is positive and significant relationship between Investment and Cash flow. Statistically this result can be explained that a change in one unit of cash flow will bring .229581 changes in Investment. The results show that coefficient of value of market to book ratio 0.131952, T-statistic is 0.907613 whereas the P-value is 0.3642 suggested again an insignificant and positive relation between value of market to book ratio and investment (as P-value .05) which opposing our second hypothesis that is there is significant relation between value of market to book ratio and investment. Our third formal hypothesis is that there is significant relation between net sale and investment. Here again we found an significant and positive relationship between net sale and investment as coefficient value is 0.154989 and P-value is 0.000 (P-value .05). Our next hypothesis

is that there is significant positive relationship between firm size and investment. The results supporting our hypothesis as the coefficient is 0.731915 whereas the P-value is 0.044 (P-value .05) showing significant positive relation is observed between size and investment. The next hypothesis is that there is significant negative relationship between small firm size and investment. The table show that coefficient is -5.69177 and P value is .044 (P0.05). This hypothesis is supported by our results showing that there is negative and significant relation between small firm size and investment. Statistically it can be explain that a unit increase in small size of firm will result a decrease in investment by -5.69177. Our next hypothesis is that there significant negative relation between medium firm size and investment. The tables show that the coefficient of medium firm is -5.22284 whereas the P-value is 0.0529 and T-statistics is -1.9371 describing a negative and significant relation between medium firm size and investment. This result again proves our hypothesis that there is significant negative relationship between medium firm size and investment. Statistically this can described that an increase in medium firm size will result decrease of 5.22284 in investment. The seventh hypothesis is that there is significant relationship between large firm size and investment. This hypothesis is again supported by our results as the coefficient is -6.19865 and the P-value is 0.0445 (P-value 0.05) showing that an increase in large size of firm will bring a negative change by -6.19865. Our last hypothesis is that there is significant relationship between lag of investment and investment. This hypothesis is proving by our results as the coefficient 0.677924 and the P-value is 0.00.

Chapter 5

Conclusion and Recommendations

The objective of this study is to investigate the impact of firm size and liquidity constraint on firm's investment behavior in Pakistan. The study is based on panel data and the data was collected from market capitalization based companies of corporate sector of Pakistan for the period of 2000 to 2014. The methodology was divided into two steps. In first step the study calculated different proxies through accounting ratio that have been used in this study and in next step, the study used different statistical test by using Eviews8 to investigate the impact of firm size and liquidity on firm investment behavior.

The regression results concluded that all the independent variables such as cash flow, value of net sales, firm size(Small, Medium and Large firm's size) and Lag of investment has significant impact on investment except value of market to book ratio. Looking at our formal hypothesis, our first hypothesis is there is significant relation between cash flow and investment. This study concludes that there is significant positive impact of cash flow on investment. This result is in line with Fodio et al. (2013), Melander et al. (2017), Kadapakkam et al. (1998) suggesting that investment level depend on availability of cash. The more cash availability in the firm, the more they may invest. Our second hypothesis is that there is significant relation between values of market to book ratio. Our result opposing

this hypothesis and found positive but insignificant relation between value of market to book ratio and investment. The result is in line with study of Audretch and Elston (2002). Our third hypothesis is that there is significant relationship between net sale and firm's investment. Again this hypothesis is supported by our results and concluded that there is significant positive relationship between Net sales and investment. The result suggested that increase in sale will bring more opportunities to firm to invest. This result is in line with studies of Bates (2005) and Abel and Blanchard 1986. The next hypothesis is that there is significant relationship between firm size and investment. We examine this relationship in two ways. In first way we use Size as independent and investigate the relation. In next step we further divided firm size into three different categories such small firm size, medium size and then larger size firm. We found that in both case the result is significant and supported our hypothesis. Surprisingly, it is observed that there is negative relationship between small, medium and large firm size. The result is in line with studies of Audrestsch and Elston (2002) and Rizqia et al. (2013) who explained that a bigger size of firm have more investment opportunities and thus invest more.

5.1 Practical Implication and Recommendations

Despite having limitations and delimitations of the current research, this study provides several significant implications to be very helpful for top management, executives, financial officers and policy makers who are busy in the improvement of profitability and sales of their firms. Implications are following;

- Managers need to focus on cash flow.
- Having more liquidity constraints can cause loss for firms. So it is the responsibility of top management team to revise your strategies and improve your liquidity in their firms.

- The found that the large the firm size, the higher will be its investment. As suggested that large firms are more interested and inclined in the investment of big projects to gain higher profits.
- Market to book ratio is also important influence the firm. It often significantly related to investment. However, in study, we found that it has not significant relationship with investment. It may be reason that managers may calculate the ratio based on some rational and conventional approaches.
- However, it is advised that managers of large firms are not to invest into project that may cause fairly high liquidity constraints. With the increase in size, firms are needed to invest into comparatively less risky projects.
- In order to avoid future loss and insolvency, managers are advised to state the market to book values in a betterment of the organization.
- Every firm aims to have high sales because it directly and indirectly improves the firms' Liquidity. If a firm have high sale, obviously, its liquidity will be higher. Hence, managers have to keep a close eye on the indicators improving sales performance to gain more liquidity.
- Low sales can cause high liquidity constraints. Overall, our results indicate that Pakistani managers are have to keep balance in cash flow.

5.2 Limitation of the Study

The study is covered under below limitations:

- The basic draw back in this study we observed is that this study only covered 100 companies which is not perfect representative of the whole industry.
- The time period of this study is 15 years, which can be extended.
- The study use only non- financial sector.
- The study covers only little geographical area.

- Some industries are involved in this study. It is also a major drawback of this study.

5.3 Direction for Future Research

The mentioned points can be focus by the research for the further research in future.

- The sample size can be increase because the study only covered 100 companies whereas the population size is more than 150.
- Similarly the time period of the study can also be extended.
- A comparative study can also be suggested for future research to compare the impact of liquidity and size on investment behavior in different countries.
- We only considered four basic independent variables in this study to investigate the impact of these variables on investment. Whereas there many other factors such as market share, firm performance etc which also influence investment decision so it can also be considered in future research.
- The study only considered independent variables whereas there are many other factors which influence firm's investment decision so in order to avoid biasness we should considered those factors as control variables and control the effect of those variables.

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