

The Impact of Corporate income Tax and Firm Size on Fixed Investment

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Abstract

This paper is an attempt to analyze the impact of income taxes and market capitalization on fixed investment (investment in tangible assets) by manufacturing companies listed on KSE. This paper basically examines that how corporate income taxes affect fixed investment by reducing cash flow available for a firm to invest and how the firm size in the lights of market capitalization affects fixed investment by manufacturing companies. As market capitalization leads to development and due to this development investment opportunities increase. Estimation is based on pooled regression by employing fixed effect model. The results of the study show that there is positive impact of market capitalization and fixed investment while there is negative impact of income taxes and fixed investment by manufacturing companies.

Keywords: Tangible assets, fixed investment, market capitalization, income taxes

1. Introduction

1.1 Background

Every business organization needs funds to finance the business requirements. Investment of the business needs to be made in fixed assets as well as current assets. The decision of the business regarding fixed assets investment needs to be more careful because it needs huge amount of capital. For this purpose, capital budgeting decisions need to be undertaken because a business has to have long term growth, large amount of funds need to be involved. Expenditures on investment include spending on a variety of assets of the business. There is distinction between fixed assets investment and fixed capital formation and the investment made fixed investment comprises plant and machinery, building and vehicle. Investment in stock comprises work in progress, raw material and finished goods of the business.

Furthermore, companies' investment portion is divided into two categories. First is short term investment which is made in the different securities and the other one is fixed investment which is made in fixed assets. Fixed assets investment is used in a long run. We took manufacturing sector in our study as our sample because our focus is on fluctuation in fixed investment. The success stories of the economies of some of the Asian countries show that it is because of manufacturing sectors that determine many key factors like productivity, wage rate, profit and employment and also overall growth. Investment is a crucial element in making the manufacturing sectors competitive globally.

Basically this research is about the impact of income taxes and firm size on fixed investment made by manufacturing companies.

Fixed Assets Investment

Thus, fixed assets investment is the investment in physical assets such as land and building, plant and machinery, vehicles or technology etc. Basically, a company's balance sheet states both the amount of expenditures on fixed assets during period and the total value of stock of the fixed assets owned by a

company. After reading many literatures, we find that there is negative relationship between income tax and fixed assets investment. Whereas, there is positive relationship between firm size and fixed assets investment. Companies can raise its fixed capital requirements by two ways, first it can issue shares which are owned capital and the other way is to have debts by issuing debentures. A company can't make mistake by raising its fixed capital requirement through short term funds as the funds which are invested in fixed capital are permanently sunk into the business and can't be converted into cash at a short term basis.

When capital investment made in the fixed assets of the firms those results in high incomes along with the increase in the sales volume of the organization which also shows that the size of firm is also expanding day by day as with the increment in the investment of fixed assets in the different productive projects of economy. This also leads to growth or improvements in some other factors like increase in the savings of the firms, incomes of individual increases which result in increases in the national income and also provide better living standards to all people living in the society along with the increase in the level of employment in the country.

Fixed assets investment is affected by number of factors, including nature of business, size of firm, working capital requirements. Cash flow, taxation, technologies and production, earnings and many other factors influence the decisions regarding fixed assets investment by an organization. In organizations, capital investment is made in tangible assets and this capital investment is helpful in generating the revenues for the business and in this way the firm size is increased. The term firm size means the sales volume of the organization. Feldstein (1982) analyzed that capital consists of different types of structures and equipments. This is also pointed out that there may be over investment in one type of asset and there may be under investment in other type of asset and this difference is due to number of factors.

Firm Size

As far as firm size is considered, there is not one single measure for it. For example, firm size can be determined by the number of employees, sales volume, market capitalization, natural log of total assets etc. Number of employees is powerful indicator, but in labor intensive business community, where other cost is minimum, may not always be a reliable measure of firm size itself. On the other hand, stock market capitalization (number of shares issued multiplied by market value of shares) is also a strong indicator of measuring firm size. But we consider market capitalization as firm size in our research as there is chances of biasness when it comes to sales volume. As the sales volume is more likely a seasonal element whereas the market capitalization is the exact idea about the position of the organization on a particular date.

Firm size is very important in determining different decisions like investment decision, research and development expenditures decisions. It is also very important in different economic scenarios. Krishna B. et al. (1999) said that at industry level firms in utility sectors is large may be because of natural or officially sanctioned monopoly conditions. High wage industries, physical capital (tangible capital) intensive industries which keep great focus on their research and development expenditures are larger firms. These industries keep small volume of external sources of funds. Small size firms do not keep that much focus on research and development cost as well as they do not keep great focus on fixed investment. Whereas, at country level, the countries with efficient judicial systems have large firms as compared to the countries where there is inefficient judicial systems like Pakistan. Moreover, those countries where there is lack of institutional development, there is not more evidences those rich countries have larger firms in case of lack of institutional developments. The role of firm size is also considered to be very important by the researchers. Fixed assets investment also varies with the size of the firms. Large firms tend to generate more amount of fixed assets investment as compared to the small firms

which tend to generate lesser amount of fixed assets investment. As mentioned by Phillips that small firms have played a great role in the growth of the industries which are basically the industries that are comparatively new or use new production techniques and technology.

Firm size has a major influence over the investment of fixed assets because increase in the sales volume or market capitalization means firms in the position of surplus funds and reserves that result in more investment in the new projects or expand the old projects for the productive activity to increase the earning level of the firms which is beneficial for the whole society. This variable firm size had major affect on the fixed assets investment.

Ghosal and Loungani (1996) said regarding firm size that there can be uncertainty in future profit of the organizations. In small firms, uncertainty regarding future profits increases the probability of investment whereas in large firms uncertainty does not impact the decisions regarding investment. Firm size also contributes to research and development of the organization. Cohen and Klepper (1996) said that the size of the firm also encourages the investment in research and development cost. The more the size of the firm the greater the research and development expenditures are. Large firms pay more amounts of wages to their employees as compared to the small size firms. According to researchers, there are number of variables which affect fixed investment made by the firm. These variables include cash flow, firm size, long and short term debts HechmiSoumaya (August,2012).The firm size aspect has attracted the attentions of many researchers in different fields. Firm size affects different decision making by the organizations in different fields. In this study, we study the impact of firm size on investment made by the organizations. We check the impact of firm size on fixed assets investment made by different manufacturing firms. If firm size of an organization is large, fixed investment tends to be high by the organization and if the firm size is small, then fixed investment made by the organization tends to be low. This is why firm size plays an important role in judging the role

of fixed investments made by the organizations.

Firm size also plays an important role in generating profit of the business. Large firm size tends to increase the profit of the business whereas small firms do not that much linked with the profit of the business. As Fishman, A. and Rob, R said that small firms do not generate more profit as compared to the large firms and the size of the firm also contributes to increasing research and development costs of the organization. Fixed assets investment decision is an important element as far as valuation of the firm is considered. Previously many attempts were made to understand different factors that have significant impact on the investment in fixed assets by the firms. Researchers like John. R. Meyer and Edwin Kuh identified different factors which play an important role in determining the investment made in fixed assets. It is found that investment of the firms is depending on many factors like the perfection of the capital market and firm size. In our study we are going to study the impact of firm size and taxes on the investment of fixed assets. According to the Gertler and Gilchirst 1994 that the change in the monetary policy had major effect on the small size firms as compared to the large scale firms. As a result of this small firms are restricted to the internal funds only and unable to use the external funds and it is quiet easy for the large size firms because these types of companies have perfect control on the market condition and internal and external factors. This study also showed that investment also respond to the change in the firm size, firm size may be market capitalization and sales but in our research we take market capitalization as a firm size. Market capitalization has positive relationship with the investment of fixed assets which is shown in many studies.

Investment has positive relation with the firm size as shown by the many studies Petersen and Rajan (1992,p.3) small size firms and new formed firms have to face the difficulties of the capital market. Large size firms have better chance of the making progress in the fixed assets investment as compared to the small size firms because the

large firm has more ways to make development in the technology which is good factor for the firms to invest in the fixed assets. Firms size has positive relation with the investment it means that if firms size is increasing like increase in the sales volume or the market capitalization which result in increase of the funds when surplus funds are available to the company then these companies made investment in the productive activities as a result of it fixed asset investment increases that is helpful to increase the level of the profit.

There was a study regarding that uncertainty about the future profit is higher as compared to the small firm's uncertainty about the profit increases the probability of the investment in the small firms but in the large firm's uncertainty about the profit has no impact on the investment of fixed assets. According to one more study that firm size also dependent on the wage rate offered by the firms of different size if wage rate is higher than more number of employees attracted to the particular organization which result in size of firm's increases. When number of employees increases its mean that firm's output increases which result in the more revenues and also increases the savings of the firms. Firm size is positively related to the fixed asset investment means increase in the size of firms result in increases in the level of fixed asset investment. Firm size is good factor to the development or the progress in the industries and different firms by increase in the profit and the investment of the firms.

Corporate Income Taxes

Taxes are the main source of revenue for the government of any country. Government imposes taxes on the profits generated by the organizations and then the government utilizes this amount of taxes on welfare of the people of the country. These taxes play a vital role in the line of investment. It is to be noted that corporation income taxation study is very much important because it focuses on the current status of the organization income or earnings. On the basis of these earnings organizations pay certain amount of tax to the government at

certain tax rate. There is change in tax rates in different businesses around the world, on the basis of this change in tax rates we see that there is an upward trend which is visible in developed countries of the world and even in some under developed countries. Basically income taxes of the corporation are charged on the net profit of the corporation which is earned during the accounting period. These companies include public companies, private companies and unincorporated associations. Among the unincorporated organizations include industries, trade and clubs association etc.

After completion of every accounting period, tax is charged on net profit of the companies. In Pakistan, companies' tax is charged since 1965.

Before this period, income taxes were charged on the total income of the companies and also these companies were liable to profits tax. This system was introduced in Pakistan in 1965. According to this system, a uniform rate of tax is charged on the profit of all the organizations whether these are manufacturing concerns, service concerns. There is no progressive tax rate system available for the organizations in Pakistan. That is, there is no slab rate system for organizations for the calculation of taxes. Flat rate system is adopted when it comes to calculation of tax on profits earned by the companies. Normally 35% rate of tax is imposed on profits of the organizations in Pakistan.

After applying this uniform tax rate on profits, an additional tax charge was also introduced in 1965 when profits were distributed. Income taxes are considered one of the most essential elements of the financial statements of the companies. It is taken an important element of every company's performance. Taxation is also considered to be a challenge for the companies and their boards as well. There is high level tax strategy which is needed to be managed by the companies. The effect of corporate tax on investment and entrepreneurship is very important question in the public finance and development of the economy. This matters not only impact on the for the evaluation and design of the tax policy and tax rules but there is also need to think

about the economic growth of the country because tax is also affecting the growth of economy through the investment in the fixed assets. Means tax not only reduced the investment growth but also restricted the incomes of the firms which are working in the economy (Robert and summers 1991). When an organization pays more amounts of taxes, its fixed assets investment tends to decrease and when the organization pays fewer amounts of taxes, its fixed assets investment tends to increase. Some organizations are willing to invest in securities in order to earn the amount of dividend from this investment. There has been long discussion regarding the impact of taxation on investment and it has been a long discussion of the researchers in economics and finance and even in accounting. We also see that the effects of corporation income taxation on investment and even on entrepreneurship are also very important issue in public finance and development of a country. This effect is very important to be considered when it comes to making tax policy and when economic growth matters are taken into the account. There are many type of tax incentives one is the tax holidays which means that new firms which have relaxation in tax for short time period which result in the no concept of carry forward of the depreciation deductions to the next year which is related to the previous years. Tax holidays increase the cost of capital for the investment of the longer period. Mean investment make large progress in the starting period of the companies that is beneficial for the company and its investors so investors should try to find such firms which are newly started in the economy. (Mintz, 1995) Tax and investment in the fixed assets has negative relationship with each other as shown by the many researchers which conducted many researches in the past. Many techniques are used to attract the investment in this context on major thing that is "race to bottom" means to reduce the rate of tax which is possible for the Government to attract the more investment in the country for the productive projects. This strategy was introduced by the many past studies. It is used to attract the foreign investment and as well as local investment in

the fixed assets of the firm which result in high growth rate of incomes will introduce in the economy by investing in these projects Wilson's (1999).

Ahsan (1989, 1990) There was a research on the countries which provided the tax incentives and fiscal policy to the small and medium size enterprises then claims by the state that these firms should create the more jobs in the economies. Other is to increase in the level of entrepreneurship by providing the benefits of different type like flexibility in the operation of investment in the productive activities, speed in the activities, risk taking and innovations in the dealings related to the investment in the different projects as a result to increase the incomes of the companies (Chen et al., 2002). By the study of tax reforms 1986 emphasized on the importance of accounting taxpayers expectation. This also showed that there is a strong relation between the tax changes and the fixed assets investment means change in the tax policy affects the investment level but there is no correlation between the tax and the structural changes of the firm Auerbach and Hassett (1990). Tax and investment has inverse relationship with each other means increase in the tax result in decrease in the investment or vice versa. Providing tax incentives also mean to destroy the allocation of resources among the economy and it is hurdle in the progress of productive projects and many firms take the advantage of tax incentives in wrong way this results in the corruption in the economy. Tax incentives are provided in the country to attract the all types of investment for making progress in the country and to increase the level of employment and incomes in the society. Taxes are applied on all projects so it is up to the investors to select the project which have high income for the investor. But there are many choices available to the investors like choice of location and the choice of technology because rate of tax is different. Now in this situation investors think and select those projects which are more beneficial and low in tax.

1.2 Problem Identification

Organizations invest in short run and long run. Short run portion of the organizations composes of the investment in securities and long run portion of investment composes of fixed investment (investment in fixed assets like land and building, plant and machinery, furniture etc.). There are many factors which affect the investment decisions of the organizations. These factors include firm size, nature of business, business activities, taxation policy etc. We focus in our study the impact of some variables like firm size and income taxes on fixed assets investment decision of the organizations. Organizations pay taxes on income earned by them during tax year and remaining amount is allocated to different types of reserves, dividends are paid to the shareholders. Then organizations invest the money in profitable way. They invest in securities, fixed assets etc.

Due to paying taxes to the government, the organizations suffer as far as their investment is concerned. Sometimes they do not have enough money available to invest in long run. There are also many other reasons due to which organizations are unable to invest like inflation, political instability as is the case in Pakistan. But taxation is one of the factors which influence the investment decision of an organization.

As far as firm size is concerned, it is also very important for the organizations when it comes to the major decisions making by the organizations like long term investment in fixed assets, research and development cost. Small firms tend to generate more quantity of fixed assets investment and research and development costs as compared to the large firms. Firm size is described by different factors like number of employees, sales volume, market capitalization, and natural log of total assets generated by the organizations.

Basically we are talking about the impact of income taxation and firm size on fixed assets investment as there is less amount of literatures available on this topic mainly in Pakistan. Researchers have worked on this aspect and they found that there is impact of taxation and

firm size on fixed assets investment. Although there are number of literatures in this aspect but still there is need of further research on this aspect. Sometimes the researchers are unable to consider all types of investments or sometimes they ignore certain sectors which invest in fixed assets.

Particularly if we speak about Pakistan, we find that there is lack of research in Pakistan regarding taxation and firm size impact on investment. The firms' taxation liability is mentioned in its financial statements. Total taxation liability including deferred taxation of the firm is mentioned in its income statement. This liability excluding deferred taxation is calculated by applying the tax rate on income generated by the organization.

But the actual tax which is paid by the company in particular accounting year is mentioned in its cash flow statement. There is also lack of this information in the researches mainly in Pakistan. There is no clear evidence that which type of tax should be considered in the research. There is clear evidence by reading different literatures that the taxes in cash flow statements is the actual amount of tax an organization has to pay to the government in particular accounting year.

As mentioned earlier that different factors determine firm size like number of employees, sales volume, market capitalization. There is study available on sales volume affects on fixed assets investment but sales volume leads to biasness because sales of the organizations may be seasonal basis whereas market capitalization does not involve any biasness. Feldstein (1982) told that there are different types of capital including structures and equipments. When we see the investments made in these areas, we come to know that there may be over investment in one type of asset and under investment in other types. Through researches we find that this over or under investment is due to different amount of taxes.

1.3 Problem Statement:

Manufacturing organizations invest in fixed assets and the decision regarding this

investment is affected by many factors. Firm size (market capitalization) and income taxes are among those factors which affect the decisions regarding investing in fixed assets. So, our problem statement is as follow:

“What is the impact of corporate income taxes and firm size on fixed assets investment in manufacturing sectors”?

1.4 Research Objective:

The objectives of our research are as follow:

- 1) To evaluate the impact of income taxes on fixed investment by manufacturing concerns.
- 2) To evaluate the impact of firm size on fixed investment by manufacturing concerns.
- 3) To evaluate the extent to which the income taxes and firm size affect fixed investment by manufacturing companies and listed in KSE.

1.5 Significance of the Study

There have been many researches on the basis of taxation on income of organizations and firm size which may consist of number of employees, market capitalization, sales volume and their effects on fixed investment made by the organization. This research is useful as far as Pakistan is concerned. Because there is not many researches available in Pakistan on this topic. This research tells that how the management of the organization can take steps towards investing money into the fixed assets. As there were financial crises in 2007 and the performances of the organizations changed afterwards. We analyzed the data during 2006 and 2011 which is helpful for the organizations to see the performance regarding fixed assets investment. We took market capitalization as firm size as sales volume is seasonal factor and it leads to biasness. It also helps in evaluating that to what extent income taxation and market capitalization affect the corporate fixed investment.

We see by analyzing our results that there is significance positive relationship between market capitalization and fixed assets investment and there is significance negative

relationship between corporate income tax and fixed assets investment. Fixed assets investment is mainly done by manufacturing concerns. That why this research is mainly applicable on manufacturing sectors.

This study is helpful for the managers of the businesses who invest in fixed assets. They can see the impact of taxation and market capitalization on their fixed investment and they can also make planning how much to invest in fixed assets.

This study provides clear picture for the management who is not very much concerned regarding the taxation matters as well as regarding market capitalization matters. They do not have idea that how the taxation impacts fixed investment of the organization. Management should also be careful regarding the payment of taxes in particular year. There is need that the companies which are listed in KSE should have efficient investment by rendering services of expert tax consultants and they should also keep in view the rules and regulations of taxes in order to avoid from excess tax liabilities.

1.6 Scope of the study:

We conduct this study to examine the impact of tax and firm size on the fixed assets investment in the Pakistan. Tax policy and size of the firm play important role in the growth of investment in fixed assets of manufacturing concerns. There is not too much study on the impact of tax and firm size on fixed investment we conduct this study to find out the relation between tax, firm size and fixed assets investment our study provide the guideline to all the investors in the economy that to analysis and then invest. It also provides information which type of tax has greater impact on the investments and where these types of tax had very low effect on the investment. It is helpful for the investor how to take the advantage of the tax and to increase their incomes. While computing tax companies can make necessary policies to minimize tax and get better results regarding investment. In Pakistan this study is very helpful for the investors and government to make decision about the investment and the

tax in the economy. It also provide information to the FBR in implementing tax on the investment and keep all things in the view while calculating tax which are necessary because due to lack of information sometime there is mistake in calculating the corporate tax. There are many types of tax and this study also clear the tax which is implement on the investment and how this will change the investment in the assets. It is right that tax had different effect on the investment in the different sectors so it is helpful for the investor to allocate their resources in the formal and informal sectors. As shown by the many studies that firm size had positive relation with the fixed asset investment we also try to check out the same relation of size and investment in our study. Purpose to take the capitalization as the firm size is that study in Pakistan regarding size and the investment takes the sales volume as the firm size but in many other research market capitalization is taken as a measure of firm size, it is positively related to the investment of the firms. This study helps in future how firms of different size can increase their investment by increasing the market capitalization.

This study make the formation of fixed capital in the economy is very easy for the investors to invest in the beneficial projects and this will lead to the increase in the national income which result in the good balance of the payment and good growth in GDP, NI and NNP of our country. Investment is basically made from the part of profit which is keeping as reserve is used for making investment in the fixed assets by the manufacturing companies to expand their business and this is only possible when the firms of the economy pay less tax, more market capitalization and save more for the investment in the fixed assets in this context our study is very helping for the investors to find out sectors where taxes are very low or special tax incentives are provided by the government. Our study enables the investors to analyze the tax and firm size properly to make better decision for the investment of the firms.

2. Literature Review

Business investments are made while taking into consideration different factors like rate of interest, rate of profit, firm size, business activities, income taxes etc. These factors have relative effects on the decisions regarding investments. In economics and finance, taxation and firm size effects on investment are considered as important factors. Imposing tax on income earned from capital is the source of government revenue but at the same time it puts negative effect on capital structure of a business. Similarly, firm size also plays an important role in decisions making regarding investment. Increase in size of the firm results increase in investment opportunities of the business. Small size firms have not more opportunities to invest in the business.

According to the study undertaken by the European Commission, they concluded an analytical view regarding the impact of taxation on investment. That study was based on marginal tax and it showed that the taxation burden leads a company to debt financing rather than equity financing as it helps in reducing the tax burden. That is, interest on debts is deducted before tax is imposed on net income. According to this study, taxation has impact on investment in such a way that increases debt financing and reduces equity financing.

According to another study of Devereux and Griffith, it shows that investment decisions are done on the basis of profitable investment. For example, a multinational organization would like to earn an economic rent when it takes the decision regarding location of its new plant. This study also indicates that it is necessary to measure the taxation burden for its effects on the investment so that it may be easy to separate the effect of statutory tax from the investment decision.

As mentioned in the study taken by Bond (2000) that it is also helpful to locate the country where the business needed to be carried in order to avoid taxation burden on investment. The advantage of this type of business location is that there may be low level of taxation on investment which cannot be

attained in another location. For this type of decisions, measurement of effective tax burden to see the impacts on investment which is considered as profitable investment is very necessary (Devereux). As it helps managers of the businesses to make decisions regarding their investment that where to invest and how to invest.

Auerbach (1979) also indicates in his study the matters regarding choices of the investment which focuses on how much to invest if there is a diminishing expected return. Mainly this paper focuses on the choices of multinational organizations of investing in different locations and comparing the investment in different projects with the impact of taxation on the choices of investments in different locations. There are some other possible choices. For example, the choice of research and development cost. That is, whether or not to undertake research and development cost. As a result of the focusing on these choices, the impact of public policy on investment decisions has been presented typically by measuring the impact of taxation policy on the cost of capital. In this regard, the investors require minimum pre-tax rate of return on their investment.

Study of (David B. Audretsch Julie Ann Elston 2000) which is conducted to checked the relationship between investment behavior and liquidity constraints due to the firms with the different size. Size of firms may be sales volume of the accounting period or it may be market capitalization of the firms. Upon the understanding level of the researchers they choose the firm size after proper evaluation. In this study examined the link between firm size and liquidity constraints of firms with the help of "Q" theory of the investment model. Many studies used "Q" theory to develop their models for the estimation. There were the different sections in the study which were providing information about different things like first section is about the "Q" theory and second section provided the detail about the many theories related to the firm size to the investment and liquidity constraints and also explain why German institutional model of finance is totally different from the Anglo

Saxon Model. Third section explains the “Q” theory of investment and its impact on the liquidity constraints for specific firms. Different measurements are calculated and their results are discussed in detail in the fourth section of the study and next section provide the information about the regression model used for the estimation of our expected results.

There are many reasons why liquidity constraints are undesirable with the decrease in the firm size. According to the Stiglitz and Weiss (1981) like other market, credit market not moved to the equilibrium point regarding the price of the goods and the interest rate on capital and on the loans provided to the firms to expand their operation or start the new one and these are the major factors for the change in the level of capital and suppliers also think about the loans. This phenomenon is called credit rationing and this thing affect the most newly started and small size firms because these firms had less experience staff so it was very difficult to take decision about the investment. Because it is difficult to handle the changes occurred in the interest rates and there are also different types of risk in the market and It is difficult for the new comers to understand the risk and take the beneficial decision regarding the investment Petersen and Rajan (1992.p.3).

Larger firms can easily finance the capital expenditures from internal resources by utilizing the reserve fund accounts. In this study for estimating the investment equation is derived from the accelerator specification in the absence of constant return to the scale of production function and adjustment costs Bond et. Al (1997). The model used in the study is the dynamic regression model with the lagged values of the variables used in the study. Data for estimation is taken from the Bonn Database and 719 German firms are included in it and related from 1961 to 1989 and firms are listed on the German stock exchange. This paper suggested that it may true for some firms had complex relationship between firm size and liquidity constraints.

The study undertaken by Schneider (1992) indicates this matter very clearly. It focuses on effective average tax burden but not focuses on effective marginal taxation. Effective average

tax rate is the average rate of tax as calculated by dividing the amount of tax by total taxable income. Measurement of effective average tax rate is considered while taking into account the effects of taxation on investment. This measurement ignores the effective marginal rates. This is the rate which is imposed as change in tax payable as income increases. This study also indicates that there should not be any confusion while taking into the account the effects of statutory tax rate or effective average tax rate on the investment that generates income or the overall effects of these rates on the income of an individual. We see in another study by Devereux and Griffith (1998), it was shown that the effective average rate of corporate tax on income of its investment is very important factor for US multinational organizations in deciding where to set up a production unit within Europe.

Jonathan B. Cohn (January 2011) conducted a research on impact of taxation on firm’s investment by taking into consideration cash flows of the business. The methodology which is used in this study was regression analysis. This paper basically examines how after tax cash flows affect investment made by a firm in a given period. Taxes loss carry forwards are also consider in this respect. Variables in this literatures used are investment which is dependent variable and among independent variables are taxes, loss carry forwards, q value and after tax cash flow. Results of this study showed that firms tend to decrease investment when they have to pay more amounts of taxes. Jorgensen (1967) and Jorgensen (1963) also explained in their study that taxation have negative impact on the investment of the firm as taxes reduce after tax return of the firm.

Rauh (2006) also conducted a study regarding investment and taxation relationship of the organizations. Regression analysis was used in this study by taking into consideration the variables from cash flow. The results suggest that after tax cash flow reduce investment opportunity in long term assets for a firm. Poterba and Auerbach (1987) investigated the affects of loss carry forward on investment. Loss carry forward reduce the

amount of taxes and investment opportunity increases in this respect. At the same time, loss carry forward decrease a firm's marginal tax rates. Moreover, loss carry forward also tend to reduce depreciation tax shield. As due to loss carry forward, taxable income reduces and tax shield on depreciation also decreases.

There is another study available which discusses the tax matters in different countries. In this study mobile capital formation is the key point. That is, how a capital introduced in different countries and how it earns profit and of course the methods of imposing tax on such income. This type of capital is introduced definitely by multinational organizations in different countries. The result shows that there have been different policies adopted by different countries regarding taxation of mobile capitals of multinational organizations. Moreover, this study indicates that there have also been numerous initiatives taken by different countries in order to coordinate such policies regarding taxation on income from mobile capitals. This study was conducted by Wilson (1999), Ruding Committee (1992) and European Commission (2001).

One study is conducted by Vivek Ghoshal and Prakash Loungani 1997 that uncertainty about the future profit result that change in the level of investment. According to Gertler and Gilchrist (1994) that change in the monetary policy affects real activity in small firms to the large extent as compared to large scale firms. Due to increase in the uncertainty makes the lender to reduce the flow of credit in the market and economy which result in low rate of investment for the credit constrained firms. According to Hart (1951) in the presence of the uncertainty regarding the profit level in the economy capital market is divided into many segments in this situation some businessmen finance their project by relying on their own investment and some funded their projects by outside equity or borrowing loans from banks and other financial institutions.

According to Hubbard, Farzzari and Petersen (1988), Onliner (1992) and Gertle (1994)

Use firm size as a proxy for capital market access. This study use the data related to the industry level instead of firm level because the

size (sales or market capitalization) industries are large as compared to the firms and organizations. So uncertainty had what affect in the industry level as compared to the small size firms.

In this study researchers constructed a time series analysis showed the variation in the level uncertainty of future profit level for each country. Next section is about to gathered information related to small business administration as well as data related to the industry concentration output ratios. For this industries are divided into groups, one is all those industries which are control over by small firms and all other industries and use panel data in the study. Data taken from productivity database assemble by Wayne and Eric Bartlesman (1991). Data is taken on annual basis and related to the period 1958-1991. Regression model is used in the study and different interpretation is developed on the different statistics measurements. Due to the uncertainty in the profit level had major affect in the new or small industries as compared to the large one.

Firm size had major influence over the investment of fixed assets because increase in the sales volume or market capitalization means firms in the position of surplus funds and reserves that result in more investment in the new projects or expand the old projects for the productive activity to increase the earning level of the firms which is beneficial for the whole society. This variable firm size had major affect on the fixed assets investment.

In is a study presented by Dons and Jensen (1998) which also focuses on the taxation of multinational organizations. This study indicates that those multinational organizations which generate positive results outside country should pay tax at lower rate so that their outside country performance can be encouraged. This study also ensures that this rule of lowering the tax rate may also apply to domestic based multinationals which generate positive results. In this way these types of organizations will be encouraged to be retained in the country.

Auerbach (1979), Rothschild (1974) tells in their studies regarding the influences on

investment decision that there are factors like inflation and corporate taxes which affect the choices of asset durability. If taxes are high and inflation rate is high then there is possibility that less durable assets will be used in a business and if inflation rates and corporate taxes are low then the assets which are more durable will be used in a business.

Santosh Kumar Das presented a paper regarding investment behavior in the registered manufacturing sectors in India. The aim was to study the factors that influence investment decisions. The main explanatory variables were rate of profit, rate of interest, rate of value added. The study focused on the Annual Survey of Industries data, published by Central Statistical Organization. The study mainly aims to examine the factors affecting investment in 2 digits level of industry. The sample period of the study is from 1980 to 2002. As far as model is concerned, semi log linear model has been used and simple OLS method has been used to estimate the factors which influence the investment of Indian registered manufacturing companies. The results of the study show that rate of profit and rate of value added found to be positively related with the investment and rate of interest found to be negatively related with the level of investment.

Borderchering (1978) indicates about the effects of taxation policy on the quality of investment. In this study, he examines that the quality of investment, quality of assets used in a business also depends on taxation policy. This study also indicates that taxation policy of investment apply only to direct investment spending and not to the things like future maintenance, machine supervision or work training etc. As a result, taxation policy can change the relative price of high quality goods versus low quality goods. When taxes are high, this encourages firms to buy cheaper capital with greater maintenance costs. Basically this study examines the role of taxation policy to the quality of capital investment using data on the prices, maintenance costs etc. Then it indicates that if taxes are high, then quality of capital will be low and if taxes are low, then quality of capital will be high. So we see that

the taxation policy and quality of capital have adverse relation.

In another study conducted by De Mooij A.et.al, (Nov., 2001), they told the affects of company taxation on foreign direct investment allocation. In this study, the type of foreign capital data and tax rates were also used for the purposes of generating the desired results. Furthermore, the sample of 351 cases was used on aggregate basis. The statistical technique which was used in this study was ANOVA. As a result they did not find any symmetric differences of the investors in responses to tax exemption countries and tax credit countries.

This study is conducted by the Krishna B. Kumar, Raghuram G. Rajan Luigi Zingales July 1999 to check that on which factors firm size depends. According to the study of Rajan and Zingales 1989 took the samples of 43 countries in the period of 1980s for industries sectors $2/3^{\text{rd}}$ of the growth in industries comes from the growth in the size of existing business and $1/3^{\text{rd}}$ growth occurred due to the creation of new one. One more study showed the size of the firms had greater influence on the stock return (Banz 1981).

Data on the distribution of firm size related to the European countries in across industries and industries are related to the countries which are well developed and different external factors considered to be constant in the samples. According to the theory of Adam 1776 specialization of the firm limited by the size of the market because some complex task need specialized persons to hire for the firms and these experts are taken from the market so the market had major role in this regard organization is able to hire people from the market if they are available in the market so size of firms may depend on the size of the market.

According to the theory of Becker and Murphy 1992 not agree with the Adam Smith they argued that coordination cost had more impact on the firm size as compared to the size of the market. One more theory of Lucas 1978 which fallowed neoclassical model to study deeply the size distribution of firms and this study argued that talent for managing is not equally distributed among all the agents of the

firms. Managers manage the capital and other activity of the firm and the labor under the manager control are the identification of the firm. These all factors are also very important for the estimation of the size of the firms like to what extent manager manages the firms.

Theory of Rosen 1982 considered the hierarchy of firms means structures from upper to lower level or vice versa to explain the size of the firms. In this three things are involved management, supervision and the production level of the firm. The process of management involves making different choices and selects one of them which is suitable for the firm and these choices are subject to the economies of scale (means cost advantages that a firm takes due to the expansion in the size of the firms). Second is supervision it involves who the directors or head of the firms oversee the worker of the others which are working under them. The result of this study showed that larger firms had more capable personnel which result in the positive correlation between firm size and the level of the available human capital means employees working in the firm.

Theory of Kremer 1993 also suggested that human capital is more important than the other things because it means how workers could successfully accomplish the tasks. So the output of the firms depends on the skill level of the all workers and level of output determines the size of the firms. This theory is also not very effective because there were many other things involved in the determination of the size of the firm and all are highly connected with each other.

Another study showed that firm size is positively related to the wage per rate of the labors means increase in the wage rate more workers like to work in the firms so firms had more workers to work in the company. It is also stated that firm size is also positively related to the financial development all those factors which are affecting the financial development La Porta et al 1997. Data used in the study related to the employment and production unit for all the sectors of the economy excepting the agriculture sector of the economy related to the European Union. Regression model is used and dummies of

countries and sectors are used in the different equations while regression firms are of larger size if the financial markets and many other factors are stable in the country.

Another study presented by Ahmed, (2004), conducted a model on the basis of income taxation of corporation. This study was based on the impact of income taxation of a corporation on different types of variables like cost of sales, different expenses and gross profit etc. As a result it is seen that the firms are not very much aware of the income taxation status and taxation policy but Income taxation decreases these kinds of variables. In this study, the sample of 7306 companies was used which related to restaurant and hotels businesses including some samples of services business and some samples of transportation business for the accounting period of 1995 to 2000.

Arnold Jens, CyrilleSchwellnus, (2008) incorporated the impacts of corporation income taxation on productivity and investment of the firms in European OECD member countries. These are the two main tools of productivity for a corporation. This study was conducted during the period of 1996 to 2004. Furthermore, difference in difference approach was used in this study which generated different impacts of taxes on the organizations. The results of this study showed that there is negative relationship between firm's taxation and investment, productivity. Through stratified sampling, the results of this study tell that income taxation of a corporation decrease the investment by the increase in user cost of capital. The results also suggest that the income taxation of a corporation may also affect the productivity of a corporation negatively. That is, more taxes may reduce the capital investment by a corporation and its productivity will also not be improved. But if new capital goods bring technical change in the production, then there is not more effect of taxation on the productivity.

Hines (1993) explained the impact of taxation on foreign direct investment and business location decision. This study was conducted by comparing two types of investment. One is inter-state investment

distribution and the other is foreign investment concerning United State of America. In this study the statistical technique which was used to explore the results was regression analysis. Results of this study were not that much different from other studies. The results showed that increase in tax rate within the state affect the investment within the state. That is, the ratio of investment against every percentage of taxation rate within the state is very low as compared to the ratio of investment by foreign investors.

Mr. Nnadi, Meg (2008) examined the impact of income taxation of corporation on the dividend policy. This study examined this impact of taxation on dividend policy by taking into consideration of Nigerian Banks. Under this study, the theoretical assumptions off M&M theory were used. Through descriptive statistical method, they found the result that there is significant correlation between income taxation and dividend policy of the banks. This study also tells that profit is the major variable when it comes to making dividend policy of an organization.

Salinger and Lawrence (1981) conducted a study on the impact of income taxes on investment of a firm and valuation of stock market. They found tax affects on the investment and used different variables like market value of debt, inventory, market value of equity and capital stock etc. Moreover, they used Q theory of investment to explore the effects of taxes and changes in cost of capital of the firm. They also concluded the results that taxes affect differently in different firms.

In a research conducted by Root and Ahmed (1978), Agodo (1978), Shah and Teye (1978), and Lim (1983), they used a selective sample to conduct the study regarding impact of taxation on foreign direct investment. They used time series analysis in this regard.

Root and Ahmed conducted an econometric study by choosing data for 41 developing countries for the period of 1966 to 1970 and developed a research on it. They selected 44 variables as potentially significant discriminators of the countries taken as sample. Among the six variables which were policy related, there were three variables regarding tax

levels. Agodo analyzed his study by choosing a sample of 33 United State firms having 46 manufacturing investment concerning in 20 African countries. They found that tax concession is insignificant as a determinant of Foreign Direct Investment using simple and multiple regression.

Becker et al (2010) makes analysis regarding the investment distribution for the firms which are profitable and the firms which are unprofitable. In this study the decision regarding allocation of investment is carried out. This allocation decision is done on the basis of payout taxes taking into consideration of 25 countries throughout the world. Among the variables, investment, tax, cash flows and Tobin Q are the main variables. By using this data, it is seen that as a conclusion remarks, payout taxes have considerable effect on allocation of the investment decision of an organization.

According to the study of Robert A Connolly and Mark Hirsichy 1993 there were many factors which involved in determining the size of the firms and the firms of different size enjoyed different advantages in the economies like firm with larger size are more suitable for the innovation. With the increasing biotechnology and other factors are involved in the size of the firms Hichey 2003. Small firms are very attracted for everyone because there was a high profitability ratio for the shareholders as compared to the large size firms Moeller, Schligemann and Stulz 2005.

We considered another study in our study presented by Swenson (1994) and Grubert (1996) which also took measures of average tax rates and marginal tax rates into account. This study shows that these measures only take into account the current tax liability and current taxable income and ignores the previous data regarding income earned from investment. By considering this measure of average tax rates, it takes a firm on a single point and reflects the investment made by the organization over many previous periods and the return on these investments and the way how these investments were financed. These measures may also reflect the dynamic tax position of an organization. For example, in a year in which

the organization earns very high income, it may not incur any tax liability because there may be early losses which are brought forward in that year. These are accounting measures to calculate tax liability on any investment. These accounting data on tax liabilities may also create problems for international companies when their tax liability is measured because of differences in accounting data techniques and timing of tax payable.

Basic purpose of the research to present the evidences on the evaluation of the firms of different size and evaluated many other things that can affect the value of the company. According to the Lindenberg and Ross 1989 uses stock market data as captured by Tobin's q ratio to explain the economic sources of future cash flows which are the building blocks for the value and the size of the firms. Pool cross section technique is used in the study samples of comp statistics firms is taken and data related to the 1997 to 2001 54000 public traded companies are included working in the 60 different countries.

According to the study of Deveureux and Schiantarelli 1989 that cash flow and long term debt had also major affect on the investment decision of the firm that long term debt financing is more attracted in the larger firms as compared to the small firms because it is expensive to operate with long term debt because small firms had not many funds to bear the cost of the long term debts so as result these firms are backward in the investment. So firms of larger size had more opportunities to made success in the business and earn more and more profit.

Fazzari et al(1987) analyses in study the market imperfections for debt and equity. This analysis is done on the basis that some of the companies do not have the access to external capital markets and they cannot have reaction according to the trend of change in asset price cost of capital or taxes. The examination by the researchers shows that the internal finance has a cost benefits over the external finance. For this study, they used penal data of manufacturing sector companies and they applied Q theory for their research. They found

that q values were very high for long period the dividends were not paid by the organizations.

One more study shows that first of the entire investor think about the tax incentives or rewards which was providing to him after making investment in the productive activity because everyone want to increase his income which was arising from the fixed investment. Due to tax incentives changes in investment occurred. (Davidson, 1980)

It was concluded that US based firms in a country with increase of 10% in the tax rate which result in deduction in physical investment by 7.1% this shows that negative relation of tax and investment increase in one result decrease in other. This study also showed that tax had greater impact on the fixed investment which was not good for the manufacturing concerns because they had great investment in the fixed assets. So they will have no investment or level of investment decreases in future. (Desai, Foley, and Hines 2006)

According to the study of (Bucovetsky,1991; Wilson, 1991; Kanbur and Keen, 1993; Trandel,1994) that there was a competition among countries regarding to asymmetric taxes it was a type of tax in which two parties are involved and had to pay different tax in the transaction related to specific things. Country of small size choose the small tax rate to get the high per capita income level in the Nash equilibrium as compared to the countries which had higher tax rate. Nash equilibrium is a situation where any one member cannot change his choice or strategy with his own consent and also keep in view the choice of others to compete with each other properly. By adopting Nash equilibrium strategy countries were able to attract more investment in all sectors of the economy to get higher incomes which may lead these countries to the progress.

According to some international studies regarding to effective tax rates that observed FDI is overtaxed as compared to the domestic investment to get rid of the double taxation system on the firm's income from the investment. One study also not allowed for all important strategies tax planning available to

the multinational companies which include royalties taxation, financing the subsidiaries by using the tax heavens and allocations of interest expense against the foreign incomes by parent companies (Altshuler and Grubert, 2003; Grubert, 1998, 2003, 2004; Sorensen, 2004).

One study also conducted that which examines the relation among the financial variables and the investment decision of the firms in the presence of the imperfect capital markets. A market where rate of interest is not stable, inflation is very common, political and economical instability. This is for those firms data of which are collected from the first source. These firms support the agency cost means arises from the core problems such as difference of management and shareholders in the opinion and financial distress which increases the debt to equity ratio that represents that to what extent debt is important for the firms.

There were many others companies which are smaller in size and unable to use the debt from the external source and rely on the undistributed profits to meet its financial obligations and run their business properly. According to the study of Deveureux and Schiantarelli 1989 checked the impact of firm size in the cash flow sensitivity because it decreases with the size of the firms. According to the study of Cohen and Klepper 1996 checked the relationship between research and development of the investment change in the investment has major relationship with the investment. Firm size and investment is positively related to each other means increase in firm size result in the increases in the level of the investment.

There was one more study in which checked the impact of firm size on the uncertainty of the investment. Industries which are control by the small firms increase the uncertainty regarding the future profits which result in decrease in the investment of the firms. But many other industries which are larger in size has positive relation with the investment (Ghoshal and Loungani 1996). It was also observed that impact of firm size on the investment sensitivity is observed from the segmentation based on the three criteria like

market value of the firm, value of total assets and value of sales (turnover). The investment cash flow sensitivity is very higher in the firm of larger size as compared to the small size investment. So this shows that larger firms have better choices for the investment and good timing for the investment. There was flexibility for the larger investment to invest in the productive activities (kadapakkam and al 1998).

Impact of firm size on the fixed assets investment is very common in the firms which are large in size and firm are segmented into different sectors on the basis of their book value of investment and firms which are belonging to the higher quintile it means (statistical data sets that represents 20% of the total population which are taken for the study (Vogt 1994). The investment sensitivity of cash flow is higher for the firms which are larger in size (Athet and Laumans 1994).

According to the study of Hsieh and Parker (2002) reduction in tax on retained earning brought good results in the flow of investment in the economy means investment increased. It was beneficial for the constrained firms. This study also argued that increased in taxation on retained earnings decreased the level of internal investment or totally removed it for those firms which had value of such funds exceeds the real interest rate. This all happened in the economies of those countries which are underdeveloped in financial market. This study proved that lower tax rate had very strong effect on investment and it resulted in high growth of investment.

According to the study of Auerbach et al. (1995) that the international tax reforms of 1991 to 1995 provided effect of corporate tax and investment is mixed means change in one resulted change in other, Swedish tax reform gave us the details that 30 to 55 percent decrease in the corporate or eliminating the tax incentives tax had very low effect on the investment. It was also found that trend of offset the tax of previous year had negative effect on the new investments because investors had fear to that investing in such projects was very risky and their earnings were reduce Faig and Shum's (1999) model. In

contrary to this there was a study that represented that of offset of tax had positive effect on the new investment MacKie-Mason (1990).

It was also studied that uncertainty in the tax policy changes the potential investment of the firms and also resulted in investment credit tax. It means that state of the country gave relaxation in the tax that firm may spend the part of payment of the tax. This would affect the both investment of the firm and aggregate level of investment in the economy Hassett and Metcalf (1999).

It was study of Simeon Djankov, contributed to the literature in the following four ways. In first way researchers used the large data set of tax rates of 72 countries by using 22 years to check the effect of all taxes on investment. Data collected from the AEI international tax database which provided the summaries regarding the tax rates calculated by the accounting firms provided by the Price water house coopers as well as the international Bureau of fiscal documentation. In past studies Hasset and Mathur 2006 used the time series data but this data is not available in our study.

This study we had more and complete information on the depreciation and labor taxes to calculate the appropriate corporate tax rates. In second way there was constructed a new database of corporate tax that is making the comparison of different countries. Data collected from the Price water house coopers and Harvard University that came from the all relevant taxes which are applied to the business which is running in domestic country which is called Taxpayer Co. which is working in each country. We had no data on the taxes paid by the owners of the firms so we cannot make correct calculation of personal and corporate taxes Auerbach 1979 and John R. Graham 2003. In third way we got data on aggregate investment and the foreign direct investment.

In fourth way Steven J. Davis and Mangus 2005 corporate income taxes had different affect on different types of investments in different regions of the countries. They also focused on the allocations of the resources between formal and informal sectors. They also

found that the effect of corporate taxes on investment of assets among the manufacturing and services concerns separately. The principal corporate income tax measure we used the effective tax rate and statutory tax rate of five years by keeping in mind the value of depreciation and other deductions. To check the effectiveness of our result we consider additional factors of investment and entrepreneurship like cost of tax compliance, security of property of copyrights, estimates of tax evasion, trade openness and inflation. Data collected from the Price house Coopers accountants and tax lawyers and used the samples of 65 countries which includes the income of 27 high class 19 related to the upper middle income, 21 to the lower middle and 18 is related to the low incomes countries Djankov et al. 2002. In this study three types of variables are used first is tax variables which include statutory corporate tax, five years effective tax rate, labor tax rate, other taxes VAT and sales tax PIT marginal tax rate and other tax payments other variable is outcomes which involved the FDI, fixed capital formation, percentage of the GDP and third one is control variables. This paper showed that tax had strong affect on the investment and business of the country.

Impact of firm size on the fixed assets investment is very common in the firms which are large in size and firm are segmented into different sectors on the basis of their book value of investment and firms which are belonging to the higher quintile it means (statistical data sets that represents 20% of the total population which are the taken for the study (Vogt 1994). The investment sensitivity of cash flow is higher for the firms which are larger in size (Athet and Laumans 1994).

According to one more study that the quality of the market value is positively related to the size of the firm it means that if market is more stable in the dealings of all aspects then it is better chance for the firms to make progress to the highest level which is dream of the every firm (Connolly and hirschey 2005). Liquidity constraints had negative effect on the growth which is related to the firm size because there is imperfection in the capital market means

there were the chances of ups and downs in the market and there was a major change in the capital market due to little or more change in the factors which affecting the capital market (Fagiolo and Luzzi 2006).

The probability to deals with the restrictions on the innovations made in the firms moved them to decreased their size and in the most countries firms which are large in size can easily adopt the innovations and the changing environment because these firms have more resources and finance to handle all these things properly so in all these circumstances all these firms make relationship with those who provided the capital for the dealings in the business (Savignac 2006). According to the study of HechmiSoumaya (August,2012) examined the impact of different variables on the investment of fixed assets of different firms. There were large numbers of variable which are affecting the investment level in the fixed assets but in this study the variables taken for the study are long term debts, firm size, cash flow, cash stock, liquidity and short terms debts.

Multiple regression technique is used for the estimation of the dependent variables (fixed assets investment) on the independent variables which are long term debt, cash flow and liquidity constraints keeping the level of significance 1% in the study. Difference of current and past years is taken related to the fixed assets and this data is used for the estimation and taken lags of others independent variables used in the estimation. Data is related to the 82 companies was used in the study and related to the 1999 to 2005 and all these companies are listed on the stock exchange of the Paris 250 index. Results of this study showed that there is a positive relation between cash flow and investment same relation is present among the firm size and fixed assets investment. There is negative relation between the tax and the fixed assets investment.

In the study of Hafiz A. Pasha and Mahnaz Fatima 1998 studied that the impact of external factors on the profitability of the company operating in the Pakistan and also checked the impact of taxes and inflation on the purchase and importing of fixed assets and

raw material. It is reason to change in the profitability of the company. The external factors economic growth rate and inflations were included in the model. Two explained variables are used in the model like gross profit ratio and gross profit to the fixed assets ratio. In order to checked the variation in corporate profitability at the aggregate level of all public quoted companies combined of Pakistan. Different measures like gross and net profit with respect to the fixed assets and sales. The model used in the research is the regression and correlation.

Data for the variables is collected from the balance sheet analysis of joint stock companies prepared by the state bank of Pakistan and the data related to the industrial unit is taken from the Census of manufacturing industries (CMI) prepared by the federal bureau of the statistics and the Pakistan's economic surveys. Dependent variables are the gross profit and gross profit to fixed assets ratio. Explanatory variables are economic growth rate, inflation, labor productivity, capital productivity and union power. The result of this paper is that the tax rates and inflation had great impact on the fixed assets which also resulted in change in the profitability of the companies working in the Pakistan.

One more study presented that checked the impact of the firm size and the research and development expenditures on the Tobin's Q by using the estimation technique which is ordinary least square (OLS). Different variables are used in this equation like firm size, profitability margin, growth rate and advertising expenditures to check their affect on the fixed assets investment (Robert A. Connolly and Mark Hirschey).

So the conclusion is drawn from this study presented that cash flow is important for the large size firms as compared to the small size firms (Michael Devereux, Fabio Schiantarelli January 1990).

One more study is conducted to check the impact of financing and investment in plant and equipment and in research and development. Firms taken for the estimation is 49 companies and data related to the 1959 to 1966 and it is taken on the annual basis. Time series data is

used in the study and the regression technique is used for the estimation. Results of study showed that debt to equity ratio has significant relation with the investment made in the plant, equipment and research and development. In the long run of the business this affect is very higher for the plant and equipment as compared to the investment made in the research and development. But in the short run business this effect is same in both cases. It was also found that percentage increase in the D/E ratio result in decrease in the investment

There was the study Robert J. Gordon and John M. Veitch 1990s that discussed the behavior of fixed investment in the four core topics along with the money demands, consumption and Phillips curve that had clear theoretical and empirical researches in macroeconomics during the postwar era. to study the changes in the fixed investments we study the concept of Keynesians which are the followers of the General theory that provided details about the instability and unpredictability of fixed investment behavior due to the changes in the fiscal policy by the government.

In the contrast of general theory monetarists provided the detail about the fluctuations in the fixed investments due to the changes occurred in the supply of money which is available to the economy. Two more additional groups worked on the fixed assets investment first group is "Neoclassical school" represented changes in the user cost of capital and in relative prices were major factors of fluctuations in the behavior of the fixed investment. Second group is consists of Tobin's Q approach what were the effects of the investment on future expectations and cost of capital is captured by one variable which is Q. the Neoclassical school and Q approaches explain the investment behavior. Instability of investment is due to the government control over interest rates and tax incentives on investments.

Methodology suggested here is same as provided by the Gordon and King 1982 in pervious researches. The model which is used for estimation is "Simsians" Vector Auto regression (VAR) models data used in it is on quarterly basis of 1919 after some changing the

presented the model which involved the variance of the investment. This paper provided the detail about the historical behavior of investment in the four categories producer's durable equipment (PDE), nonresidential structures (NRS), residential structures (RS) and consumer's durable expenditures (CD). Data obtained from the national income and product accounts. The results of this paper showed that both financial and monetary variables had effects on the fixed assets investment.

According to the study of the Alexander Kurshev, Ilya A. Strebulaev (October 2005) suggested that there is a strong relationship between the firm size and the capital structures of the firm, capital structures means that company finance its assets through the use of debt and equity and this thing is very common in those firms which are of larger size and it is not very common in the small size firms.

One study is the conducted regarding the liquidity constraints and the investment of the firms for this purpose 719 firms are taken which are related to the Germany and data if from the 1961 to 1989. Regression model is used in the study keeping the value of "Q" in the view during the estimation. So the result of the study showed that medium size firms are more liquidity constrained while making investment as compared to small size and the large size firms. According to the Tianyi Jiang (2003) presented the study to checked the impact of firm size on the fixed assets investment in the firms in the information technology area of these firms. These firms are related to the U.S.A and these companies are listed on the New York Stock Exchange. Firm size is taken on the basis that how employees adopt new technology and to what extent they working with this technology. Manufacturing, constructions, agriculture, ware housing, transportation, finance and insurance companies are involved in the study; these firms are of the North America. Regression analysis is used to check the impact of firm size on the fixed assets investment and results of this study showed that firm size is positively related to the investment of the fixed assets.

In the study of Jens Arnold CyrilleSchwellnus 2008 that worked on filling the growth gap in fixed assets by analyzing the effects of corporate tax on two main factors of growth productivity and investment in fixed assets at firm level. This also provided that high corporate tax rate reduce investment that resulted in low productivity of capital goods. To find out the impact of tax on productivity and investment this paper used the differences in differences estimation technique followed by Rajan and Zingales 1998.

This study also followed the user cost of capital approach which keeping in view the other factors depreciation allowances and different rates represented that higher corporate tax rates increase the user cost of capital therefore reduction in investment. The main results are as follow first corporate tax had a negative effect on the total fixed productivity at the firm level. Second result showed that corporate tax had same negative effect on all firms of different size except small size and new ones because their profitability ratio is not very high. Third presented that the firms are tried to adopting new technological frontier are affected by the corporate tax because their profit is high. Fourth showed that the effect of tax larger for the higher profitable firms.

The model used in this study is OLS model which was used for the estimation of the effect of corporate tax on investment and productivity. Data consists of non-European firms samples and data taken from the World scope data base which includes only large listed firms and those firms are included which had more than 100 employees. This paper showed that tax component of the user cost of capital result in the reduction of investment and productivity of the firms operation in the economy.

Study conducted by the Kadapakkam RajanPalani et.al, (1998) showed that how availability of cash flow and firm size effect the investment of the company through internally factors. In the study organization of economic cooperation and development (OECD) related to the 6 countries. For the estimation of different variables taken for the

study, estimate through the multiple regression model. According to the many theories in this study also focused on the firm's internal source of funding as compared to the external funding and many researchers thought that internal funding is easier as compare to the external factors. This study also resulted in that cash flow and firm size had positive relation with the investment in many countries and cash flow is more sensitive in large firms as compared to the small size firms.

According to the study of Magnus Blomstrom, Robert E. Lipsey (1986) showed that firm size and cyclical fluctuation in the stock prices of the companies. After the regression, its result showed that risk and return of the small size firms strongly affected by the recession state and data related to the years 1954 1997 of 528 monthly observations.

The study which was conducted in the Germany byDaniel Drebles showed that investment behavior influenced by corporate taxation. If the tax rates increases then it resulted in hurdles in the way of growth of investment while reduction in the tax is in favor of the investment. This study commented on the econometric and micro economical approaches were best for the estimation of effect of tax on the investment.

Investment taken in the study is related to the fixed assets of the subsidiaries of the company. The variables used in the study were tax and investment, investment is dependent variable and tax is independent variable data related to those companies which were strongly export orientated federal Baden Wirttemberg and data which related to the investment taken from the Deutsche Bundesbanks, data which related to the tax taken from the International tax handbook of IBFD as well as the worldwide corporate tax guides of ESNST & young.

The study of Alan J. Auerbach and Kevin Hassett 1991 that the taxes had played an independent role in affecting the investment behavior in machinery and equipment of the firms and fixed assets investment had a important role in the economic fluctuation and growth while designing tax policy. Some policy maker suggested that corporate tax is an

effective tool for change the level and composition of the investment. The main purpose of this study is to estimate the effect of corporate tax and tax policy influence the fixed asset investment of non-residential in the U.S over the period of 1956-88.

Model used in this study is having explicitly included tax policy variables and it is used to optimize the investment behavior of firms by ignoring the changes in the tax. The data collected on the annually basis for the period of 1953-88. Model used in the data had three parameters to be estimated each of which had an interpretation in terms of underlying structural models. Different equations are used in this model for estimation and these equations could be developed by using the generalized method of moments Henceforth: GMM, Hansen and Singleton 1984. This study also showed that tax had clear effect on the investment in the equipment and structures of the firms of the country.

The study of Robert E. Hall and Dale W. Jorgenson provided the information to examine the relation between tax policy and investment behavior of the firm by using the neoclassical theory of optimal accumulation of capital. First of all in this working paper there was a computation of the cost to the business of employing investment in the fixed assets. This cost was dependent on the price of investment goods, tax treatment and rate of return related to the income of the business.

At the next level workers found that relationship between the cost of employing capital equipment and investment expenditures. Data which was used in the study for both equipment and the structures related to the manufacturing and non-manufacturing concerns. Models used in this econometric model and data taken from the U.S economy related to the years 1929-63. Model of regression was used for estimating relationship between the variables of the study.

This study provided the result that the calculation of changes in tax policy had impact on the investment behavior for three major tax revisions in the period of postwar a: method of calculation depreciation according to the act of 1954 b: reduction in the lifetime of the assets

which are admissible for the depreciation and third is investment tax credit for machinery and equipment according to the act of 1962.

In summary, the literature shows that taxes adversely affect investment while firm size positively affects fixed investment.

2.1 Research Model/ Equation

In order to find out the impact of income taxes and market capitalization on fixed investment by manufacturing concerns, secondary data is used in the study. Panel data is used which is the combination of cross sectional and time series data. Data regarding fixed investment is gathered from official web site of state bank of Pakistan and data regarding taxes is gathered from financial statements (Cash Flow Statements) of the companies which was available on their web sites. Other data regarding firm size (market capitalization) is gathered from KSE 100 as well as from financial statements of the companies. Sample size consists of four manufacturing sectors 34 companies. Manufacturing sectors include Sugar industry, Cement industry, Textile industry and Automobiles and Parts from year 2007 to 2011. Our objective is to check the impacts of market capitalization and income taxes on fixed investment. For this multiple regression analysis is used as pooled estimation with fixed effect model. HechmiSoumaya (2012) and Raza, Syed Ali; Ali, Syed Adeel and Abassi, Zia (2012) also used regression model in their study.

Statistics Equation of our research is as follow:

$$FAI_{it} = \alpha + \beta_1 CFI_{it-1} + \beta_2 MC_{it} + \epsilon_{it}$$

Where, i represents firms and it is used for cross sectional data and t represents time and it is used for time series data. Our data is panel data so we use "it".

FAI_{it} = investment of firm i during year t

FAI_{it} : Log of Δ GFA of firm i during t , where GFA means Gross Fixed Assets.

Δ GFA = $GFA_{it} - GFA_{it-1}$

CFI_{it-1} = Log of Cash Flow Income tax of previous year

MC_{it} = Log of Market Capitalization of firm i during t

Market Capitalization $_{it}$ = Number of Outstanding Shares \times Share Price

ε_{it} = Error Term

α = it shows constant

Dependent Variable is FAI and Independent Variables are CFI and MC

2.2 Hypothesis

As we have noticed after reading the literatures that fixed investment decisions are affected by income taxes and firm size. Large firms have more opportunities to invest in fixed assets whereas when firm size is small, the opportunities of investing in fixed assets decrease. Similarly, taxes are compulsory to pay by all the organizations on their profit. Taxes also play important role in fixed investment decisions. To some extent these taxes restrict organizations to invest as it is approved by our literature. Particularly in manufacturing sector fixed investment like land and building, plant and machinery etc. These decisions are very important for manufacturing companies and these two factors play important role when it comes to make decision regarding fixed investment by manufacturing companies. Keeping in view these studies, our hypothesis is as follow:

H1: Market Capitalization has significant positive relation with fixed assets investment in manufacturing sectors.

H2: Income Tax has significant negative relation with fixed assets investment in manufacturing sectors.

3. METHODOLOGY

In this section, we will discuss research methodology of our study on the basis of different methodologies used in previous studies as were mentioned in our literature review. We also discuss the research design that is used in our study. This research design is also based on the previous studies regarding this topic.

3.1 Research Design:

We develop our sampling area and data requirements of our study on the basis of our research design. Our research is designed keeping in view the problems due to which this research is conducted. Our main concern is to check the impact of income taxes and market capitalization on fixed assets investment made by manufacturing companies. On the basis of this information, we develop our sample which consists of four manufacturing listed on Karachi Stock Exchange. These sectors include cement industry, sugar industry, automobiles and parts and textile industry.

3.2 Methodological Literature

In this section, we discuss and analyze different methods and techniques used by different researchers in their studies to check the impact of taxation and firm size on investment. We observe that different techniques are used by researchers considering manufacturing and non manufacturing sectors in different countries of the world. We also observe different variables used by the researchers in order to check the impact of taxation and firm size on investment. On the basis of these techniques and methodologies, researchers find different results. In this section, we will discuss different methodologies which are used regarding this study and we will also discuss the results generated by researchers in their studies.

Simeon, Djankov, Tim Ganser (July 2010) found in their study that there is correlation between corporate tax rates and investment in manufacturing companies but they did not find any correlation between corporate taxes and investment in service companies. They took the data on effective income tax rates of corporations and investments from 85 countries during the year 2004. This data regarding taxes and investment came from a survey which was conducted regarding all standardized firms which were medium sized. They used regression analysis in their studies. They used tax rates as their independent variables and investment and entrepreneurship as their dependent variables. As a result of their study,

they found that there was negative impact of taxes on foreign direct investment, investment and entrepreneurship.

Martin (March 1986) analyzed the results of the study by applying different models and by using different variables. This study tells that taxes changes in the profitability of the investment and that also have the effect on the share of GNP relating to nonresidential investment which is fixed investment. They used two models of aggregate investment presented in Feldstein. Some econometric evidences were presented in the study. (Econometrica, 1982). This study presented the results by applying variables like effective tax rates and profits of investments. They selected their samples from 1978 to 1984. Out of two models, the first model they used related to the investment GNP ratio to the real net of tax rate of return which was received by bond holders and equity holders. The second model which they used related to investment GNP ratio to the difference between maximum potential net return and net cost of equity and capital. The statistical estimates of this study showed that each percentage change in the rate of return over cost increases the investment GNP ratio by 0.3 percentage points.

HechmiSoumaya (August,2012) analyzed the impact of different variables on fixed assets investments. These variables include debt, firm size, liquidity and cash flow, long term and short term debts, cash stock which includes cash and marketable securities. This study was aimed to analyze the impacts of these variables on fixed assets investment. Multiple regression analysis was used in this study at significance level of 1%. Fixed assets investment was taken as dependent variable. While taking fixed assets investment as dependent variable, difference of previous year and current year was calculated. Then this difference is taken as dependent variable. Cash flow is calculated as net income plus depreciation and amortization.

The sample of this study consisted of the companies listed in Paris Stock Exchange and composing the SBF 250 index. Moreover, these companies were introduced before 1999. This means that the companies which were introduced in 2000 or afterwards were not

considered in the sample. This sample consisted of 82 companies for 5 years from 1999 to 2005. Results of the study showed that there is positive impact of cash flow and investment. Moreover, positive impact of firm size on investment is also seen in this study. They found that there is negative impact of liquid asset on investment. Whereas there is positive impact of cash stock (cash and marketable securities) on investment. However, there is negative impact of long term and medium term debts on investment.

Deveureux and Schiantarelli (1989) conducted the study on impact of firm size on the cash flow investment sensitivity. They concluded in their study that the investment cash flow sensitivity tends to decrease with the size. This is because the small firms generate cash flow of 18% while the big firms generate cash flow of 11% only.

Ahmed, (2004), presented the study and explained this study by applying regression analysis on the basis of different variables like income taxes, different expenses, gross profit and cost of goods sold. He applied the statistical technique in order to show the impact of taxes on other variables like gross profit, cost of sales etc. He found that there is negative relationship between taxes and other variables. He applied sample of 7306 companies. This sample was mainly taken from hotels and restaurant organizations including some sample from service businesses from the year 1995 up to 2000.

Robert A. Connolly and Mark Hirschey conducted the study whose basic purpose was to present the impacts of firm size and research and development expenditures on Tobin's Q by using straight forward application of ordinary least square. They also considered firm size, profit margin, growth, risk and advertising in this estimation. Robert J. Gordon, John Veitch (1986) analyzed the matters regarding fixed investment and the impacts of other variables like interest and taxes on fixed investment. In this study, Tobin's Q theory was used in order to explore the results. Another approach was used regarding neoclassical school presented by Jorgenson who focuses on changes in relative prices or user cost of capital plays vital

role as dominant influence with the change in output of fixed investment. As far as Tobin's Q theory is concerned, a single variable Q is used in this regard.

Vivek Ghosal and Prakash Loungani (July 1996) presented a study of firm size and impact of profit margin uncertainty on investment. The sample in this study consisted of 252 manufacturing companies in the United States from 1958 to 1991 and found that an increase in uncertainty about future profit margin affects firm's investment negatively in small firms and in case of large firms, there is no effect of increase in uncertainty about future profit margin on firm's investment or there is positive effect of increase in uncertainty about future profit margin on investment. Regression analysis was used in this study and time series analysis was also used.

Michael A. Salinger, Lawrence (September 1981) explained the study by using Tobin's Q theory of investment by taking into consideration of the variables like taxes, investment. He also considered stock valuation into account. By using this methodology, the study suggests that taxes have strong impact on stock valuation and investment by individual firms. The sample regarding this study was taken from 30 Dow Jones companies and techniques were applied in order to find out the results.

Michael Devereux, Fabio Schiantarelli (January 1990) conducted study regarding investment, financial factors and cash flow. They used panel data of 720 manufacturing companies of the United States by using Tobin's q theory. The results in this paper suggest that cash flow significantly associated with the investment of the firms. While stock measures of liquidity do not play an important role in evaluating investment. The stocks regarding debt have negative impact on the investment of the firm. Cash flow appears to be the matter of concentration when it comes to the sizes of the firms. That is, cash flow is an important factor for large firms as compared to the small firms.

Cyrille Schweltnus (2008) analyzed the impact of income taxes on investment and productivity. This study was conducted by

taking into consideration of the European OECD member countries firms. Difference in difference approach was used in this study during the period from 1996 up to 2004. The technique used in this study produced different results regarding impact of taxation on investment. The results suggest that there is adverse relationship between taxes and investment. Furthermore, by the use of stratified sampling, it shows that there is adverse relationship between taxes and productivity of the organizations.

Jeffrey I. Bernstein and M. Isha Nadiri (November 1982) developed a study regarding financing and investment in research and development and plant and equipment. Annual data about different variables were gathered from different sources from 1959 to 1966 for 49 firms. This selection regarding firms was available by the consistent time series data set on research and development. Regression analysis was used as a model. As a result, debt to equity ratio significantly affects the investment demand of the firms for both research and development and plant and equipment. Moreover, this effect is stronger for plant and equipment as compared to research and development capital in the long run. But in short run, the effect is similar for research and development and plant and equipment investment. Furthermore, the effect of percentage increase in debt to equity ratio leads to decline in percentage of plant and equipment investment to be nearly one and half times the percentage decrease in research and development investment. Rauh (2006) also applied regression analysis in his study to conduct the study on impact of taxation on investment made by the organization. In his study, he also selected cash flow variables regarding taxes. Results suggested that paying taxes reduce cash flow available to an organization and its investment is affected negatively.

Alexander Kurshev, Ilya A. Strebulaev (October 2005) developed a study regarding firm size and capital structure and found that there is strong positive relationship between firm size and capital structure. Large firm size tends to be large capital structure and smaller

firm size tends to be small capital structure. Goldstein, Juand Leland (2001) model was used as well as cross sectional regression analysis was also used.

Mohammad SalihMemon, Dr. Mohammad AslamMemon (2009) explained in their study the variables regarding taxation impact on business location decisions in Pakistan. They started their research by explanatory quantitative studies. For this purpose, they designed a questionnaire. Then they conducted quantitative survey by considering the samples of different firms regarding financial service providers. They examined the relationship between different aspects of decision making process. For this purpose, a quantitative methodology was applied. Questionnaire was concerning to the people who are involved in decision making like expansion of business, location decision, investment decision. Carroll and Johnson (1990) proposed research methodology for decision making purpose.

Lawrence & Salinger,(1981) analyzed a study on the basis of different variables like inventory, taxes, market value of debt, capital stock and market value of equity. They basically tried to check the impact of taxation on firm's investment and stock valuation. They found a strong relationship between taxes and other variables like investment and stock valuation. For this purpose they used Tobin's Q theory of investment. As a result, we see that taxes impact investment differently in different firm's level.

David B. Audretsch and Julie Ann Elston (2000) explained the study regarding linkage between liquidity constraints and investment of 719 German firms considering different sizes from 1961 to 1989. They used regression analysis according to the model which was used by Bond et al. (1997). This model was used in order to check the link between liquidity constraints and investment behavior of the firms. In their regression analysis model, they used different variables considering in view the Tobin's Q value. That is, they also calculated Tobin's Q value in their estimation. The other variables include lagged investment, sales and cash flow. Data were gathered from official websites of the respective firms. They

used sales as a proxy of productivity or output of the firms. Results of this study indicate that medium size firms tend to be more liquidity constrained in the investment made by the firms as compared to either small size firms or large size firms in the study.

Dammon, an Zhang (2004) applied arbitrage arguments in their study to estimate the results on the location decision of holding of assets. This arbitrage approach involves estimating a risk preserving change as far as optimal location of holding of assets is concerned. This is done in order to see if after tax return on the investment by investors can be improved or not. This research also tells about the problems regarding investing in taxable and tax deferred savings accounts published in 2004.

KadapakkamRajanPalani et.al, (1998) conducted a study to examine the extent to which the availability of cash flow and firm size impact the capital internal investment. For this purpose, 6 OECD (organization for economic cooperation and development) countries were taken to examine the study. As far as research model is concerned, multiple regression analysis was used in this study to check the relationship between the variables. Particularly, this study aims to analyze the effects of firm size on internal funds (capital investment) of the firms. Because there is general perception that small firms have limited access to the external capital market, that's why they should rely more on internal funds than external funds. The results of the study show that cash flow and firm size have significantly positive effects on fixed investment in all the countries. Moreover, it is also found in this study that cash flow is more sensitive in larger size firms as compared to small size firms

Cheng Fan-fah, ShamsheMohd, Annuar Nasir (2008) conducted study on the impact of firm size on stock prices during earning announcement period by using Ball and Brown (1968) method. Whereas the expected returns in this study were measured by using Sharpe's (1963) market model. The data which were used in this study consisted of daily closing prices of shares and earning information during

the period of 1988 to 1997 from Securities Clearing Automated Network Services in the Kuala Lumpur Stock Exchange, the financial information were gathered from the annual reports of the companies. The earnings announcement data were gathered from investors digest and KLSSE Daily diary. The stock market showed two peaks and two recessions during the period of 1988 to 1997. The impact is measured by earning response coefficient. The results show significant and negative correlation between firm size and standardized unexpected earnings.

Perez- Quiros, G. and A. Timmermann, (2000) conducted their study on firm size and cyclical fluctuation in stock prices of and found that the risk and returns of small firms are most strongly affected by a recession state by using regression coefficient. Risk and returns of large firms are not that much strongly affected by a recession state as compared to that of small firms. Sample period in this study consisted of 528 monthly observations from January 1954 to December 1997.

Magnus Blomstrom, Robert E. Lipsey (1986) examined the effects of firm size on foreign direct investment by using the data from American multinational firms and Swedish firms by using data of manufacturing firms. The results of the study show that firm size has slight effect on deciding foreign direct investment. Large firms do not have particular advantage over small firms. In this study Micheal P. Devereux presented that the effect of corporate tax on the investment. To estimate the effect the data used related to the fixed assets of four countries which are Germany, Japan, UK and USA and years taking into consideration are 1979 to 1997. Model used in the study is derived from the capital market equilibrium and many other models used in the study for the estimation.

Dr. S. Tulasi Devi, Prof. V. L. N. Rao conducted a study by analyzing the impact of different variables on fixed assets investment by using multiple linear regression model. In this study they analyzed the impact of different independent variables on fixed assets (plant and machinery) investment. In this study, demand and financial factors as well as internal

and external factors are considered in analyzing fixed assets investment. The impact of different determinants regarding fixed assets is examined in Metals, Alloys, Metal Products and Structural Industry which are based in India. Variables of the study include fixed assets investment, firm size (sales volume), provision of taxation, gross internal fund, dividend, growth of equity capital, debt outstanding etc. Data were collected from Bombay Stock Exchange Official Directory from 2000 to 2009. The results of the study suggest that firm size (change in sales volume), debt outstanding, dividend are significant determinants of fixed assets investment. Provision for taxation, interest on borrowed money are also significant factors in Alloys, Metals, Metal Products and Structural.

Stiglitz and Weiss (1981) mentioned in their study regarding the relationship between investment behavior and liquidity constraints keeping in view the different sizes of the firms. They analyzed the study with the help of q theory analysis. Large firms can easily finance their capital expenditures from internal sources of funds but small firms find it difficult to finance capital expenditures from internal sources of funds. The model used in this study was dynamic regression analysis from Bonn Database by using 719 German based firms which are listed on German Stock Exchange from year 1961 to 1980.

Gertler and Gilchrist (1994) analyzed that the uncertainty about future profits affect small firm more instantly as compared to the large firms. They also used regression analysis in the study. The results also suggested that increase in uncertainty in future profit also encourages lenders to decrease the amount of credit in the market which ultimately affects the investment decisions.

Hubard, Farzzari and Petersen (1988), and Gertle (1994) used regression model and time series analysis to show the level of uncertainty about future profit by considering the firm size into account. They used industry level data instead of firm level data because firm size; sales or market capitalization industries are large ones as compared to the organizations or firms. Uncertainty affects the fixed investment

more as compared to the small size firms or the organizations. Data is taken on annual basis from 1958 to 1991. This study showed the relationship between the economic factors and the motives for the investment by Franck Missionier. The samples of the companies are related to the industrial and commercial which are listed on the stock exchange of the Swiss. The model used for the estimation is correlation and regression to check the relation of these variables.

This study is conducted to check the effect of taxation on investment and the productivity of the firms by Jens Arnold and Cryille. According to the Wooldridge (2002), Rajan and Zingales (1998) proposed difference in differences estimation techniques. Samples of the firms taken from the Amadeus database are suggested by (Bureau van Dijk). This database covered the European countries OECD and data is related to the 1996 to 2004. Data related to the manufacturing and services sectors only. The department of recycling, refuse disposal and utilities are not included in the data because in all public had high share in the ownership in those years especially to which our data is related. All non-profit organizations are excluded from the data for estimation (Nace). Model used in the equation is the ordinary least square (OLS) method for the estimation. Regression is also used to check the effect of tax on the investment to get better result.

In this study Steven M.Fazzari proposed that what is the impact of tax reform on the investment. To what extent that tax effects the investment. Model used in this study is related to the famous models of econometric like correlation and autocorrelation to estimate the results of tax on investment and data is related to the quarterly from third quarter of 1956 to second quarter of 1986. Data used in the equation is obtained from the Federal Reserve Bank of St. Louis and data used in the econometric analysis is of national income and product accounts. The historical data showed that cash flow is positively related to the investment of the equipments. For calculating depreciation following equation is used $\text{investment} = \text{increase in the desire capital} +$

depreciation and leverage ratio is also used in the study for this model of Washington university macro university in all equations.

In this study BouraPanagiota presented that how they estimated the effect of tax on the investment and tax incentives played a major role in the change of investment or not. For this purpose the use the model of regression and OLS estimation technique which is followed by Saas 2003 and wunder 2001.

This study is conducted by the Harry and T. Scot that what is the effect of US tax on investment which is in the country and other investment which is made in abroad. Data used for the estimation is obtained from the body of US Department of the treasury corporate tax files complied by the statistics of the income division of the internal revenue service's and sample of 5471 companies is used in estimation from the 1980 to 1992. Only manufacturing firms of US are included and other data is obtained from the International Monetary fund and international financial statistics. The model used in the study is regression and OLX estimation technique too obtained the better results.

This study is conducted to check the behavior of fixed investment after the implementing the taxes. In this study equation is used for the estimation after studying the past models and studies Brayton and Clark (1985) proposed that monetary and fiscal policy are the determinants for the investment of whole economy of US. Second approach is partial equilibrium. So after making necessary research equation used in this study is based on the Neoclassical theory of capital accumulation and data is related to the 1982 to 1987 and it is taken on quarterly basis.

After studying different literature regarding taxation impact on investment, and having understanding of different methodologies and different results of the previous studies undertaken in different countries of the world including Pakistan, we concluded that there should be some extra considerations regarding taking samples in our study and we decided to take manufacturing concerns and services concerns in our study as our samples.

We selected four manufacturing sectors which are listed in KSE in order to conduct our study.

3.3 Data

Our data relates to income taxes, market capitalization and fixed investment. Data of 4 sectors of manufacturing companies is used in the study. Sample of the study consists of 34 manufacturing companies listed on KSE. Manufacturing sectors of the study include Cement companies, Textile mills, Sugar mills and Automobiles and Parts. Initially, sample of 44 companies was taken which also included insurance companies but later on sample was reduced to 34 companies excluding insurance companies because there was outlier in the data of insurance companies. Basically, these manufacturing sectors are taken as sample because size of manufacturing sectors is large in terms of sales volume and market capitalization and these sectors have to invest in fixed assets like land and building, plant and machinery in large amount and they have to pay large amount of taxes as well. Data regarding income taxes, and fixed investment are taken from the official site of State Bank of Pakistan and the financial statements of each company available on web portal of each company during year 2007 to 2011. This sample period is selected so that the impacts of 2007 financial crises may also appear in the results. Data regarding market capitalization is gathered from Karachi stock exchange site.

3.4 Statistics

Panel data is used in this study with three main variables. One is fixed investment. Fixed assets investment composes of investment in different types of tangible fixed assets like investment in land and building, plant and machinery, freehold premises, equipment, furniture etc. Difference of previous year fixed assets value and current year fixed assets value is taken and then added depreciation. Second variable is Income Tax which is available in Cash Flow statements of the concerned companies. Basically, income taxes paid by the company during the year are given in cash flow statements of the companies. Third variable is market capitalization which is calculated as number of outstanding shares multiplied by market value of the shares. Market value of shares is taken from Karachi stock exchange site.

4: RESULTS:

Dependent variable of the study is fixed investment while independent variables are income taxes and market capitalization. Multiple regression analysis as pooled estimation by using fixed effect model in the study in order to construct the results regarding impact of taxation and market capitalization on fixed investment.

	FAI	CFI	MC
Mean	8.154388	7.452184	8.873582
Median	8.268800	7.463624	8.946801
Maximum	10.29890	9.264801	11.15077
Minimum	4.568202	4.662758	6.097462
Standard Deviation	0.965196	0.742009	0.902515
Skewness	-0.918708	-0.461783	-0.550391
Kurtosis	4.571840	4.308744	3.734350
Jarque-Bera	37.27322	16.35687	11.16257
Probability	0.000000	0.000281	0.003768
Observations	153	153	153
Cross sections	34	34	34

In our analysis, a total of 153 observations have been taken in the data set.

The table shows that Jarque-Bera test is significant in all three variables, which shows the normality of data and OLS assumptions are not violated. It shows that pooled regression model is enough for estimation of our variables. Fixed asset investment has a minimum ratio of 4.568202 and maximum ratio of 10.29890, its mean is 8.154388, median is 8.268800 and standard deviation 0.965196.

Similarly, the minimum ratio of cash flow income tax is 4.662758 and maximum ratio is 9.264801, the mean value is 7.452184, median is 7.463624 and standard deviation is 0.742009.

Furthermore, market capitalization has a minimum ratio of 6.097462 and maximum ratio is 11.15077, its mean value is 8.873582, median is 8.946801 with a standard deviation of 0.902515.

All variables are on left skewed distributions it means that most of the values are concentrated on the right side of mean, which have extreme values at left. Kurtosis shows that all variables have a leptokurtic distribution.

Variable	Coefficient	t-Statistic	Prob.
C	3.156551	1.436370	0.1537
MC	0.654342	2.741334	0.0071
CFI	-0.108495	-0.850866	0.3966

These results show that C (constant) is insignificant with positive coefficient which means that there is no redundant/omitted variable case in the study. It also shows that our independent variables which are cash flow income tax and market capitalization are enough for our study. The results of market capitalization are significant with positive coefficient which shows that there is positive relationship between market capitalization and fixed investment in manufacturing sectors. This is obvious that when firm size increases, fixed investment also increases. So we accept H1, which shows that market capitalization has

significant positive relation with fixed investment.

According to our results, market capitalizations have significant relationship in 2007, 2009 and 2011 with a positive coefficients and it shows that there is a positive relationship between fixed asset investment and market capitalization. In 2008 and 2010, there is insignificant relationship between fixed asset investment and market capitalization having positive relation.

Whereas, our study shows that there is negative insignificant relationship between fixed assets investment and cash flow income taxes in manufacturing companies with negative coefficient. This is because increase in taxes leaves lesser amount for organizations to invest in fixed assets. We reject H2 which shows that income tax has insignificant negative relation with fixed investment.

Our sample period is from 2007 to 2011. There were financial crises in 2007 due to which cash flow taxes were also affected so it shows insignificant relation. As well as the results of our study show that cash flow income tax has insignificant relationship in 2007 to 2011 with negative coefficients from 2007 to 2010 and only in 2011, it has a positive coefficient. It also shows that 2007 financial crises have adverse effect on our data regarding cash flow taxes.

There are many researches on the basis of which firm size effects on fixed assets investment are calculated. Common point of all researches is the significance of the firm size effect but negative or positive signs are different. HechmiSoumaya (2012) also analyzed that market capitalization has a significant relationship with fixed investment and has a positive coefficient. Raza, Ali, Ali, Adeel and Abbasi (2011) analyzed the results in their study that firm size has positively related with fixed investment. They used sales volume as firm size. In the same study, they concluded that there is negative relationship exists between fixed assets investment and income taxes. That is, with the increase in income taxes there is decreasing in fixed investment and vice versa.

Another results of study conducted by Palani (1998) and Jiang(2003) show that there is a positive relationship exists between firm size and capital investment.

R-squared	0.691997
Adjusted R-squared	0.585696
F-statistic	6.509745
Prob(F-statistic)	0.000000

Whereas, the results of our study shows that coefficient of determination (R^2) is 0.691997 which shows that dependent variable is explained 69.20% by explanatory variables. Prob. (F-statistic) shows the significance of model. Whereas, F value also shows that explanatory variables are enough to explain the dependent variable.

5. CONCLUSION

By our study, we conclude that cash flow income taxes have insignificant relationship with fixed asset investment having negative coefficients in manufacturing sector where we have selected the sample of four manufacturing sectors including cement, sugar, textile, automobiles and parts. Our result shows that there is decrease in fixed asset investment by 10.85% with one unit increase in income taxes. These results must possess the effects of financial crises of 2007 as our sample data includes the period of 2007 to 2011. And, there is positive relationship between fixed asset investment and market capitalization. That is, there is increase in fixed investment by 65.43% with one unit increase in market capitalization.

5.1 Recommendations:

For future, we recommend that there is lack of research on the factors which affect fixed investment. So there should be more researches on other factors like inflation, interest, profit, cash flow etc. Furthermore, management should be careful while investing in fixed assets by keeping in view all the variables which affect the decisions regarding fixed investment. Management should also have enough knowledge regarding tax matters so that it can be able to manage taxation expenses.

5.2 Practical Implications:

This research is helpful for the management and decision makers of the manufacturing sectors. They can know to what extent income taxes and market capitalizations impact the decisions regarding fixed investment. Management can be careful when it comes to the decision making regarding fixed investment while keeping in view the factors like market capitalization and income tax liabilities. Because our research proved that market capitalization has positive impact on fixed assets investment decisions by manufacturing organizations while income taxes have negative impact on fixed investment decisions.

5.2 Limitations:

There are some other factors like inflation, interest rate, profit rate, business activities etc which also affect the decisions regarding fixed investment by manufacturing companies. But we did not consider these factors in our study. We checked the impact of only two variables on fixed investment by manufacturing companies.

5.3 Future Direction:

There should be more researches on the impact of different factors on fixed investment by manufacturing companies so that management and decision makers may also know about the factors which influence the decisions regarding investment of the business. There is need to analyze the impacts of all the factors which influence the decisions regarding fixed investment by manufacturing sector. As well as there is need to conduct researches on the impacts of taxes other than income tax on investment decisions by the organizations.

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