

# The Impact of Capital Structure on Firm's Performance (A case of Non-Financial Sector of Pakistan)

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## Abstract

This paper tends to investigate the impact of capital structure on the firm performance of the firms from the non-financial sector of Pakistan. Non-financial firms listed on Karachi Stock Exchange are taken as the sample size for the study. For measuring the performance of the firms Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM) and Earning per Share (EPS) are used as proxies. Short Term Debt (STD), Long Term Debt (LTD) and Leverage of the Firm or Total Debt (LEV) are variables for the capital structure. Controlled variables installed in the study are Size of the Firms (SIZE), Sales Growth (SALG), Assets Growth (ASSG) and Assets Turnover or Efficiency of the Firm (ASST). The total firms were 441, due to incomplete data it came down to 380 firms. Ordinary Least Square (OLS) method is used to analyze the performance, data is taken from 2005 to 2011 i.e. 7 years. Short Term Debt (STD), Long Term Debt (LTD) and Leverage of the Firm (LEV) have a negatively affected Return on Assets (ROA). Return on Equity (ROE) has a negative relation with all the capital structure variables but with Long Term Debt (LTD) and Leverage of the Firm (LEV) it was insignificant. In case of Net Profit Margin (NPM) the impact was positive but was insignificant for all the variables i.e. Long Term Debt (LTD), Short Term Debt (STD) and Leverage of the Firm (LEV). All the capital structure variables negatively affected Earning per Share (EPS) and were significant. Assets Turnover affected the performance positively for all proxies except Net Profit Margin (NPM) for which it was positive but insignificant. Size of the firm positively affected the performance overall while Sales Growth (SALG) has a significantly negative impact on Return on Assets. Assets Growth was found to have an impact on the performance of the firms.

**Keywords:** Capital Structure, Firm's Performance

## Introduction

### 1.1 Introduction

Capital structure is the mix of the sources of finances that is used by the firms to finance their operations and assets (Modigliani & Miller, 1958). The concept of capital structure remained undiscovered until Modigliani & Miller (1958) explained it in its "Capital structure irrelevance theory". As a firm can finance its operations and assets either by issuing stocks, bonds or preferred stocks. Capital structure makes up the right hand side of the balance sheet. Along with the three main securities a firm can also issue TFCs (Term Finance Certificates), can also go for lease financing so this means that discussion on capital structure is beyond any boundaries. But as firms mainly focus on issuing debt or equity so it can be summarized to capital structure as a mix of debt and equity.

Capital structure decisions are very important for a firm to operate successfully. The primary objective of a firm is to maximize the wealth of its shareholders. To put it another way it means that to maximize its earning per share or net income (Jensen & Meckling, 1976). A way to achieve that is to reduce its cost of financing or to finance with a source having less cost and large benefits. Firms nowadays maintain a mix of debt and equity, but the problem is that which proportionate of debt and equity has greater benefits against lesser costs. This is a problem to answer because different sources of finances have different cost structures and benefits allowing the firms to make it as a competitive advantage. One solution can be that to choose the mix which maximizes the shareholder's wealth but different firms have different impacts of the sources of finance.

As different modes of financing have different rates of returns, the same is the case with the different types of debt instruments (Khan, 2012) and (Amjed, 2011) i.e. short term debts (STD) and long term debt (LTD), both of them have different rates of returns an investor will ask for due to its duration difference and hence risk is different as well. This study for the first time used different modes of debt i.e. STD and LTD to study its impact on the firm performance along with the impact of total debt (TD) using different proxies as variables to measure the performance of the firms. Earlier studies have not used STD and LTD as separate explanatory variables for the firms listed on Karachi Stock Exchange.

As most of the researches are done on the determinants of capital structure but this paper has focused on the impact of the capital structure on the firm performance just like Umar, Tanveer, Aslam, & Sajid (2012) and

Saeed & Badar (2013). In the previous researches Return on Assets (ROA) was found to be negatively affected by the use of debt (KEBEWAR, 2013). These results matched with the concluding remarks of Salteh, Ghanavati, Khanqah, & Khosroshahi (2012), they found not only ROA negatively affected by the use of more debt but also found earning per share (EPS) to be negative related to the use of debt. Mohamad & Abdullah (2012) found as well that use of debt decrease ROA and the results were consistent with the pecking order theory that firm prefer internal financing on external financing and thus enhance performance. Memon, Bhutto, & Abbas (2012) evaluated the firm performance (ROA) against the debt ratio and found performance is negatively affected by increasing the debt ratio.

Ferati & Ejupi (2012) examined the impact of capital structure on the firm performance and profitability of Macedonian firms for a sample size of 150 firms and 10 years and found that debt has a negative impact on the return on equity (ROE). The reasons mentioned was that with increase in debt ratio the required rate of return increases and hence decrease profitability. The results were consistent with Velnampy & Niresh (2012) as they also gave the same arguments about the decrease in the firm performance with the increase in the level of debt. On the other hand Salteh, Ghanavati, Khanqah, & Khosroshahi (2012) were inconsistent with the above ones as results concluded a significantly positive effect of debt ratio on the ROE. Khan (2012) found a negative relation between the use of debt and ROE but the impact was insignificant.

Umar, Tanveer, Aslam, & Sajid (2012) found that different levels of debt have different impact on the firm performance. Findings concluded that short term debt (STD) negatively impact the firm performance but the impact was insignificant while long term debt (LTD) positively and significantly affect the performance in case of ROE. Overall total debt (TD) was found to have a negative impact on the firm performance. Consistent results were found by (Saeed & Badar, 2013). Findings concluded that Short Term Debt and Total Debt has a negative impact on the firm performance but on the other hand long term debt was found to have a positive and significant relation with the firm performance.

Form the above discussion we have concluded that both the debt and equity have different cost structures and thus impact differently on the performance. Same is the case with the different types of debts. We know that there are short term debts (STD) and long term debts (LTD), investors have different required rate of returns (RRR) of both of them and the longer the duration higher will be the risk and the returns an investor will demand as well (Khan, 2012).

This research paper explored the extent to which the debts influence the firm performance. The research paper has differentiated between different types of debt i.e. short term debt (STD), long term debt (LTD) and total debt (TD) as all of them have different levels of risk involved and ultimately differ in returns as well. As stated before greater the duration, greater will be the risk of that security and hence greater will the returns the investor will ask for (Khan, 2012).

### **1.2: Research questions:**

This paper intended to find out that whether the different levels of debt i.e. Short Term Debt and Long Term Debt have different or the same impact on the performance of the firms in both magnitude and direction of the relationship. As LTD and STD have different durations and hence different levels of risk involved in it so the expectation were to have a different impact. Along with this the impact of total debt on the performance was also analyzed.

### **1.3: Research objectives:**

The only objective of this paper was to find out that whether capital structure decisions taken by a firm affect the firm's performance or not.

### **1.4: Research hypothesis:**

The following hypothesizes have been tested in this paper.

H1: There is a negative relationship between the Leverage of the firm or Total Debt (LEV) and Return on Assets.

H2: There is a significantly negative relationship between the Short Term Debt (STD) and Return on Assets.

H3: There is a significantly negative relationship between the Long Term Debt (LTD) and Return on Assets.

H4: There is a significantly negative relationship between Leverage of the firm or Total Debt (LEV) and Return on Equity.

H5: There is a significantly negative relationship between the Short Term Debt (STD) and Return on Equity.

H6: There is a significantly negative relationship between the Long Term Debt (LTD) and Return on Equity.

H7: There is a significantly negative relationship between the Leverage of the firm or Total Debt (LEV) and Net Profit margin.

- H8: There is a significantly negative relationship between the Short Term Debt (STD) and Net Profit margin.  
H9: There is a significantly negative relationship between the Long Term Debt (LTD) and Net Profit margin.  
H10: There is a significantly negative relationship between the Leverage of the firm or Total Debt (LEV) and Earning per Share.  
H11: There is a significantly negative relationship between the Short Term Debt (STD) and Earning per Share.  
H12: There is a significantly negative relationship between the Long Term Debt (LTD) and Earning per Share.

## 2. Literature Review

As for the last few decades capital structure was a very hot topic and remained the theme of many researches e.g. Durand (1959), Baskin (1989) and Harris & Raviv (1991) after its identification of the Modigliani & Miller (1958). They set some assumptions and under those assumptions they proved that the capital structure decisions have an impact on the value of the firm and share prices which means that value of levered firm is always equal to value of unlevered firm. From their theory they proved that capital structure decisions are irrelevant but later on when they relaxed the assumptions one by one they found that it matters. In real life as well those assumptions do not work so it means that capital structure decisions are relevant and affect the performance of the firm and profitability. According to them they took perfect market conditions like no transaction cost, no bankruptcy cost and no taxes etc., all of them are not applicable in real market.

Modigliani & Miller (1963) relaxed the assumption and accepted the presence of corporate taxes. In that research that stated that as interest payment is tax deductible that is interest is paid before tax is applied on the operating income means that there is no tax paid on the interest just like dividend which is double taxed on the corporate and personal income as well. The theme was that interest has a tax advantage and if a firm wants to maximize the firm value must go for 100 percent debt where its value will be maximum. Modigliani & Miller (1963) proved that value of a levered firm will be equal to the value of the unlevered firm plus any tax advantage availed by the levered firm.

In another research paper Miller (1977) relaxed the assumption of personal taxes. By forgiving this assumption the tax benefit is shifted from bonds to stock, because interest income tax is most of the time more than the dividend tax plus any capital gain tax on the stock. Along with this most of the time the capital gain tax is a deferred payment released when the share will be actually sold and forgiven to the heir as well at the death of the owner of the shares. Here the investor point of view the more tax is given to the government less will be left for the investors and less is taken by the government more will be left for the investors. In this way investors and firms will prefer stocks as compared to bonds because their primary objective is to maximize shareholder's wealth and to provide them maximum returns.

After the relaxation of the assumption "no bankruptcy cost", Miller and Modigliani came to know that there is always a trade-off between the tax benefit that can be attained from the debt and agency cost by taking more debt beyond the optimal capital structure. It means that the value of the firm will be maximum not on the level of 100 percent debt but there exist an optimal capital structure. According to the Modigliani & Miller (1963) when a firm move from unlevered firm to levered firm the tax benefit leave more income for the investors and thus increase the value of the firm. This will continue to benefit the firm by increasing the debt ratio in their capital structure. There comes a point and Miller and Modigliani called it the threshold point, from that point the agency cost activates which slowly neutralize the tax benefit. The agency cost here means that as shareholders are the residual claimers and firm is not obliged to always give them income as dividends and in case of the debt holders they have a fix claim regardless that whether the firm has earned something or not. This leads to increase the risk and managers are then avoid investing in more risky projects even if they are to become successful and more profitable ones (Jensen & Meckling, 1976). This leads to the decrease in the profitability of the firm and decrease the share prices. Miler and Modigliani mentioned that there is a trade-off between the tax benefit from the debt and agency cost that will be created by the debt beyond the threshold point. They also proved that debt in the beginning have good impacts in the shape of that it discipline the management for avoiding them to give up their extra benefits and laziness. Comparatively debt is more beneficial than stocks so most of the firm prefer debt on stocks (Skopljak, 2012) and (Berger & Patti, 2004).

"The Pecking Order Theory" presented by Modigliani & Miller (1963) which state that in order to finance a project or operations, firm first relay on the retained earnings (internal financing) because it is the cheapest source of finance, then once consume the internal finance firm move for issuing bonds which is cheaper as

compared to shares (equity). As a last resort firms go for issuing shares as it the expensive source of finance. This theory was further extended by Myers & Majluf (1984). Baskin (1989) came with the similar results regarding the pecking order theory that firm always prefer internal finance rather than external finances (debt and equity). Baskin (1989) also stated that debt is preferred by firms as compared to equity because the transactional cost involved in the issuance of shares (equity) is greater than that of debt. . But sometimes firms do not have option for issuing bonds; it can be because of many reasons. One reason can be that they have already consumed a lot of debt and do not have the capacity left to issue bonds with low coupon rates, then the last resort is to issue stocks the most expensive source of finance most of the time, but later on tests proved that internal financing do not play any role financial and capital decisions (Mayer & Sussman, 2005).

As most of the research on the capital structure is done in the developed countries and the corporate environment in the developing countries are totally different from that of developed countries. Chen (2004) checked the Chinese firms for the impact of financial decisions on firm performance and found that as a developing economy Chinese business environment is slightly different from that of developed world. Especially in the “Pecking Order Theory” and “Agency Cost” and that do not give any relevance to the selection of the optimal capital structure by the Chinese firms. According to the research in China firms after utilizing the internal source of finance (retained earnings) they jump to issue shares and as a last resort they are indulged in the long term debt financing. Deesomsak, Paudyal, & Pescetto (2004) using the gross profit margin (GPM) as a measure for the firm performance conducted a research on the Malaysian firms and found a negative relationship between the leverage of the firm and firm performance.

Solomon (1963) mentioned in his research that the assumptions took by the Modigliani & Miller (1958) is not applicable in the real world. He added that for every firm there exists an optimal capital structure, when a firm issue bonds or take debt beyond that level the risk of the firm increases (bankruptcy cost) which increases the required rate of returns (RRR) for the investors and neutralize the advantage of tax benefit. Durand (1959) also criticized the models and theory of Miller & Modigliani (1958) because of its unrealistic assumptions of perfect capital markets and efficient markets.

As according to the basic rule of finance, each firm must do a cost and benefit analysis for every decision before the implementation of the decision. Titman & Wessels (1988) suggested that the important factor for a firm’s capital structure decisions and financing decisions are cost related to it and specifically the transactional costs. As firms are always seeking to maximize their profits and to add value to the firm, one way of doing this is to decrease the cost of the finance. Non-financial firms are the one mostly vulnerable to the financing or capital structure decisions (Staking & Babbel, 1995). According to them the non-financial firms used the tax advantage gained by using debt instead of equity to enhance their profits. They added that the dark side is that later on as they go for more and more debt they are exposed to the trade-off they must make in either to go for more debt to get more tax advantage or to expose the firm to the increase in the required rate of return of the investors because of the bankruptcy cost (Khan, 2012).

Binsbergen, Graham, & Yang (2011) evaluated the optimal capital structure for large firms by calculating the corresponding benefits and cost of debt. As according to Miller and Modigliani (1968) trade off theory optimal capital structure is the point at which the marginal cost of debt is exactly equal to the marginal benefit attained from using debt. Variables like cash flows, book to market ratio, intangible assets and that whether firm give dividend or not were used because they also have an impact on the firm performance. The results supported the trade-off theory that as firm increase their leverage the performance of the firm decreases which is due to the increases in the marginal cost of debt i.e. with the increase in debt the risk (financial risk) of the firm increases and it leads to an increase in the required rate of returns and it ultimately leads to increase in the cost of debt for a firm. Azhagaiah & Gavoury (2011) also found that increasing debt reduces the performance because of the increase in required rate for the investment.

Skopljak (2012) analyzed the relationship between the capital structure and firm performance using ECAP (equity divided by total capitalization) as explanatory variable and returns on equity (ROE) as dependent variable and profit efficiency as well. According to the results the impact of capital structure is not linear because the results were insignificant, but it has a quadratic relationship. At first when firm move from an unlevered to levered firm at low level there is an increase in the performance measures due to the tax advantage and management monitoring. On the other side at a higher level of leverage of a firm when a firm increases its leverage the performance of firm declines. In the first case when the leverage is low, increasing the leverage leads to increase in performance because of the less obliged management as they are mostly concerned about

their personal benefits and less about the operations. In the second case at a higher leverage increasing the leverage declines the performance because of the underinvestment and decrease of the increase in the bankruptcy cost and because of the bankruptcy cost the required rate of return asked by the investor increases (Solomon, 1963).

Berger & Patti (2004) conducted their research based on the testing of the agency theory. According to the new proposed method tests were done for the impact of increase in the leverage of the firm on the respective profit efficiency compared to a comparable firm with the same exogenous factors being influenced with. For the dependent variable that is the firm performance SPEFF (standard profit efficiency) and APEFF (alternative profit efficiency) were used. The results showed that with the increase in the leverage of the firm there is an increase in the value of the firm and also the profit efficiency because the managers then serve in the interest of the shareholders rather than in their interest. The results coincided in this case with the Jensen & Meckling (1976) which stated that there is always a conflict between interests on the managers and the shareholders and to counter that leverage must be increased.

Memon, Bhutto, & Abbas (2012) investigated the impact of capital structure on the respective performance by using ROA and D/E ratio as dependent and independent variables respectively. Results showed that the capital structure is a significant factor in measuring the performance. Adding that the firms are operating below the optimal capital structure so the debt usage is adversely affecting the ROA. As below the optimal capital structure the agency cost always affect the performance negatively as the managers will follow their interests rather than concentrating taking care of the shareholder's interests (Durand, 1959), ultimately results in the firm's underperformance.. Along with this the firms having larger size than others and not utilizing the economies of scale and that's why performing below average. Ferati & Ejupi (2012) on the other hand found a positive impact of Size on the firm performance because firms were utilizing the assets efficiently and so attained economies of scale.

Azhagaiah and Gavoury (2011) used ROA (Return on Assets) and ROCE (Return on Capital Employed) to checked against the D/E (Debt to Equity ratio) and TDTA (Total Debt to Total Assets). The firms were differentiated between low, medium and high income firms. Low income firms were found to have an effect from the capital structure decisions. On the other hand medium income firms were found to have a negative impact of the use of debt as they performed well by using less debt, so the capital structure is a significant factor for medium income firms. The same relation was found in high revenue firms as increasing debt decreased their respective performance. Overall the impact of capital structure on the performance was a negative one. In all size firms increasing debt ratio found to have a negative effect on the performance and profitability of the respective firms. The results of this paper were coincided to Auerbach (1987) as he later found that high leveraged firm are less profitable and have less firm's value as compared to low leveraged firms.

During the investigation of relationship between the capital structure and the firm performance for listed firms on Tehran Stock Exchange, Derayat (2012) the impact was found to be a direct and significant one. By analyzing ROA (Return on Assets) against the Current Liabilities (CL) and Non-Current Liabilities (NCL), the results showed that CL has a positive and significant impact on the firm's profitability reason mentioned was because of the lower cost for CL as compared to NCL, but Umar, Tanveer, Aslam, & Sajid (2012) found a negative impact of Current Liabilities on ROA. NCL against ROA was found to have a weak and negative impact, the reason mentioned by the author is that only 15 percent of total debt is comprised of NCL because of the higher cost for NCL as compared to CL. Equity was checked as well and was found to have a positive and significant effect on the profitability and performance if it is done through internal financing, in case of external financing the impact was negative. The previous sentence has proved the significance of the pecking order theory that the cheapest source of financing is through internal financing (Harris & Raviv, 1991).

Reviewing the relationship between the capital structure and performance for the listed firms of Tehran Stock Exchange, Aghabeygzadeh & Akbarpour (2011) analyzed the ROA and ROE against the STD, LTD and Equity to Total Liability. Overall the results showed that all the capital structure variables have a positive and significant effect on performance in case of ROA. On the other hand the impact of capital structure on ROE was not confirmed, although Dwilaksono (2010) found that STD and TD has a negative impact on ROE. Moreover according to the author as the country is a developing country and that why debt market is underdeveloped and firms mostly rely on short term financing. STD was found to have a positive impact on ROA while LTD has a negative impact on ROA (Aghabeygzadeh & Akbarpour, 2011).

Kebewar & Shah (2012) investigated the impact of capital structure on the firm performance by observing ROA (Return on Assets) against the total debt used by a firm. The focus was the impact of debt use on profitability by checking the validity of signaling theory, tax theory and agency cost theory. Firms with different sizes were included in the sample; results showed that there is a non-linear relationship between the capital structure decisions or the use of debt and firm's respective performance in all size firms. Although later on Salteh, Ghanavati, Khanqah, & Khosroshahi (2012) concluded that ROA is negatively affected at all levels of debt. It proves that empirically the results negated the theories mentioned above. Later on in another study the same variables were used and results showed that using debt has a significantly negative impact on the firm performance as increasing debt reduced ROA (KEBEWAR, 2013). The impact became worse in case of small and medium firms as compared to large firms.

The Malaysian firms belonged to the consumer and industrial sector were experimented in a study by Ahmad, Abdullah, & Roslan (2012) by installing ROA and ROE against different levels of debt that were STD, LTD and TDTA. The objective of the study was to study the impact of financial structure decisions on the firm's profitability and performance focusing specifically on effect of debt levels. The results concluded that STD and TD have a significant positive impact ROA while the impact of LTD on ROA was insignificant. For ROE all the debt levels were found to have a direct and significant impact on ROE (Mesquita & Lara, 2003) and (Abor, 2005). The reason mentioned by the author for the significant and positive impact of STD on ROA and ROE is because of its lower required rate of return as lower the cost enhance the profits. For LTD and TD as the LTD act as a disciplinary agent for the management and thus enhance performance, while TD gave the firm an opportunity to avail tax shield to improve performance (Ahmad, Abdullah, & Roslan, 2012).

By analyzing the Malaysian firms for the impact of capital structure on their respective performance by examining changes in ROA, ROE and ROCE against any changes in different debt and equity ratio, Mohamad & Abdullah (2012) found that capital structure has a negative impact on all the performance measures of the firms. These results contradict previous studies as debt was found to be related as a positive impact on performance as Coleman (2007) proved that debt has a positive impact on firm performance if funds are efficiently managed. However the results are inconsistent to the "Pecking Order Theory", that debt is a costly source of financing as increasing the debt level decreases the profitability of a firm. The reason of its costliness is because of the floatation cost, bankruptcy cost and agency cost (Harris & Raviv, 1991).

Othman, Shahadan, & Manan (2009) studied the relationship between the capital structure and firm performance of small and medium firms of Malaysia. According to the author SMEs follow the Pecking Order Theory and always go for internal financing first, once frustrated from internal financing then go for debt and as a last resort equity. For SMEs have very little chance for equity financing so most of the capital is raised from internal financing and debt financing. Results showed that debt has a negative impact on profitability in terms of ROA of the SMEs. The reasons mentioned by the author are that as in SME's the ratio of debt is very high as compared to equity financing and that is why the bankruptcy cost is very high and due to which the investors ask for a high required rate of returns which lead to high cost of capital and lower the performance and profitability of the SMEs.

In developing countries like Pakistan capital structure decisions are even more important than in developed countries. Saeed & Badar (2013) examined the impact of capital structure on firm performance by analyzing the ROA and ATR against different levels of debt i.e. STD, LTD and TD. The results came were different from most of the previous studies. According to the results LTD has a significantly positive impact on the ROA. The results were compatible with Aghabeygzadeh & Akbarpour (2011) as they found a positive impact as well. On the other hand TD and STD were found to have a negative but significant effect on the ROA. The reason mentioned by the author is that because the LTD is mostly given by banks and due to competition among the banks the LTDs are usually taken with lower required rate of returns and also efficiently use of the funds. STD has relatively higher required rate of return and because in Pakistan the Money Market is not well developed and that's why affect negatively the ROA (Saeed & Badar, 2013).

Amjed (2011) analyzed the impact of financing decisions on the performance of the firms belonged to the Chemical sector of Pakistan by observing changes in ROA and ROE against any changes in the different debt levels. Results indicated that STD affects significantly and positively both ROA and ROE, the reason given by the author is the lower required rate of return and thus enhances performance. On the other hand LTD was found to have a negative and significant impact of the performance in both ROE and ROA, the suggestion given for this negative effect is the high duration and thus high risk involved in LTD and eventually higher require rate of

return. Earlier Chowdhury & Chowdhury (2010) found that debt positively affect performance. Overall TD has a negative and strong effect on the performance because of the inefficient use of funds and the agency cost. Later on Memon, Bhutto, & Abbas (2012) also found that agency cost lead to the lower performance of the firms.

In a study of Brazilian firms it was found that LTD has a negative impact on ROE and off course performance of a company, but for STD the impact was found to be positive and significant. For equity the relation with the performance in shape of ROE was positive but low performance was experienced with high level of debts (Mesquita & Lara, 2003). According to the author the reasons about the negative relation between the LTD and leverage with ROE is because of the political instability and as the firms are conservative in nature, conservative means that debt funds are not invested in more risky projects because of the fear of losing their jobs called as underinvestment which is a type of agency cost (Jensen & Meckling, 1976). In other words the funds are not used efficiently. STD as found related positively with the ROE is due to its easily availability to the firms by the financial institutions and other business partners and lower required rate of return because of lower risk than LTD (Mesquita & Lara, 2003).

Majumdar & Chhibber (1999) found that using debt affect the performance in case of ROE in a negative direction. . According to the author the reason is the agency problems as most of the debt and loan donors in India are state owned and having some behavioral problems which deteriorate firms from superior performance. Author has suggested immediately for the privatization of the donor firms for effective use of debt. Along with this SIZE of the firm was found to have a positive impact on ROE which means that firms in India efficiently use their assets. On the other hand recently Memon, Bhutto, & Abbas (2012) found that Pakistani firms and unable to utilize the assets efficiently and didn't attain economies of scale. AGE of a firm has a negative impact according to the study because older firms are more rigid as compared to newer firms; newer firms changed easily and accepted the realities. ROE was positively affected by LIQUIDITY as well; as the better managed work capital is the more profitable will be a firm.

Like the non-financial sector the financial sector was also found to be affected negatively by use of debt and it was proved by Vitor & Badu (2012) in a study of listed banks of Ghana. Results were in such a way that the banks there are highly geared and most of the debt was taken in shape of STD (customer deposits) because just like other developing countries bond market is not well developed. STD was found to have a positive impact on the both ROE and ROA and was consistent with the findings of Amjed (2011). But the results were not consistent with the remarks of Abor (2007) the later found that STD has a negative impact on the firm performance while LTD has a positive impact on the performance of the firm. The reason of this impact was low required rate for STD and its easy availability. TDTA (Total Debt to Total Assets) affected negatively according to the study because as discussed earlier that banks there were highly geared and here agency cost come into effect. Agency cost at high leverage come in shape of bankruptcy cost which leads to high cost of capital and underinvestment as managers are reluctant from investing in risky but profitable projects and thus reduce free cash flow and eventually profits (Harris & Raviv, 1991).

The non-financial firms listed on Ghana Stock Exchange were studied by Abor (2005) for observing the impact of capital structure on firm performance. Study concluded that STD has a significant positive impact on ROE because of its availability at door steps and low cost of capital while LTD was found to have a significantly indirect effect on ROE, the reason mentioned by the author is the study were the under-developed bond market and high interest rate for LTD by banks. Overall TD was found to be significantly and positively related to ROE because more debt gave a firm advantage to avail the tax advantages. Along with this according to the author 85 percent of debt is in shape of STD, most of the profitable firms prefer to use more debt than less profitable firms in order to enhance performance. SG (Sales Growth) and SIZE of the firms also have positive impact on ROE. Later on a study came up with results that debt at all levels have on impact on the firm performance and SIZE of the firm effect directly the performance of the firm (Carpentier, 2006). Abor (2007) in another study ROA and NPM were studied against the debt levels and found that STD and TD were negatively related to both ROA and NPM, while LTD was positively related to performance. Besides that SIZE of the firm was positively to performance while Sales Growth was insignificant.

Velnampy & Niresh (2012) examined change in ROE due to the change in the capital structure for Sri Lankan Banks. Results showed that firms of the sample more relied upon the debt (long term) as compared to equity. For the sample size increase in the debt showed an increase in the rate of interest payment and thus decreased the firm performance or profitability and is consistent with the bankruptcy cost materialization beyond certain level of debt. Furthermore a significantly negative impact was found between the debt to equity ratio and profitability

of the firm. As stated earlier that as banks go for more and more debt the riskiness increases and cost of debt increases leading in decline of profitability. There is a need of an appropriate selection of debt and equity mix. Moreover efficient use of the debt funds is needed in order to enhance profits of the firm because banks are focusing on increasing the deposits ratio rather than efficiency.

Another study conducted in order to investigate the impact of different levels of debt i.e. STD, LTD and TDTA on ROE was done by Shubita & alsawalhah (2012). The results proved that debt at all levels have a negative impact on ROE. The reason given by the author is the economic downturn during the years in which the study was conducted. The economic downturn was defined as that as soon as firm went for more and more debt, they were able to avail the tax advantage but on the other hand it increases the bankruptcy cost and agency cost as well (Harris & Raviv, 1991). When firms took debt beyond their optimal capital structure they experienced an increase in cost of capital and incurred losses. Now as default risk means that firms were unable to payback their debt leads to recession. At the end the author has suggested that in order to be profitable firms must rely on equity rather than debt. On the other hand SIZE of the firm and Sales Growth were found to have a positive impact on ROE (Abor, 2005). Earlier Campello (2006) found as well a positive impact of Sales Growth on firm's performance.

Dwilaksono (2010) studied the impact of capital structure on the firm performance for mining industry of Jordan using ROE against STD, LTD and both variables simultaneously. Results showed that STD has a positive impact on ROE while LTD has a negative impact on ROE. The results for LTD were consistent with Mesquita & Lara (2003) as they found a negative impact of LTD on ROE. According to author the reason for STD positivity is its low required rate because STD has lessor duration and thus less risk is involved in it, on the other hand LTD has higher duration and risk than STD and that's why higher cost of capital than STD. Nosa & Ose (2010) also found that STD has a positive impact of the corporate performance. In addition simultaneously the impact of LTD is stronger than STD because most of the time taking more debt leaves firms unable to pay their short term obligations, as taking LTD beyond an average level increases the default risk and increase the liquidity problems for a firm (Stiglitz, 1974).

Ferati & Ejupi (2012) provided us with the empirical evidence for in the impact of STD, LTD and Total Equity on ROE or simply organizational performance. Results proved that LTD has an indirect impact on the ROE because of its high cost of capital and also leads to agency cost when exceeded from a certain level. According to the author most of the firms prefer STD on LTD because of its lower cost of capital as compared to LTD and as proved from the results that STD has a positive impact of profitability in shape of ROE. Earlier Zeitun & Tian (2007) concluded that STD has a positive impact of performance where as LTD has a negative impact. Equity was also found to have a positive impact of ROE. The author added that firms in Macedonia do not follow "Pecking Order Theory" because mostly firms rely on short term loans and equity financing. Along with this the research was conducted on SMEs, SIZE of the firm has a positive and significant impact of the firm performance provided that they are used efficiently.

Another empirical study was conducted by Raheman, Zulfiqar, & Mustafa (2007) in a developing country like Pakistan where risk and instability is very high and any profits or losses can have an exponential impact of firm's financial health, in this case capital structure decisions are very integral to a firm's success. Net Operating Profitability (NOP) was studied against debt and equity ratios. Concluding remarks were that LTD has a negative impact on firm's NOP, and the reason mentioned by the author was the higher cost of capital which increases the fixed cost and thus decreases profitability. Later on Dwilaksono (2010) and Khan (2012) also proved that LTD has a negative impact on the firm performance because it's higher cost of capital. Total Debt was also found to be negatively associated with firm performance and profitability. Equity on the other hand affected positively and significantly the NOP. SIZE of the firm has also a positive effect on NOP.

Patel & Bhatt (2013) discussed the impact of the capital structure on the performance of the firm for the non-financial firms listed on the National Stock Exchange by studying any alteration in firm's Net Operating Profitability (NOP) due to change in capital structure variables. The author ended up with a conclusion that Total Debt has a negative impact on the firm's profitability. LTD was also found to have an indirect impact on the firm's net profitability, this was attributed by the author that as LTD increases the management started fearing about their jobs and thus lead to underinvestment, plus the high interest rates incurred on LTD increases the fixed cost and ultimately financial leverage and thus decreases free cash flows and eventually profitability (Mesquita & Lara, 2003). Equity was found to have a positive impact on the net profits and the author has

suggested for the firms to go for equity financing. SIZE of the firm has also a direct impact of Net Profitability of the firms (Raheman, Zulfiqar, & Mustafa, 2007).

During the empirical investigation Coleman (2007) studied the impact of STD, LTD and TDTA on the firm performance of micro-finance institutions. From the results the author has concluded that the firms were mostly financed through debt and were levered above average. Furthermore firms with high leverage have abled themselves to attract more and more clients and have reduced their default rates. In simple words the author has stated that firms with high leverage have been able to manage risk and that is why outperforming firms with lower leverage. In addition results have proved that the impact of LTD is more positively strong as compared to STD because profitable firms with managing risk use more LTD and enhance performance. TDTA has as stated a positive impact on the performance of the firm. Amjed (2011) found that LTD and Total Debt negatively affect firm performance because Pakistani firms were unable to use the borrowed funds efficiently.

Campello (2006) conducted a study based on that whether using debt decreases the performance or increase the firm performance wrote a paper for the impact of capital structure and product-market interaction. The explanatory variables used were leverage LTD (long term debt to total assets), while the sales growth including the size of the firms (Size), investment (Inv), sales expenses (Sales Exp) were installed as controlled variables in the model. The results showed that the debt financing can increase or boost the performance depends upon the level of existing leverage of the firm. According to the conclusion firms with moderate leverage has a substantial market share gains as compared to other firms, but when these firms increase their leverage their performance in terms of sales decreases. In concentrated markets firms with greater equity ratio in their capital structure have high sales growth rate as compared to the high leverage firms. Market leaders cannot boost their sales if their debt level is already above average.

Zeitun & Tian (2007) gave empirical evidence for the impact of financing decisions on firm performance from Jordan. ROA, ROE and Tobin's Q were used to evaluate the performance of the firms the different debt and equity levels including the STD and LTD. The results showed that all the capital structure variables including TDTA, STD, LTD and Total Equity have a significantly negative impact on firm performance in all performance variables except that STD has a positive impact on the Tobin's Q. This peculiar relationship according to author was explained as the firms were highly levered and when firms went beyond the optimal capital structure the bankruptcy cost and agency cost exceeded the benefits taken from using debt compelling the investors to increase their required rates as firms with high leverage faced liquidity problems as well (Jensen & Meckling, 1976). Binsbergen, Graham, & Yang (2011) also supported the same results as when firm increases their debt levels above average level the marginal cost of debt increases. SIZE of the firm was positively related to firm performance which means large size firms outperform small size firms.

A study was conducted by Pratheepkanth (2011) to examine the impact of capital structure decisions on the firm performance for Sri Lankan firms. Several performance variables i.e. ROA, ROE, NP and GP were observed against debt to equity ratio. A negative and significant relationship was found between NP and capital structure but a capital affected GP positively but the impact was a weak one. For ROA and ROE the effect of capital structure was a negative and strong one. Later on Shubita & alsawalhah (2012) also proved that ROE is negatively affected at all levels of debt. The reasons mentioned in the study for this negativity is underdeveloped debt market and the only donor for debt are the banks and they charged very high on debt and especially long term debts and its increases the cost for debt and thus reduces the cash flows.

Empirical evidence regarding the impact of capital structure on the firm performance for engineering sector of Pakistan was presented by Khan (2012) in his study. The study was about impact of different levels of debt on ROA, ROE, GPM and Tobin's Q. From the results it was concluded that most of the firms finance through short term bank loans (STD) rather than long term debt and even equity because short term loans are easily available and at a reasonable interest rate as compared to LTD, secondly bonds market and up to some extent equity market is underdeveloped leaving the firms to rely on STD. Author added that due to unequal information and market inefficiency external financing is very expensive and is kept as a last resort, which means that firms of Pakistani market follow the "Pecking Order Theory". For STD and TDTA the impact on ROA, GPM and Tobin's Q was negative and as well as significant. The results supported the remarks of Ebaid (2009) that STD and TD has a negative impact on the firm performance while contradictiong Dwilaksono (2010) who found a positive impact of leverage and STD on firm's performance. LTD and TDTA affected the Tobin's Q negatively as well. For ROE the impact of all the capital structure variables was negative but it was insignificant. SIZE of the firm has insignificant relationship with ROA and GPM while for Tobin's Q the impact was negative and significant

inconsistent with Zeitun & Tian (2007) as a positive impact was observed for SIZE of a firm on ROA, ROE and Tobin's Q.

By taking a sample from Manufacturing sector of Iran Salteh, Ghanavati, Khanqah, & Khosroshahi (2012) studied the impact of financial decisions on the profitability of a firm by observing the effect of STD, LTD and TDTA on performance variables like ROA, ROE, EPS and Tobin's Q. Findings were in such a way that ROA and EPS were negatively affected by the capital structure and the effect was significant. On the other hand ROE and Tobin's Q were positively related to TDTA. According to Zeitun & Tian (2007) Tobin's Q was positively affected by STD while negatively affected by Total Debt. According to the author the inefficient use of the debt funds lead to a negative impact for debt on profitability. On the other hand Coleman (2007) found a positive impact for all the capital structure variables on the firm performance because the firm were using the funds efficiently.

While studying the Banking industry Saeed, Gull, & Rasheed (2013) gave empirical results for the impact of capital structure on firm performance by observing firm performance against the capital structure decisions. Based on the results of the study STDTA has a positive and significant impact on ROA, ROE and EPS while LTDTA was found to be negatively related to all the performance variables. On the other hand TD was proved to have an optimistic impact of ROA, ROE and EPS. SIZE of the firm also affected the performance positively and significantly as well. AG (Assets Growth) affected ROA and ROE insignificantly negative but for EPS the relation was significantly negative. The reason for positive impact of STDTA was because of its lower required rate (Mesquita & Lara, 2003). An addition to that according to the author STDTA is easily accessible as compared to LTDTA because bonds market is not yet developed in the country. The same results were found by Amjed (2011) for the non-financial sector as STD to be positively related and LTD to be negatively related to the firm performance.

In another study Akintoye (2008) investigated the impact of capital structure decisions on EPS, DPS and EBIT. Results indicated that all the performance variables are sensitive to the capital structure decisions. As the ratio of operating and financial leverage increases the performance and profitability of the firms also increases but the impact is quadratic rather than linear as proved from the results of the study. The leverage affect the performance positively up to a point and beyond that point the increasing leverage decrease the performance of the firms. Skopljak (2012) also proved that the impact of capital structure is quadratic rather than linear, that upto a point performance is boosted by increasing debt and beyond that it is negatively affected.

Umar, Tanveer, Aslam, & Sajid (2012) gave the empirical evidence for the impact of capital structure on firm performance for KSE-100 firms. The study ended up with the results that all the capital structure variables i.e. STDTA, LTDTA and TDTA have a negative influence on ROA, EBIT and NPM. Patel & Bhatt (2013) later on also concluded that debt affects performance of a firm negatively. The author attributed this negative impact to the inefficient use of the debt funds, another reason given by the author is that the cost of external financing is very high due to the information asymmetry and inefficient market that why firms follow "Pecking Order Theory" that's why prefer internal financing than external financing (Phillips & Sipahioglu, 2004). Relation on Price-Earnings Ratio with the STDTA was significantly negative; with LTDTA it was significantly positive while with the TDTA it was insignificant. On the other hand ROE related with the LTDTA and TDTA positively while the impact of STDTA was insignificant. Overall the impact of capital structure on the performance of the firms was negative. The author suggested in the end to prefer internal financing and leaving debt as a last resort.

San & Heng (2011) conducted a study to examine the impact of financial or capital decisions on firm performance by studying the construction industry. Viewing the results it was concluded by the author that capital structure has a linear relationship with the firm performance and very integral to one's success but for some companies the impact was insignificant. For large construction companies ROC and EPS were significantly related to the capital structure while other performance variables showed no relationship. Debt to Equity Ratio, LTD and TDTA affected the performance variables while others failed to show any. For medium size firms only long term debts showed an impact on the performance while other capital structure variables failed to do so. For small size firm only EPS showed to be affected by the capital structure variable that is Total Debt. ROA, ROE and NPM were not affected by any of the capital structure variables. On the other hand Salteh, Ghanavati, Khanqah, & Khosroshahi (2012) and Saeed, Gull, & Rasheed (2013) found that capital structure negatively affected ROA and EPS.

In an analysis of the firms for studying the influence of capital structure on the firm performance Mansor, Mahmood, & Zakaria (2007) examined the impact within the property and construction industries and then in comparison between the two. Results indicated that due to the higher capital gearing and debt usage one industry is underperforming another having relatively low gearing and debt usage. According to the author developers are using less debt as compared to contractors and performing well, contractors are using more debt but performing inefficiently which leads increase the cost of capital and reducing the benefits and eventually end up with low profits. Moreover capital gearing has a negative and significant impact on the Net Profit Margin and Price-Earnings ratio. Umar, Tanveer, Aslam, & Sajid (2012) found almost the same results as according to the NPM was negatively affected at all levels of debt while P/E ratio was negatively affected by STD and positively affected by LTD. The overall conclusion in view of the author was that high leverage leads to lower the profits because debt has fixed obligations regardless of whether the firm has earned something or has incurred a loss. The results are consistent with Jensen & Meckling (1976) that agency cost always lowers the performance and ultimately profitability of the firm.

Ebaid (2009) found in his study of the impact of financial decisions on firm performance that ROA is negatively affected by Short Term Debts (STD) and Total Debts to Total Assets (TTD) and the impact is significant. Based on the results it was proved that STD, LTD and TTD all of them have an impact on ROE and GPM. On the other hand the impact of Long Term debts (LTD) on ROA was insignificant. Overall conclusion by the author was the capital structure decisions have a very weak or no impact on the firm performance for Egyptian firms. The results found later on for the Iranian firms were opposite as Salteh, Ghanavati, Khanqah, & Khosroshahi (2012) found that the capital structure decisions have a significant effect on the firm performance.

### **3 Data and Methodology**

#### **3.1 Methodology for Data**

This paper was based on the effect of capital structure on the firm performance for the non-financial firms by taking the sample of all listed non-financial firms on KSE from 2005 to 2011. Secondary data was used for the research and the data was available on the website of State Bank of Pakistan ([www.sbp.org.pk](http://www.sbp.org.pk)), under the heading of balance sheet analysis of listed companies and then under the subheading of balance sheet analysis of the non-financial sector of Pakistan. There are total 443 non-financial firms at times the data was collected for the research. Due to unavailability and incomplete data of some firms finally the sample size came down to 380 firms with 2202 observations, data for the research was of from 2005 to 2011 i.e. 7 years.

#### **3.2 Methodology for Analysis**

Methodology has been adopted from Ahmad, Abdullah, & Roslan (2012) to analyze the data for different levels of debt on the firm performance using various performance proxies. Multiple Regression was used to analyze the data by using SPSS software. ROA (return on assets), ROE (return on equity), NPM (net profit margin) and EPS (earning per share) were taken as independent variables. According to Ahmad, Abdullah, & Roslan (2012), ROA is the net profit divided by the Total Assets while ROE is the Net Profit divided by Total Equity. NPM is Net Profit divided by Total Sales and EPS is net profit divided by Outstanding Shares (San & Heng, 2011). STD (short term debt) and LTD (long term debt) along with LEV (Total Debt) were the independent variables. STD is Current Liabilities divided by Total Assets, LTD is Non-current Liabilities divided by Total Assets while LEV is Total Debt divided by Total Assets. SIZE here was the Natural Log of Total Assets taken from Ferati & Ejupi (2012) and was considered as controlled variable. Another controlled variable was SALG (sales growth), which is average of the difference between the Current and Previous Sales (Abor, The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana, 2005). Other controlled variables were ASSG (assets growth) and ASST (assets turnover). ASSG is the average of the difference between Current and Previous Total Assets while ASST is Total Sales divided by Total Assets (Ahmad, Abdullah, & Roslan, 2012).

#### **3.3 Hypothesis**

The following hypotheses have been tested in this paper.

H1: There is a negative relationship between the Leverage of the firm or Total Debt (LEV) and Return on Assets.

H2: There is a significantly negative relationship between the Short Term Debt (STD) and Return on Assets.

H3: There is a significantly negative relationship between the Long Term Debt (LTD) and Return on Assets.

H4: There is a significantly negative relationship between Leverage of the firm or Total Debt (LEV) and Return on Equity.

- H5: There is a significantly negative relationship between the Short Term Debt (STD) and Return on Equity.  
H6: There is a significantly negative relationship between the Long Term Debt (LTD) and Return on Equity.  
H7: There is a significantly negative relationship between the Leverage of the firm or Total Debt (LEV) and Net Profit margin.  
H8: There is a significantly negative relationship between the Short Term Debt (STD) and Net Profit margin.  
H9: There is a significantly negative relationship between the Long Term Debt (LTD) and Net Profit margin.  
H10: There is a significantly negative relationship between the Leverage of the firm or Total Debt (LEV) and Earning per Share.  
H11: There is a significantly negative relationship between the Short Term Debt (STD) and Earning per Share.  
H12: There is a significantly negative relationship between the Long Term Debt (LTD) and Earning per Share.

### 3.4 Models

The models used in the research paper are as followed from Equation 1 to Equation 8. Performance has been used for respective dependent variables. STD has been used for Short Term Debt, LTD for Long Term Debt and LEV for Leverage of the firm or Total Debt. Size of the firm has been denoted by SIZE, Sales Growth has been denoted by SALG while Assets Growth and Assets Turnover have been denoted by ASSG and ASST respectively. Performance measuring variables were Return on Assets denoted by ROA, Return on Equity abbreviated as ROE, Net Profit Margin as NPM and Earning per Share as EPS.

Return on Asset (ROA):

Equation 1:

$$\text{Performance}_{i,t} = \beta_0 + \beta_1 \text{STD}_{i,t} + \beta_2 \text{LTD}_{i,t} + \beta_3 \text{SIZE}_{i,t} + \beta_4 \text{SALG}_{i,t} + \beta_5 \text{ASSG}_{i,t} + \beta_6 \text{ASST}_{i,t} + \epsilon_{i,t}$$

The above equation determined the impact of STD, LTD, SIZE, SALG, ASSG and ASST on the firm's performance in terms of ROA.

Equation 2:

$$\text{Performance}_{i,t} = \beta_0 + \beta_1 \text{LEV}_{i,t} + \beta_2 \text{SIZE}_{i,t} + \beta_3 \text{SALG}_{i,t} + \beta_4 \text{ASSG}_{i,t} + \beta_5 \text{ASST}_{i,t} + \epsilon_{i,t}$$

The mentioned equation evaluated the change in performance of a firm in terms of ROA brought by LEV as independent variable and SIZE, SALG, ASSG, ASST as controlled variables.

Return on Equity (ROE):

Equation 3:

$$\text{Performance}_{i,t} = \beta_0 + \beta_1 \text{STD}_{i,t} + \beta_2 \text{LTD}_{i,t} + \beta_3 \text{SIZE}_{i,t} + \beta_4 \text{SALG}_{i,t} + \beta_5 \text{ASSG}_{i,t} + \beta_6 \text{ASST}_{i,t} + \epsilon_{i,t}$$

Equation 3 explained the impact of STD and LTD on the firm's performance in terms of ROE while controlling the impact of SIZE, SALG, ASSG and ASST

Equation 4:

$$\text{Performance}_{i,t} = \beta_0 + \beta_1 \text{LEV}_{i,t} + \beta_2 \text{SIZE}_{i,t} + \beta_3 \text{SALG}_{i,t} + \beta_4 \text{ASSG}_{i,t} + \beta_5 \text{ASST}_{i,t} + \epsilon_{i,t}$$

The equation mentioned above summarized the impact of LEV of the firm on firm's performance in terms of ROE by controlling the impact of SIZE, SALG, ASSG and ASST.

Net Profit Margin (NPM):

Equation 5:

$$\text{Performance}_{i,t} = \beta_0 + \beta_1 \text{STD}_{i,t} + \beta_2 \text{LTD}_{i,t} + \beta_3 \text{SIZE}_{i,t} + \beta_4 \text{SALG}_{i,t} + \beta_5 \text{ASSG}_{i,t} + \beta_6 \text{ASST}_{i,t} + \epsilon_{i,t}$$

Equation 5 abbreviated the evaluation of the impact of STD and LTD on firm's performance in terms of NPM by considering SIZE, SALG, ASSG and ASST as controlled variables.

Equation 6:

$$\text{Performance}_{i,t} = \beta_0 + \beta_1 \text{LEV}_{i,t} + \beta_2 \text{SIZE}_{i,t} + \beta_3 \text{SALG}_{i,t} + \beta_4 \text{ASSG}_{i,t} + \beta_5 \text{ASST}_{i,t} + \epsilon_{i,t}$$

The above model is about the effect of LEV of a firm on its performance in terms of NPM by installing SIZE, SALG, ASSG and ASST as controlled variables.

Earnings per Share (EPS):

Equation 7:

$$\text{Performance}_{i,t} = \beta_0 + \beta_1 \text{STD}_{i,t} + \beta_2 \text{LTD}_{i,t} + \beta_3 \text{SIZE}_{i,t} + \beta_4 \text{SALG}_{i,t} + \beta_5 \text{ASSG}_{i,t} + \beta_6 \text{ASST}_{i,t} + \epsilon_{i,t}$$

The model mentioned above abbreviated the analysis of the impact of STD and LTD on firm's performance in terms of EPS by controlling the effect of SIZE, SALG, ASSG and ASST.

Equation 8:

$$\text{Performance}_{i,t} = \beta_0 + \beta_1 \text{LEV}_{i,t} + \beta_2 \text{SIZE}_{i,t} + \beta_3 \text{SALG}_{i,t} + \beta_4 \text{ASSG}_{i,t} + \beta_5 \text{ASST}_{i,t} + \epsilon_{i,t}$$

Equation 8 showed a model summary of evaluation of the firm's performance in terms of EPS against the LEV of the firm, considering SIZE, SALG, ASSG and ASST as controlled variables.

#### 4. Results and Discussion

Table No 1.1 (Model 1)

##### Descriptive Statistics

	Mean	Std. Deviation	N
Return on Assets	4.09824704E0	1.43408464E1	2202
Short Term Debt	.4803018696	2.9914513E-1	2202
Long Term Debt	.2103471942	2.1974156E-1	2202
Natural Log of Assets	2.14847853E1	1.62839977E0	2202
Sales Growth	.6226549514	9.79032340E0	2202
Assets Growth	1.04974721E0	2.23771628E1	2202
Assets Turnover	1.12337894E0	1.00605498E0	2202

Table 1.1 provided the summary of descriptive statistics of impact of STD and LTD on ROA. The number of observations for all the variables is 2202. Short Term Debt has a standard deviation of 0.299 lesser than its mean of 0.480; Long Term Debt has a mean of about 0.201 and a bit greater standard deviation of 0.2197. Natural Log of Assets has a standard deviation of 1.62 while a greater mean of 22.148. Sales Growth and Assets Growth has a mean of 0.622, 1.05 and standard deviation. Assets Turnover has a greater mean of about 1.12 than its standard deviation which is 1.01.

Table No 1.2 (Model 1)

##### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.416 <sup>a</sup>	.173	.171	1.30585797E1	.173	76.578	6	2195	.000

a. Predictors: (Constant), Assets Turnover, Assets Growth, Sales Growth, Short Term Debt, Long Term Debt, Natural Log of Assets

Table 1.2 shows the summary results for the analysis. As R indicates the quality of the prediction of the dependent variable, here the value of R is 0.416 which proves a strong prediction of Return on Assets. R Square and Adjusted R Square show the degree of variation explained by the independent variables. Value of R Square is 0.173 means that about 17.3 per cent of the variation in Return on Assets is explained by the independent variables. Adjusted R Square explains the variation brought by the independent variables selected in the model in the dependent variable; here 0.171 means that about 17 percent variation in the Return on Assets is brought by the independent variables included in the model. As the F-Statistic and Significance shows the validity of the overall model, here as the value of F-Statistics value is 76.60 which is much greater than 4 and much higher to elaborate the quality of estimation and is significant at level of 0.05, P-value is 0.00 means that the model is significant not only at 95 percent confidence interval but also at 99 percent. Here we accept the alternative hypothesis that there is a relationship between the explanatory variables and the Return on Assets.

Table No 1.3 (Model 1)

##### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-15.396	4.010		-3.839	.000
	Short Term Debt	-9.682	.953	-.202	-10.157	.000
	Long Term Debt	-11.461	1.279	-.176	-8.958	.000
	Natural Log of Assets	1.028	.177	.117	5.810	.000
	Sales Growth	-.060	.028	-.041	-2.099	.036
	Assets Growth	.000	.012	-.001	-.074	.941
	Assets Turnover	4.006	.282	.281	14.226	.000

a. Dependent Variable: Return on Assets

Table 1.3 shows the significance of individual variables and their impact on ROA. "B" shows the variation that can be brought in the Return on Assets by one unit change in the independent variable. Beta is obtained when we standardize all the variables included in the model and it make us capable to compare the magnitude of the

coefficients to see that which one has more effect on the dependent variable. T-Statistics and P-value shows the strength and validity of the effect respectively. Short Term Debt has a negative value Beta which is -0.202 means that about 20 percent change in Return on Assets is brought by one unit change in Short Term Debt and impact on Return on Assets is negative as the Beta is negative. T-value for Short Term debt is -10.157 and is greater than 2 proves that the impact is strong and is significant as the P-value for Short Term Debt shows that the impact is significant on both 95 and 99 percent confidence interval. So here alternate hypothesis is accepted which states that Short Term Debt has negative impact on firm performance while null hypothesis is rejected that Short Term Debt has a positive impact. Umar, Tanveer, Aslam, & Sajid (2012) also found earlier a negative relation between Short Term Debt and Return on Assets while Coleman (2007) found a positive relation. Long Term Debt has negative Beta value (-0.176) shows that one unit change in Long Term Debt will bring about 17.6 percent change on Return on Assets and it will be in opposite direction as the Beta is negative. T-value for Long Term Debt is -8.958 and is greater than 2 and is significant as the P-value is less the level of 0.05. P-value is 0.00 and hence proved that the impact is strong and significant not only 95 percent confidence interval but at 99 percent as well. Here as well we accept the alternate hypothesis that Long term has a negative impact on firm performance. Coleman (2007) formerly found a positive impact of Long Term Debt on Return on Assets. Size of the firm has a positive Beta (0.117) shows that approximately 12 percent change is brought in Return on Assets by one unit change in Size of the Firm and in the same direction as the Beta is positive. T-value for Size of the Firm is 5.810 and is greater than 2 which is strong and significant as the P-value is less than the level of 0.05. P-value is 0.00 shows that the impact is significant at both 95 and 99 percent confidence interval. Beta for Sales Growth is -0.041 indicates that about 4 percent change is done in Return on Assets by Sales Growth and the change is negative because of negative Beta. T-Statistics of Sales Growth is -2.099 just above the benchmark which is 2 but is significant as P-value is less than level of 0.05. P-value for Sales Growth is 0.036 shows that the impact is significant at 95 percent confidence interval. Previously Shubita & alsawalhah (2012) found a positive relation between Sales Growth and Return on Assets. Assets Growth has Beta of -0.001a means that about 0.1 percent change is brought by Assets Growth in Return on Assets and in opposite direction. T-value is -0.0741 and is less than the benchmark (2), also it is insignificant as P-value is greater than level of 0.05. P-value is 0.941 proves that the impact is insignificant. Assets Turnover has the strongest impact, as Beta is 0.281 indicates that about 28 percent change is brought in Return on Assets by Assets Turnover and in the same direction as Beta is positive. T-value for 14.226 and is higher than 2, P-value (0.00) is less than 0.05 proves that the T-value is significant, moreover it showed that the impact is significant at both 95 percent and 99 percent confidence interval.

Table No 2.1 (Model 2)

**Descriptive Statistics**

	Mean	Std. Deviation	N
Return on Assets	4.09824704E0	1.43408464E1	2202
Leverage of the Firm	.6916305794	3.8147933E-1	2202
Natural Log of Assets	2.14847853E1	1.62839977E0	2202
Sales Growth	.6226549514	9.79032340E0	2202
Assets Growth	1.04974721E0	2.23771628E1	2202
Assets Turnover	1.12337894E0	1.00605498E0	2202

Table no 2.1 shows the descriptive statistics for impact of Leverage (total debt to total assets) on Return on Assets. Total debt has an average of .69187 with a lower standard deviation of about .3913. Natural Log of Assets has a standard deviation of 1.62 while a greater mean of 22.148. Sales Growth and Assets Growth has a mean of 0.622, 1.05 and standard deviation. Assets Turnover has a greater mean of about 1.12 than its standard deviation which is 1.01.

Table No 2.2 (Model 2)

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.410 <sup>a</sup>	.168	.166	1.30972225E1	.168	88.566	5	2196	.000

a. Predictors: (Constant), Assets Turnover, Leverage of the Firm, Assets Growth, Sales Growth, Natural Log of Assets

Table No 2.2 shows the summary of Return on Assets with Leverage. The value of R shows high quality of prediction in the dependent variable as the value is approximately .41. R Square value indicates that 16.8 percent of variation in the dependent variable is explained by the independent variables. Excluding unrelated and external variables Adjusted R Square is attained which shows that 16.6 percent variations in explained by the independent variables included in the model. Value of F-statistics is about 88.6 and is much greater than 4 and much higher to explain the quality of estimation, is significant as the P-value is 0.00, P-value also proves that the model is significant not only on 95 percent confidence interval but on 99 percent as well because the p-value is 0.00. So it indicates that there is a relationship between the explanatory variables and Return on Assets.

Table No 2.3 (Model 2)

**Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-15.544	4.019		-3.867	.000
Leverage of the Firm	-9.962	.749	-.265	-13.305	.000
Natural Log of Assets	1.026	.177	.116	5.783	.000
Sales Growth	-.059	.029	-.040	-2.071	.038
Assets Growth	.000	.013	.000	-.038	.970
Assets Turnover	4.034	.281	.283	14.376	.000

a. Dependent Variable: Return on Assets

The above table shows the significance of the variables and its impact on Return on Assets. Leverage of the Firm has a Beta of 0.265 signifies that about 26.5 percent can be implemented upon Return on Assets by changing Long Term Debt by one unit, as the Beta is negative so the impact will be negative. Leverage of the Firm has a T-value of -13.305 which is greater than 2 which is the benchmark; also it is significant as the P-value is greater than the level of 0.05. P-value proves that the impact is significant not only at 95 percent confidence interval but at 99 percent as well. Ebaïd (2009) also found earlier a negative impact of leverage of the firm on Return on Assets. Size of the firm has a positive Beta which is 0.116 shows that approximately 12 percent change is brought in Return on Assets by changing Size of the Firm by one unit, also in the same direction as the Beta is positive. T-value for Size of the Firm is 5.783 and is greater than 2 and is strong and significant because P-value is less than the level of 0.05. P-value is 0.00 shows that the impact is significant at both 95 and 99 percent confidence interval. Sales Growth has a Beta of -0.040 indicates that about 4 percent change is due in Return on Assets if we change Sales Growth by one unit and the change is negative because of negative Beta. T-Statistics of Sales Growth is -2.071 just above the benchmark which is 2 but is significant as P-value is less than level of 0.05. P-value for Sales Growth is 0.038 imply that the impact is significant at 95 percent confidence interval. Assets Growth has Beta of 0.000a means that about it does not impact Return on Assets in any way at all. T-value is -0.038 and is less than the benchmark (2), also it is insignificant as P-value is greater than level of 0.05. P-value is 0.970 proves that the impact is insignificant. Assets Turnover has the Beta is 0.283 indicates that about 28 percent change is explained in Return on Assets by Assets Turnover and in the same direction as Beta is positive. T-value for 14.376 and is higher than the benchmark 2, P-value (0.00) is less than 0.05 proves that the T-value is significant, moreover it showed that the impact is significant at both 95 percent and 99 percent confidence interval.

Table No 3.1 (Model 3)

**Descriptive Statistics**

	Mean	Std. Deviation	N
Return on Equity	9.50059037E0	8.94847823E1	2202
Short Term Debt	.4803018696	2.9914513E-1	2202
Long Term Debt	.2103471942	2.1974156E-1	2202
Natural Log of Assets	2.14847853E1	1.62839977E0	2202
Sales Growth	.6226549514	9.79032340E0	2202
Assets Growth	1.04974721E0	2.23771628E1	2202
Assets Turnover	1.12337894E0	1.00605498E0	2202

Table No 3.1 summarizes the descriptive statistics for the impact of Short Term Debt and Long Term Debt on Return on Equity. Total numbers of observations are 2202; Return on Equity has a mean value of 9.50 and lesser standard deviation of about 8.95. Short Term Debt has an average of .480 and standard deviation of .299 which is low, while Long Term Debt average value is .210 but has a greater standard deviation of .219. Similarly Size of the firm has a mean value of 21.48 and standard deviation of 1.628. Sales Growth has an average of .6226 and higher standard deviation of 9.79, Assets Growth mean value is 1.049 and a standard deviation of 22.377 which is higher. Average for Assets Turnover is 1.1234 and standard deviation is 1.006.  
 Table No 3.2 (Model 3)

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.129 <sup>a</sup>	.017	.014	8.88541375E1	.017	6.226	6	2195	.000

a. Predictors: (Constant), Assets Turnover, Assets Growth, Sales Growth, Short Term Debt, Long Term Debt, Natural Log of Assets

The above model describes the summary for the analysis of impact of Short Term Debt and Long Term Debt on Return on Equity. The value of R shows that the prediction of Return on Equity by the model is not good. The R Square shows that only 1.7 percent of the variation in Return on Equity is explained by the explanatory variables, while the Adjusted R Square proves it to be only 1.4 percent of the variation is explained by the explanatory variables installed in the model. R Square and Adjusted R Square are very small. F-statistics is 6.226 and is greater than 4 and higher to elaborate the quality of estimation and is significant as the P-value is less than the level of 0.05. P-value for the model is 0.00 which means that the model is significant not even at 95 percent confidence interval but also at 99 percent confidence interval as well.

Table No 3.3 (Model 3)

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-23.539	27.288		-.863	.388
	Short Term Debt	-6.051	6.486	-.020	-.933	.351
	Long Term Debt	-15.507	8.705	-.038	-1.781	.075
	Natural Log of Assets	1.273	1.204	.023	1.057	.291
	Sales Growth	-.076	.194	-.008	-.391	.696
	Assets Growth	-.002	.085	.000	-.019	.985
	Assets Turnover	10.595	1.916	.119	5.530	.000

a. Dependent Variable: Return on Equity

Table no 3.3 shows the significance and impact direction of the explanatory variables on Return on Equity. Beta for Short Term Debt is -0.20 means that one unit change in Short Term Debt brings about 20 percent change in Return on Equity, as Beta is negative so the impact of Short Term Debt on Equity is negative. T-value (-0.933) is less than 2 and also P-value 0.351 which is greater than level of 0.05 signifies that the impact is weak and insignificant. So for Short Term Debt we reject the alternate hypothesis that it has a negative impact on Return on Equity and also null hypothesis because there is a negative relationship but is insignificant. Abor (2005) formerly found a significantly positive relation between Short Term Debt and Return on Equity. For Long Term Debt Beta is -0.038 indicates that about 3.8 percent change in Return on Equity is brought by one unit change in Long Term Debt, as Beta is negative so the impact is inverse. T-value is -1.781 and is less than 2 indicate that the impact on Return on Equity is negative but weak and also insignificant as P-value is greater than the level of 0.05. P-value of Long term Debt is 0.075 and is greater than 0.05 so the impact is insignificant. Hence alternate as well as null hypothesis are rejected that Long Term Debt has a negative impact of performance and null that the impact is positive. Abor (2005) concluded a negative impact of Long Term Debt and on Return on Equity. Size of the firm has a positive Beta (0.023) means that 2.3 percent change in Return on Equity is explained by Size of the firm, positive sign signifies that the impact is direct. T-value for Size of the firm is 1.057 and is less than 2 means that the effect is positive but weak, as the P-value (0.291) is greater than 0.05 so the impact is insignificant. Similarly Sales Growth has a Beta of -0.008 shows that 0.8 percent change in Return on Equity is brought by one unit change is Sales Growth. 0.391 is the T-value for Sales Growth which is less than 2, also P-value is 0.696 and is greater than the level of 0.05 signifies that the impact is negative but very weak and also

insignificant. Beta for Assets Growth is 0.00 which that there is no change at all due to change is Assets Growth, T-value is -0.019 which is much less than 2, also P-value (0.985) is greater than 0.05 leads to the remarks that the impact of Assets Growth on Return on Equity is insignificant and T-value is insignificant as well. Assets Turnover is the only significant variable here having a positive Beta of 0.119 signifies that about 12 percent change in Return on Equity is brought by one unit change in Assets Turnover, as the Beta is positive so the change is direct. T-value is 5.530 and is greater than 2, also the P-value is less than 0.05 means that the impact of Assets Turnover is positive, strong and significant.

Table No 4.1 (Model 4)

**Descriptive Statistics**

	Mean	Std. Deviation	N
Return on Equity	9.50059037E0	8.94847823E1	2202
Leverage of the Firm	.6916305794	3.8147933E-1	2202
Natural Log of Assets	2.14847853E1	1.62839977E0	2202
Sales Growth	.6226549514	9.79032340E0	2202
Assets Growth	1.04974721E0	2.23771628E1	2202
Assets Turnover	1.12337894E0	1.00605498E0	2202

The table mentioned above shows the descriptive statistics for the impact of Leverage on Return on Equity. 2202 are the total number of observations. Return on Equity has a mean value of 9.500 while standard deviation is very high that is 89.48. For Leverage of the firm the average is 0.6916 and a lower standard deviation of 0.3815. Similarly Size of the firm has an average value of 21.484 and standard deviation of 1.628 which is low. Sales Growth has a mean of 0.6226 and high standard deviation 9.79. Assets Growth and Assets Turnover has mean values of 1.05, 1.12 and standard deviation of 22.377 and 1.006 respectively.

Table No 4.2 (Model 4)

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.128 <sup>a</sup>	.016	.014	8.88444955E1	.016	7.368	5	2196	.000

a. Predictors: (Constant), Assets Turnover, Leverage of the Firm, Assets Growth, Sales Growth, Natural Log of Assets

Table 4.2 summarizes the significance of the overall model. The value of R is 0.128 shows that the correlation between the observed and predicted is very small. R Square has a value of 0.016 indicates that about 1.6 percent of the variation in Return on Equity is explained by independent variables. By excluding any external variations end up with Adjusted R Square and here it shows that only 1.4 percent of the variation in Return on Equity is explained by the Explanatory variables included in the model. F-statistics for the model is 7.37 which is higher than 4 to explain the quality of the estimation and is significant as the P-value is less the level of significance which is 0.05. As P-value lesser than 0.05 proves that the model is significant not only at 95 percent confidence interval but also at 99 percent. So it proves that there is a relationship between the explanatory variables installed in the model and Return on Equity.

Table No 4.3 (Model 4)

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-21.440	27.266		-.786	.432
	Leverage of the Firm	-9.744	5.079	-.042	-1.919	.055
	Natural Log of Assets	1.193	1.203	.022	.992	.322
	Sales Growth	-.076	.194	-.008	-.393	.694
	Assets Growth	.000	.085	.000	-.006	.995
	Assets Turnover	10.767	1.904	.121	5.656	.000

a. Dependent Variable: Return on Equity

Table 4.3 describes the significance of the coefficients and their impact on the Return on Equity. Leverage of the Firm has Beta accounts to -0.042 indicates that about 4.2 percent can be brought in Return on Equity by changing Leverage of the Firm by one unit, as the Beta is negative so the impact is inverse. T-value is -1.919 which is just

below 2 which is the benchmark; also the P-value is 0.055 and just slightly higher than the level of significance which is 0.05 which makes it insignificant. For Leverage of the firm alternative and null both hypothesis are rejected as null hypothesis stated that the relationship is positive while hypothesis mentioned to be negative, although the impact is negative but is insignificant. Abor (2005) found a negative relation between Leverage and Return on Equity. Size of the firm has a Beta 0.022 which means that 2.2 percent change in Return on Equity is done by Size of the firm, positive sign shows that the impact is direct. T-value for Size of the firm is 0.992 less than 2 proves that the effect weak one, as the P-value 0.322 and is greater than 0.05 so the impact is insignificant. Similarly Sales Growth has a Beta of -0.008 shows that 0.8 percent change in Return on Equity is brought by one unit change is Sales Growth. 0.393 is the T-value for Sales Growth which is less than 2, also P-value is 0.694 and is greater than the level of 0.05 implies that the impact is negative but very weak and also insignificant. Beta for Assets Growth is 0.00 which that there is no change at all due to change is Assets Growth, T-value as -0.006 is much less than 2, moreover P-value is 0.995 and is greater than 0.05 leads to the remarks that the impact of Assets Growth on Return on Equity is insignificant and T-value is insignificant as well. Assets Turnover is the only significant variable here having a positive Beta of 0.121 means that about 12 percent change in Return on Equity is brought by one unit change in Assets Turnover , as the Beta is positive so the change is direct. T-value is 5.656 which is greater than 2; also the P-value is less than 0.05 means that the impact of Assets Turnover is positive, strong and significant.

Table No 5.1 (Model 5)

**Descriptive Statistics**

	Mean	Std. Deviation	N
Net Profit Margin	-2.6497824E1	1.14847430E3	2202
Short Term Debt	.4803018696	2.9914513E-1	2202
Long Term Debt	.2103471942	2.1974156E-1	2202
Natural Log of Assets	2.14847853E1	1.62839977E0	2202
Sales Growth	.6226549514	9.79032340E0	2202
Assets Growth	1.04974721E0	2.23771628E1	2202
Assets Turnover	1.12337894E0	1.00605498E0	2202

Table 5.1 describes the descriptive statistics for effect of Shot Term Debt and Long Term Debt on Net Profit Margin. Total numbers of observations are 2202. Net Profit Margin has a mean value of -2.65 and a higher standard deviation of 1148.47. Short Term Debt and Long Term Debt have averages of 0.480, 0.210 and standard deviation of 0.299 and 0.2197 respectively. Similarly Size of the firm has a mean value of 21.484 and standard deviation of 1.628. Sales Growth mean is about 0.6226 and standard deviation of 9.79. Assets Growth has an average of 1.049 and higher standard deviation 22.377. Assets Turnover has low standard deviation 1.006 than its mean 1.1233.

Table No 5.2 (Model 5)

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.054 <sup>a</sup>	.003	.000	1.14837736E3	.003	1.062	6	2195	.383

a. Predictors: (Constant), Assets Turnover, Assets Growth, Sales Growth, Short Term Debt, Long Term Debt, Natural Log of Assets

The above table summarizes the summary of the overall model. R has a very low value which is 0.54 means that the correlation between the observed and predicted values of Net Profit margin is very low. According to the R Square 0.3 percent of the variation in Net Profit Margin is explained by the independent variables. Excluding the unrelated variations and exogenous variables we get the Adjusted R Square that is 0.00 percent and it is the variations brought in NPM is explained by the explanatory variables installed in the model. F-statistics for the model is about 1.062 which is less than benchmark (4); 0.383 is the P-value which is greater than 0.05, means that the overall model is insignificant. Hence the explanatory or independent variables have no significant impact on Net Profit Margin.

Table No 5.2 (Model 5)

		Coefficients <sup>a</sup>				
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-670.439	352.674		-1.901	.057
	Short Term Debt	118.195	83.821	.031	1.410	.159
	Long Term Debt	105.762	112.512	.020	.940	.347
	Natural Log of Assets	24.269	15.566	.034	1.559	.119
	Sales Growth	.515	2.502	.004	.206	.837
	Assets Growth	.253	1.097	.005	.231	.818
	Assets Turnover	38.213	24.762	.033	1.543	.123

a. Dependent Variable: Net Profit Margin

Table 5.3 shows the variable's significance. Beta for Short Term Debt is 0.031 means that about 3.1 percent change in Net Profit Margin is brought by one unit change in Short Term Debt, as Beta is positive so the impact is direct one. T-value is 1.140 and is less than 2, plus P-value is higher than 0.05 which is the level of significance proves that the T-value is insignificant. As P-value is 0.159 and is greater than level of 0.05 so the impact is insignificant. So alternative hypothesis is rejected so as the null hypothesis, as alternative hypothesis stated that Short Term Debt has a negative impact while null hypothesis argued that is a positive. Beta for Long Term Debt is about 0.020 shows that about 2 percent change in Net Profit Margin is explained by Long Term Debt. Positive Beta means that the relation is direct. 0.940 is the T-value for Long Term Debt which is less than 2; also P-value is 0.347 and is higher than the level of significance which is 0.05. So the T-value is insignificant and so the impact is, although a positive one but insignificant. Umar, Tanveer, Aslam, & Sajid (2012) previously found that both Short Term Debt and Long Term Debt have a significantly negative impact on Net Profit margin. Size of the firm has a positive Beta of 0.022 indicates that about Net Profit Margin is changed by 2.2 percent if Size of the firm is changed by one unit. Positive Beta means direct relation. T-value is 1.559 and is less than 2 means that the impact is weak; moreover the P-value (0.119) is greater than 0.05 and so the T-value is insignificant and so is the effect. Sales Growth has a positive Beta (0.004) implies that only 0.4 percent change can be brought by one unit change is Sales Growth, positive Beta indicates a positive relationship. T-value is 0.206 and is less than 2, indicates that the impact on Net Profit Margin is very weak and also insignificant as P-value is 0.837 which is greater than 0.05. Assets Growth impact on performance is insignificant as P-value is 0.818 and is greater than 0.05, Beta is 0.005 means that just 0.5 percent changes occurred in Net Profit Margin by making one unit change in Assets Growth. T-value is 0.231 and is less than 2, so the impact is positive (positive Beta) and weak as well. Assets Turnover has a Beta of 0.033 implies that one unit change in Assets Turnover will change Net Profit Margin for about 3.3 percent, positive Beta means that the impact is direct one, T-value (1.543) is less than the benchmark 2 and is insignificant as P-value is and is 0.123 greater than level of 0.05 so is insignificant.

Table No 6.1 (Model 6)

**Descriptive Statistics**

	Mean	Std. Deviation	N
Net Profit Margin	-2.6497824E1	1.14847430E3	2202
Leverage of the Firm	.6916305794	3.8147933E-1	2202
Natural Log of Assets	2.14847853E1	1.62839977E0	2202
Sales Growth	.6226549514	9.79032340E0	2202
Assets Growth	1.04974721E0	2.23771628E1	2202
Assets Turnover	1.12337894E0	1.00605498E0	2202

Table no 6.1 indicates the descriptive statistics of analysis of impact of Total Debt (Leverage) on the Net Profit Margin. Net Profit Margin has an average of -22.65 and high standard deviation that is 1148.5. For Leverage mean is 0.6916 and low standard deviation of 0.3814. Similarly the Size of the firm mean value is 21.484 and standard deviation of 1.628. Sales Growth and Assets Growth mean values are 0.6226, 1.05 and standard deviation of 9.79 and 22.37 respectively. Assets Turnover has average value of 1.123 and standard deviation is 1.006.

Table No 6.2 (Model 6)

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.054 <sup>a</sup>	.003	.001	1.14808517E3	.003	1.298	5	2196	.262

a. Predictors: (Constant), Assets Turnover, Leverage of the Firm, Assets Growth, Sales Growth, Natural Log of Assets

The above table summarizes the model and its results. R has a very low value which is 0.54 means that the correlation between the observed and predicted values of Net Profit margin is very low. From the table as the value of R Square is 0.003 which means that the model explains about 0.3 percent of variation in the dependent variable. As in Adjusted R Square unrelated variation and variables are excluded so value of Adjusted R Square which is 0.001 means that about 0.1 percent of the variation in the dependent variable is brought by the independent variables included in the model F-statistics for the model is about 1.298 which is less than benchmark (4); also P-value which is 0.262 is greater than 0.05, means that the overall model is insignificant. Hence the explanatory or independent variables have no significant impact on Net Profit Margin.

Table No 6.3 (Model 6)

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-674.911	352.336		-1.916	.056
	Leverage of the Firm	115.885	65.630	.038	1.766	.078
	Natural Log of Assets	24.404	15.548	.035	1.570	.117
	Sales Growth	.516	2.502	.004	.206	.837
	Assets Growth	.257	1.097	.005	.234	.815
	Assets Turnover	38.606	24.598	.034	1.569	.117

a. Dependent Variable: Net Profit Margin

Table 6.3 shows the significance of the individual variables for impact of Leverage on Net Profit Margin. Beta Leverage of the firm is 0.038 signifies that only 3.8 percent change is brought is Net Profit Margin by one unit change is Leverage of the Firm. The Beta is positive so the impact is positive. T-value here for Leverage of the Firm is 1.766 which is less than the benchmark, also P-value (0.078) is greater than the level of significance and so is insignificant. So impact of Leverage of the firm on Net Profit Margin is insignificant. Here alternate hypothesis is rejected that Leverage of the firm or Total Debt has a negative impact on the performance because the impact is insignificant, also null hypothesis is rejected that the impact of Leverage on Net Profit Margin is positive because it is insignificant. Umar, Tanveer, Aslam, & Sajid (2012) signified that Leverage of the firm has a significantly negative impact on Net Profit margin. Size of the Firm has a Beta of 0.035 signifies that about Net Profit Margin is changed by 3.5 percent if Size of the Firm is changed by one unit. Positive Beta means direct relationship. T-value is 1.570 is less than 2 indicates that the impact is weak; moreover the P-value 0.117 which is greater than 0.05 and so the T-value is insignificant and so is the effect of Size of the Firm. Sales Growth has a positive Beta of 0.004 and implies that only 0.4 percent change is brought by one unit change is Sales Growth, positive Beta indicates a positive relationship. T-value is 0.206 and is less than 2, indicates that the impact on Net Profit Margin is very weak and also insignificant as P-value is 0.837 which is greater than 0.05. Assets Growth impact on performance is insignificant as P-value is 0.815 and is greater than 0.05 which is the level of significance, Beta is 0.005 means that just 0.5 percent changes occurred in Net Profit Margin by making one unit change in Assets Growth. T-value is 0.234 and is less than 2, so the impact is positive (positive Beta) and weak as well. Assets Turnover has a Beta of 0.034 implies that one unit change in Assets Turnover will change Net Profit Margin for about 3.4 percent, positive Beta means that the impact is direct one, T-value is 1.569 is less than the benchmark 2 and is insignificant as P-value is and is 0.117 greater than level of 0.05 so is insignificant.

Table No 7.1 (Model 7)

### Descriptive Statistics

	Mean	Std. Deviation	N
Earning Per Share	6.13472350E0	3.09470307E1	2202
Short Term Debt	.4803018696	2.9914513E-1	2202
Long Term Debt	.2103471942	2.1974156E-1	2202
Natural Log of Assets	2.14847853E1	1.62839977E0	2202
Sales Growth	.6226549514	9.79032340E0	2202
Assets Growth	1.04974721E0	2.23771628E1	2202
Assets Turnover	1.12337894E0	1.00605498E0	2202

Table 7.1 shows the descriptive statistics of analysis of the impact of Short Term Debt and Long Term Debt on Earning per Share. Earning per Share has average of 6.135 and standard deviation of 33.947. Short Term Debt and Long Term Debt mean values are 0.480, 0.2103 and low standard deviations 0.2914 and 0.2197. Size of the firm has average 21.484 and lower standard deviation of 1.628. Sales Growth has a mean of 0.6226 and standard deviation 9.79. Assets Growth has a lower mean of 1.05 and higher standard deviation 22.377. Assets Turnover has a mean value of 1.123 and standard deviation of 1.006.

Table No 7.2 (Model 7)

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.250 <sup>a</sup>	.062	.060	3.00089553E1	.062	24.293	6	2195	.000

a. Predictors: (Constant), Assets Turnover, Assets Growth, Sales Growth, Short Term Debt, Long Term Debt, Natural Log of Assets

The above table shows the summary of the significance of the overall model. R has a value of 0.250 which means that the correlation between the predicted and observed is good. R Square value in the model is 0.062, which means that about 6.2 percent of the variation in the dependent variable is explained by the model. As in Adjusted R Square we exclude any unrelated and exogenous variation, so the value which is 0.060 implies that about 6.0 percent of the variation in EPS is explained by the explanatory variables of the model. As the value of F-statistics is 24.293 and greater than 4 to explain the quality of the estimation, so the F-statistics is significant as the P-value is less than the level of significance which is 0.05. Furthermore the P-value (0.00) is less than 0.05 and even less than 0.01. It proves that the model is significant at both 95 and 99 percent confidence interval. This helps in accepting the hypothesis that there is a relationship between the explanatory variables and the Earning per Share.

Table No 7.3 (Model 7)

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-48.963	9.216		-5.313	.000
	Short Term Debt	-7.795	2.190	-.075	-3.559	.000
	Long Term Debt	-11.112	2.940	-.079	-3.780	.000
	Natural Log of Assets	2.561	.407	.135	6.296	.000
	Sales Growth	-.045	.065	-.014	-.691	.490
	Assets Growth	.001	.029	.000	.023	.982
	Assets Turnover	5.507	.647	.179	8.511	.000

a. Dependent Variable: Earning Per Share

Table 7.3 summarizes the information regarding the individual variables included in the model. Short Term Debt has a negative Beta (-0.075) which means one unit change in Short Term Debt changes Earning per Share by about 7.5 percent but inversely. T-value is greater than 2 and is -3.559 signifying that the impact is a strong one. P-value is 0.000 for Short Term Debt is less than the level of significance which is 0.05 and hence the impact is significant at both 95 percent and 99 percent confidence interval. Here we accept the alternative hypothesis that Short term Debt has a negative impact on the Earning per Share. Akintoye (2008) and Salteh,

Ghanavati, Khanqah, & Khosroshahi (2012) also found a negative impact of Short Term Debt and Long Term Debt on Earning per Share. Beta for Long Term Debt is -0.079 means that the change in Long Term Debt will inversely change the Earning per Share by 7.9 percent. T-value is -3.780 and is greater than 2 indicates that the impact is a strong one plus the impact is significant as well because the P-value is 0.00 and is less than the level of significance, means that it is significant at both 95 and 99 percent confidence intervals. For Long Term Debt alternative hypothesis is accepted that Long Term Debt has a negative impact on the Earning per Share. Size of the Firm has a positive Beta (0.135) indicates one unit change in Size of the Firm as brought about 13.5 percent change in Earning per Share. T-value is 6.296 which is greater than 2, also P-value is 0.00 as less than level of 0.05 signified that the T-value and ultimately the effect is significant not only at 95 percent confidence interval but at 99 percent as well. Sales Growth has a Beta of -0.014 means that an inverse change (negative Beta) of 1.4 percent in Earning per Share is brought by one unit change in Sales Growth. T-statistics is 0.691 which is less than 2, also the P-value is 0.490 and is greater than 0.05 (level of significance). So the T-value is significant so is the impact on Earning per Share. Assets Growth has Beta equals to zero implies that there is not impact at all on the Earning per Share, T-value (0.023) is also less than 2 mean that the impact is very weak. As the P-value is 0.982 so the impact is insignificant at all as the P-value is greater than the level of significance which is 0.05. Assets Turnover has the strongest impact on Earning per Share having the highest Beta of 0.179, Beta shows that about 18 percent change is experienced in Earning per Share by changing Assets Turnover by one unit, Beta is positive so the effect is direct one. T-statistics is 8.511 and is greater than 2 which is the benchmark, plus P-value is 0.00 less than the level of 0.05 as it is the level of significance, so the T-value is significant and so as the impact at both 95 and 99 percent confidence interval.

Table No 8.1 (Model 8)

**Descriptive Statistics**

	Mean	Std. Deviation	N
Earning Per Share	6.13472350E0	3.09470307E1	2202
Leverage of the Firm	.6916305794	3.8147933E-1	2202
Natural Log of Assets	2.14847853E1	1.62839977E0	2202
Sales Growth	.6226549514	9.79032340E0	2202
Assets Growth	1.04974721E0	2.23771628E1	2202
Assets Turnover	1.12337894E0	1.00605498E0	2202

Table 8.1 shows the descriptive statistics for the analysis of Leverage on Earning per Share. Earning per Share has a mean of 6.135 and standard deviation 30.95. Leverage or Total Debt has a mean value of 0.6916 and standard deviation of 0.3815. Size of the firm has average 21.484 and standard deviation of 1.628. Sales Growth has a mean of 0.622 and standard deviation 9.79. Assets Growth has a lower mean of 1.05 and higher standard deviation 22.377. Assets Turnover has a mean value of 1.1233 and standard deviation of 1.006.

Table No 8.2 (Model 8)

**Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.248 <sup>a</sup>	.061	.059	3.00150716E1	.061	28.761	5	2196	.000

a. Predictors: (Constant), Assets Turnover, Leverage of the Firm, Assets Growth, Sales Growth, Natural Log of Assets

The table mentioned above summarizes the overall model for impact of Leverage on Earning per Share. R value is about 0.248 shows that the correlation between the predicted and observed values of the Earning per Share is good. As the value of R Square is 0.061 indicates that the model explains about 6.1 percent of the variation in the EPS while excluding the unrelated variation and variables we get the Adjusted R Square. Value of Adjusted R Square is 0.059 means that about 5.9 percent of the variation is brought by the independent variables included in the model. F-statistics has a value of 28.761 which is greater than 4 to explain the quality of the estimation. F-statistics is significant at 95 percent confidence interval as the P-value is less than the level of 0.05. P-value is less than 0.05 and even less than 0.01. Hence it is proved that the model is significant at both 95 and 99 confidence level. It helped to accept the hypothesis that there is a relationship between the explanatory variables and Earning per Share.

Table No 8.3 (Model 8)

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-48.607	9.211		-5.277	.000
	Leverage of the Firm	-8.804	1.716	-.109	-5.131	.000
	Natural Log of Assets	2.542	.406	.134	6.253	.000
	Sales Growth	-.045	.065	-.014	-.686	.493
	Assets Growth	.001	.029	.001	.042	.966
	Assets Turnover	5.565	.643	.181	8.654	.000

a. Dependent Variable: Earning Per Share

The above table explains the individual impact of independent variables on Earning per Share. Beta (-0.109) signifies that one unit change in Leverage of the Firm or Total Debt changes Earning per Share negatively by about 11 percent. T-value is -5.131 which is greater than 2, means that impact is strong; P-value is 0.00 which is less than 0.05 which is the level of significance. So the T-value is significant at 95 percent confidence interval. As the P-value is 0.00 it means that Leverage of the Firm or Total Debt is significant at both 95 percent and 99 percent confidence interval. Here alternative hypothesis is accepted as it stated that it has a negative impact on firm performance. Salteh, Ghanavati, Khanqah, & Khosroshahi (2012) also found a positive impact of Leverage on Earning per Share. Size of the firm has a significant relationship with Earning per Share as the P-value (0.00) is less than the level of significance (0.05); moreover Beta (0.134) implies that approximately 13 percent change is brought in Earning per Share by one unit change in Size of the Firm. T-value is 6.253 is higher than 2 which is the benchmark and is significant as the P-value is less than the level is 0.05. So Size of the Firm is significant at both 95 and 99 percent confidence interval. Sales Growth has a negative Beta (-0.014) shows that one unit change in Sales Growth brought about 1.4 percent change in Earning per Share and the negative because of the negative Beta. T-value (-0.686) less than 2 indicate that its effect is weak, also the P-value is 0.493 which is greater than the level of significance (0.05), so Sales Growth has an insignificant impact Earning Per Share. Assets Growth has Beta of 0.001 implies that only 0.1 percent change occurred in Earning per Share is due to one unit change in Assets Growth, positive Beta shows the direct impact. T-value for Assets Growth is 0.042 which is much less than the benchmark, also P-value is higher than 0.05 and is 0.966, implies that the T-value is insignificant and so as the impact. Assets turnover has a positive Beta that is 0.181 means that 18 percent of direct change in Earning per Share is brought by one unit change in Assets Turnover. T-value is 8.654 and is greater than 2, so the impact of Assets Turnover on Earning per Share and strong and significant as well because the P-value for Assets Turnover is 0.00 which is less than the level of significance (0.05). P-value also proved the impact is significant at both 95 and 99 percent confidence interval.

**5: Conclusion**

For Return on Assets Short Term Debt was found to have a significantly negative impact on it leading to accept that alternative hypothesis that Short Term Debt has a negative impact on Return on Assets. Long Term Debt was also found to have a significantly negative impact on Return on Assets that so alternative hypothesis is accepted that the relationship between Long Term Debt and Return on Assets is negative. For Leverage of the Firm or Total Debt alternative hypothesis is accepted as it showed a negative impact on Return on Assets. For Short Term Debt, Long Term Debt and Leverage of the Firm null hypothesis were rejected as it stated a positive impact of the mentioned explanatory variables on Return on Assets.

Short Term Debt was observed to have a negative impact on Return on Equity but the effect was insignificant, so both the alternative hypothesis and null hypothesis are rejected as no significant relationship was found. Return on Equity was affected negatively by Long Term Debt but the relationship was insignificant. For Long Term Debt the alternative hypothesis is rejected as the impact was negative but insignificant and also the null hypothesis as the effect was not positive. Leverage of the Firm or Total Debt also was found to have a negative impact but was insignificant and so the alternative hypothesis is rejected that it has negative impact on Return on Equity as it was insignificant. Null hypothesis is also rejected because the relation was insignificant.

Net Profit Margin was positively affected by Short Term Debt but was insignificant and so the alternative hypothesis is rejected that the impact is positive. As the impact was positively insignificant so the null hypothesis is rejected as well. Long Term Debt was found to have an insignificantly positive impact on Net Profit Margin, here alternative hypothesis is rejected as well that it has a negative effect on Net Profit Margin. The impact of Long Term Debt on Net Profit margin was insignificant so null hypothesis is also rejected.

Leverage of the Firm or Total Debt also found to have positive effect on Net Profit margin but it was insignificant. So both alternative and null hypothesis are rejected as the former is rejected because the impact was positive and the rejection of the later is that the effect was insignificantly positive.

Short Term Debt was found to have a significantly negative impact on Earning per Share, so for Short Term Debt alternative hypothesis is accepted that the relationship is accepted and null hypothesis that rejected that it is positively affected. Earning per Share was negatively affected by Long Term Debt as well and was significant so alternative hypothesis is accepted that the relationship between Long Term Debt and Earning per Share is negative. Earning per Share was negatively affected by Leverage of the Firm or Total Debt and the impact was significant. So for Leverage of the Firm alternative hypothesis is accepted that it has a significantly negative impact on Earning per Share, moreover null hypothesis is rejected that Leverage of the firm has a significantly positive impact on Earning per Share.

This research was conducted to evaluate the impact of capital structure on the firm performance for the 380 listed non-financial firms on KSE from 2005 to 2011. The overall models were significant at 99 percent confidence interval except for Net Profit margin as the models were insignificant. Two of the proxies for firm's performance experienced a significantly negative impact of Short Term Debt i.e. Return on Assets and Earning per Share. Return on Equity was negatively affected by Short Term Debt but was insignificant. On the other hand Net Profit margin was positively affected but was insignificant as well. So overall it can be concluded that performance is negatively affected by Short Term Debt. The reason for the negative impact is because of the underdeveloped money market and main donor for short term loans are banks are they charge high interest rates (Saeed & Badar, 2013).

As the second explanatory variable was the Long Term Debt. According to the results Long Term Debt has a negative and significant effect Return on Assets and Earning per Share. In case of Return on Equity the impact was negative as well but the impact was insignificant while Net Profit margin was observed to be positively affected by Long Term Debt but was insignificant as well. Overall it can be concluded that Long term Debt has a negative impact on firm's performance. Amjed (2011) mentioned that the reason for the negative impact is the longer duration of LTD, underdeveloped debt market and high required rate of return on Long Term Debts.

Leverage (Total Debts to Total Assets) like Short Term Debt and Long Term Debt was found to have a significantly negative impact on both Return on Assets and Earning per Share. For Return on Equity it affected negatively but the impact was insignificant, also Net Profit Margin was positively by Leverage of the firm or Total Debt but was insignificant. As Return on Assets, Return on Equity and Earning per Share were negatively affected by Leverage of the firm or Total Debt, it can be said that Leverage of the firm or Total Debt has a negative impact on the firm performance. The reason for the negative impact is the inefficient use of the borrowed funds (Amjed, 2011). Size of the firm was found to have a positive and significant impact of profitability in case of Return on Assets and Earning per Share, while for Return on Equity and Net Profit Margin the effect was positive but it was insignificant as the P-values were above the level of significance. The reason of the positive impact was because of the efficient use of assets. (Ferati & Ejupi, 2012)

In case on Return on Assets only Sales Growth was found to have a significantly negative impact. The effect of Sales Growth on Return on Equity and Net Profit Margin was also negative but it was insignificant. Assets Growth relation with the performance of the firms was insignificant and almost equaled to zero. Assets Turnover found to have a significantly positive impact of the performance variables other than Net Profit Margin where the change was positive but was insignificant.

Overall the capital structure decisions are an integral part for a firm's success and performance in absolute terms but in relative terms it explains very little, as the maximum it explained was about 17 percent. This means that capital structure decisions are of little importance when it comes to profitability and other factors. The important factor to be profitable is the efficient use of funds rather than using different sources of funds. To conclude finally is that debt decrease the performance and profitability of the firm.

### **5.1 Future Research Directions:**

As the results of this paper are in contradiction with the main theories of capital structure, as according to the theories debt has a positive impact on the firm performance (Miller & Modigliani, 1963). One of the reasons for this negative impact is the less efficient use of funds. On the other hand firms in order to get tax advantage show losses and that's why firms are less profitable, but nowadays the Pakistani markets are becoming efficient and people are becoming aware of the importance of information based investment and financing the discrepancies are corrected gradually. The point is that theories of capital structure can be tested in the future as markets moves towards efficiency. Finally as most of the Pakistani listed firms were not interested in announcing the information to the public, but they are held liable these days to make the information public, so the same theories can be tested in the future with even large sample size firms.

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