

# Capital structure and Ownership Structure Relationship: A Comparative Study of Textile and Non-textile Manufacturing Sectors of Pakistan

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## ABSTRACT

The current study explores the impact of ownership structure on capital structure in textile sector and rest of the manufacturing sectors (non-textile) in Pakistan using regression analysis with fixed effect model. As textile sector is the largest manufacturing sector in Pakistan and having diversified financial characteristics, however, there exists a gap whether textile sector's ownership and capital structure relationship matches with other manufacturing sectors or not. Current study tries to fill this gap. The results indicate that in textile sector, no significant relationship exists between ownership concentration and capital structure whereas a significant negative relationship is found between these two variables in case of non-textile firms in Pakistan. However, institutional ownership variable was found to be non-significant in both textile and non-textile sectors. Other control variables were found to have the results as hypothesized. Period of study used in this study is 2006-2009 and sample comprises of KSE listed firms.

**KEYWORDS:** *Ownership concentration, capital structure, institutional shareholding.*

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## INTRODUCTION

The capital structure refers to the optimal mix of debt and equity financing structure used by a firm to support its financing needs. Literature supports the notion that an optimal capital structure can have a positive effect on the firm's value. But on the other hand there are different factors which effect the formation of the capital structure in diversified economic, legal and institutional frameworks. The ownership structure is one of the factors which cause an impact on the makeup of financing pattern of an organization (Santanu K. Ganguli, 2013). Debt financing attracts the managers on the ground that it carries a fixed cost; therefore, debt holders do no share in the excess profitability of the firm operations. Further, debt is generally a cheaper financing option if the tax savings on interest payments aspect are considered. But on the other hand, creation of leverage produces financial risk which is the additional risk beyond the business risk of the firm. Although under certain limits, leverage causes a reducing effect on the cost of capital rate of the firm, but after a particular level, it may become a reason to rise in the cost of capital rate due to worsening 'risk complexion' of the firm. This phenomenon is generally referred as financial distress or bankruptcy risk. Other effects of leverage are the excessive monitoring from the debt holders and imposition of stringent debt covenants on the firm, which impose constraints on the scope of certain managerial decisions.

Firm's equity structure can take up a form of dispersed ownership structure at one end of the continuum to the concentrated one on the other end. As Indicated by La Porta (1999) and Shah (2007), Pakistani corporate sector is characterized with higher ownership concentration. On one hand a higher ownership concentration have a positive effect on the value of the firm as it bring in more monitoring feature to the managers of the firm (Shleifer and Vishny, 1986), on the other hand, owners in the highly concentrated firms gain so much power that they further use the firm according to their interests (Fama and Jensen, 1983) and these interests may be in contrary to the interests of minority shareholders.

Textile sector is the biggest manufacturing sector in Pakistan as it constitutes almost 40 percent of the total manufacturing companies listed on Karachi Stock Exchange. The operating performance of textile sector has shown an unsteady history over the years. Other financial characteristics of this sector also reflect huge diversity such as there are some textile sector firms which are almost wholly family owned, on the other hand, in some Pakistani textile sector firms, a much dispersed ownership structure is present. As for size is concerned, there are some textile companies which are smaller in size with regard to capital base, turnover etc. and other are very large one on these parameters.

On the basis of these reasons, the present research is divided into two parts: i- To check the relationship between ownership structure and capital structure in textile sector of Pakistan; ii- The relationship between ownership structure and capital structure in non-textile manufacturing sectors of Pakistan. For this purpose, the data is collected from Karachi Stock Exchange listed manufacturing firms. The textile firms sample consists of 33 companies and 69 firms are included in non-textile sector companies' sample.

**Study objective and research questions:**

*The main objective of this comparative study is to see whether financing behavior generally prevailing in Pakistani corporate sector is also consistent for textile sector despite of specialized nature of this sector or it deviates from general norm present in Pakistani manufacturing sectors.*

The following research questions are explored in the present study:

1. What relationship exists between the ownership concentration and capital structure in the Textile sector and non-textile sectors firms in Pakistan?
2. What is the effect of institutional ownership on the firm's leverage level?
3. What are the determinants of capital structure in textile and non-textile Pakistani firms?

**LITERATURE REVIEW**

External financing choices and as a result the firm's capital structure decisions are affected by ownership structure. The literature supports that shareholders with large investment in the firm, have the tendency to evade the risk and therefore tend to avoid undertaking of the risky investment projects. In addition, they have temptation to monitor the management to be disciplined in an attempt to reduce the agency cost (Shleifer and Vishny, 1986). But on the contrary point of view if shareholders are dispersed and diversified, they are interested in taking up the risky investments by the firm because if the investment is successful, they will get more than normal returns and in case of failure the debt holders will bear the cost in shape of reduction of their wealth (Jensen and Meckling, 1976). It is also argued from the literature that high ownership controlled firms tend to avoid borrowing in order to minimize the financial distress and to avoid bankruptcy risks (Nam et al. 2003). But on the other hand Grossman and Hart (1986) and Anderson et al. (2003) find the opposite results. Therefore, the results are mixed. The relationship between ownership structure and capital structure has been fairly researched in developed markets (Jensen, 1986; Changanti and Damanpour, 1991; Grier and Zychowicz, 1994; Brailsford et al., 2002; Miguel, A. et al., 2004; and Cespedes et al., 2010). These researchers found a significant relationship between capital structure and ownership structure.

There exists propensity of high ownership concentration in corporate sector in a number of countries as indicated by several researchers such as La Porta et al., 1999; Claessens et al. (2000); Dzieranowski and Tamowicz (2004); and Cheema et al. (2003). Pakistani corporate sector is mainly characterized by the high ownership concentration (La Porta et al., 1999; Cheema et al., 2003). Both positive and negative aspects of this pattern of highly concentrated ownership are evidenced by the researchers. On the positive side this pattern results in an effective monitoring instrument to the managerial operational decisions but on negative side, as indicated by Kuznetsov and Muravyev (2001), it becomes a source for wealth transfer from minority shareholder to the firm. Also management entrenchment effect is caused by highly concentrated insider ownership (Fama and Jensen, 1983) as a result of which less usage of debt in capital structure results rather than the optimal level which is required for wealth maximization. A negative association between leverage and managerial ownership is evidenced by different researchers (Friend and Lang, 1988; Agrawal and Nagarajan, 1990) whereas some researchers found contrary results and provided the notion of positive relationship between insider management and leverage (Berger et al., 1997; Driffield et al., 2005; Du and Dai; 2005 and Cespedes et al., 2010).

Institutional shareholding play a vital monitoring role on the performance of firms to safeguard their ownership stake (Friend and Lang, 1988) and serves as supplementary disciplinary role (Grier and Zychowics, 1994) for the firm. Grier and Zychowics (1994) and Al-Najjar and Taylor (2008) found an inverse relationship between leverage and institutional ownership. In case of Pakistan Hassan and But (2009) found a positive relationship between leverage and institutional ownership.

In exploring the ownership and capital structure relationship, empirical studies also included several control variables which may affect the choice of the particular capital structure. Therefore, this study included profitability, firm size, firm growth, asset tangibility, liquidity and effective tax rate as the control

variables. In their pecking order theory, a negative relationship was supported by Myers and Majluf (1984) and this negative relationship was also sustained in the research studies of Rajan and Zingales (1995) and Antonious et al (2008). The research studies conducted in Pakistani context by Qureshi and Azid (2006), Hassan and Butt (2009), Sheikh and Wang (2011) and Masood A. (2014) also supported the negative relationship between use of debt and profitability and supported the notion of prevailing of pecking order theory in Pakistani firms. Firm growth variable, however, has shown mixed results with regard to its relationship with leverage in empirical studies conducted by Rajan and Zingales (1995); Krishnan and Moyer (1996); Deemosak et al (2004) and Eriotis et al.(2007). Asset tangibility enables the firm to sustain more leverage in its capital structure due to more security available to the lenders as a safeguard against their lending as indicated by Baker and Wurgler (2002), hence a positive association between asset tangibility variable and leverage. But in the empirical studies conducted by researchers revealed mixed results with regard to asset tangibility variable such as Shah and Hijazi (2004) and Rafiq et al. (2008) showed a positive relationship and Shiekh and Wang (2011) indicated a negative relationship.

Firms liquidity, being the indicator of spare availability of liquid resources, exhibits a positive association with leverage as identified by Kim, Mauer and Sherman (1998), however, Opler et al. (1999) Deesomsak et al. (2004); Mazur (2007); Viviani (2008) and Shiekh and Wang (2011) indicated its negative relationship with leverage.

According to Modigliani and Miller (1963), a higher amount of debt in firm's capital structure results a higher tax savings, more the debt, the more tax savings associated with interest payouts. But empirical studies found either mixed results or weak relationship between tax benefits and debt usage by the firm.

## RESEARCH METHODOLOGY

A balanced panel data is collected for two sample categories i.e. 33 textile companies and 69 non-textile companies from Karachi Stock Exchange for the study period of 2006-2009.

The sample of all firms excluding textile sector is 39.11% of total non-textile companies. The sample of textile sector constitutes 20.12% of the total population. This study uses panel data which is coupled with some problems such as autocorrelation, cross-correlation and heteroscedasticity in individual variables. There are two established approaches present to deal with such problems and to estimate panel data efficiently with least biasness. First is random effect and second fixed effect approach (Gujarati, 2003, pp. 652). For a particular panel data, in order to decide which approach is more precise i.e. Random Effect (RE) or Fixed Effect (FE), Hausman test is applied. In current study, Hausman test result was found to be significant, so the Fixed Effect (FE) approach was applied.

The following research model is used:

$$\text{LEVER}_{it} = \beta_0 + \beta_1(\text{OWNERCON})_{it} + \beta_2(\text{INS-SH})_{it} + \beta_3(\text{PROFT})_{it} + \beta_4(\text{SZ})_{it} + \beta_5(\text{GRWTH})_{it} + \beta_6(\text{TANGL})_{it} + \beta_7(\text{LIDQTY})_{it} + \beta_8(\text{EFFTAX})_{it} + \xi_{it}$$

Where

$\text{LEVER}_{it}$  = Leverage is a capital structure representation and measured by total debt/total assets for firm *i* at time *t*.

$\text{OWNERCON}_{it}$  = Ownership concentration as measured using Herfindahl index for firm *i* at time *t*.

$\text{INS-SH}_{it}$  = Institutional ownership represented by percentage of ordinary shares owned by institutional investors for firm *i* at time *t*.

$\text{PROFT}_{it}$  = Profitability as measured by return on assets for firm *i* at time *t*.

$\text{SZ}_{it}$  = Size of Firm is represented by logarithm of total sales for firm *i* at time *t*.

$\text{GRWTH}_{it}$  = Firm growth as measured by increase (or decrease) in total assets as percentage of total assets of previous year for firm *i* at time *t*.

$\text{TANGL}_{it}$  = Assets Tangibility is represented by ratio of fixed assets to total assets for firm *i* at time *t*.

$\text{LIDQTY}_{it}$  = Liquidity as measured by current ratio for firm *i* at time *t*.

$\text{EFFTAX}_{it}$  = Effective tax rate obtained by the ratio of tax provision for given year to profit before taxes for firm *i* at time *t*.

$\xi_{it}$  = Error term for firm *i* at time *t*.

**Hypotheses:****Ownership Concentration:**

Following Céspedes et al. (2010), in current study ownership concentration is measured by the Herfindahl index of the firm's ownership structure. Herfindahl index is computed by getting sum of the squares of the portion of equity shares owned by each individual shareholder. A low value of Herfindahl index shows a low ownership concentration while a high value indicates a high ownership concentration. The Herfindahl index for individual year for individual firm is computed using the following formula:

$$HI = \sum_{i=1}^N EF_i^2$$

Where *HI* represents *Herfindahl Index*, *N* represents number of *shareholders* and *EF<sub>i</sub>* represents *fraction of equity* held by a shareholder '*i*' and *i* = 1, 2, 3...*N*.

In Pakistani context, ownership is categorized into two distinct groups. One group represents insider owners, which normally also show presence on the board of directors. Most of the corporate firms are belonging to the business groups in Pakistan. These business groups are mostly family owned and enjoy insider equity control and constitute the existence of ownership concentration. The other group of shareholders is external shareholders including associated companies, public sector companies and corporations, corporate shareholders, general public and institutional shareholders. Finance literature supports that if a firm has higher ownership concentration, it will carry lesser debt in its capital structure (Jensen and Meckling, 1976; Leland and Pyle, 1977; Diamond, 1984 and Masood A., 2014). The underlying reason is that highly concentrated ownership firms tend to avoid excessive monitoring by the external debt providers. Therefore, in current study, a negative relationship is expected between ownership concentration and leverage.

**H<sub>a1</sub>:** *There exists a negative relationship between Ownership concentration and leverage level of the firm.*

**Institutions Ownership:**

According to Li et al., (2006) in most countries, the institutional investors are generally participating in the ownership of non-financial firms. Institutional investor's shareholding acts as the disciplinary role players because, according to Jensen (1986), the institutional investors can increase the efficiency of managers by efficient monitoring and ensuring shareholders' interests. They have considerable expertise in collecting and interpreting the information regarding the firm's performance. According to Friend and Lang (1988), external block holders have motivation to closely monitor the performance of the firm to protect their huge stake in the business.

In this study, the institutional investment covers the ownership of a company shares owned by ICP, NIT, insurance companies, modarba companies, government institutions, banks and other non-banking financial institutions etc. as given in the annual reports of the KSE listed companies. Securities and Exchange Commission of Pakistan (SECP) implemented Code of Corporate Governance in 2002 for Stock exchange listed companies. In Pakistani companies, institutional investments are now present to some extent. For instance, it was found through the categories of shareholders given in the annual reports that institutional investment in textile industry is approximately 15% on average. So, institutional shareholding variable is included in current study to examine its impact on the leverage of the firm.

The measure of institutions ownership used in current study is institutional investor's shareholding (INS-SH). The expected relationship between institutional shareholding and leverage is positive. The institutional investment is measured by the percentage of ordinary shares held by financial institutions.

**H<sub>a2</sub>:** *Institutional investor's shareholding (ISH) has a positive relationship with leverage.*

**Control variables:**

The following variables are also used in the research model because prior studies provide evidence about their role as significant determinants of capital structure.

**Profitability:**

Pecking order theory of capital structure states that internally generated funds are the first preference for the firm to support its investment needs, followed by use of debt and new equity capital as the last choice. As profitable firms are able to generate more reserves, thus, it may be predicted to have a negative relationship between profitability and leverage (Myers, 1984; Myers and Majluf, 1984). Thus, the reliance of profitable firms on external debt financing seems to be low. Therefore, it is expected to have a negative

relationship between profitability and leverage. In this study, Return on Assets (ROA) ratio is used as an indicator of profitability which is measured as a ratio of operating profit to total assets ratio.

**H<sub>a3</sub>:** *Profitability has a negative relationship with the leverage level of the firm.*

**Firm size:**

Larger firms are more diversified, having less chance of bankruptcy and generally convey more information to the lenders, therefore can have more access to debt. So there is a positive relationship between firm size and leverage. Friend and Lang (1988) and Agarwal and Nagarajan (1990) provided the evidence that large sized firms, due to lower risk of bankruptcy, can sustain more debt in their capital structure. On the contrary view point, as the larger size firm normally have more financial resources available, so following, the pecking order theory, such firms are able to support their investment from their own resources. This argument supports a negative relationship between ownership structure and leverage. In the Pakistani more ownership concentrated environment, the negative impact seems to be more applicable. Hence current study expects the negative relationship between size of the firm and the use of leverage in its capital structure. In current study, the log of sales revenue is taken as measure of size.

The firm size is represented by the logarithm of total sales ( $SZ = \log \text{ net sales}$ ).

**H<sub>04</sub>:** *Firm size has a negative relationship with the leverage level of the firm.*

**Growth:**

According to Signaling theory, there is more information asymmetry exists in high growth firms, hence, as a consequence, high growth firms use high debt levels to signal performance (Ross, 1977 and Myers and Majluf, 1984). From another perspective, growing firms are normally financially stable and generating substantial resources internally, consequently following pecking order theory (Myers and Majluf, 1984), it is expected growing firms rely lesser on debt. In current research, it is expected to have a negative relationship between growth and leverage because Pakistani firm rely more on banks for debt financing due to the reason that debt capital markets are not much developed and a very few companies have raised debt funds through issuance of debt securities like bonds and debentures (Shah, 2007). Therefore, signaling effect does not seem to be applicable in this particular set up. The percentage increase in total assets as compared to previous year's total assets is taken as a measure of firm growth and it is expected to have a negative relationship between growth and leverage.

**H<sub>a5</sub>:** *Firm's growth rate has negative relationship with leverage.*

**Tangibility:**

The higher assets-in-place provides a more incentive to the lenders to provide debt financing to the firm. Higher percentage of tangible assets serves as good collateral and reduces the risk of debt financing for the lenders (Shleifer and Vishny; 1992). The lower risk also reduces the cost of debt. Therefore the more tangible assets a firm have the more expectation of the use of high leverage. Therefore, it is expected to have a positive relationship between tangibility of assets and leverage. However, according to pecking order theory, those firms with higher tangible assets generally have less information asymmetry and those firms are able to sell their equity at fair prices. As a result such firms use lesser amount of debt; hence, a negative relationship is expected between tangibility and leverage (Harris and Reviv, 1991). In current research asset Tangibility is represented by ratio of fixed assets to total assets in the study.

**H<sub>a6</sub>:** *There is a negative relationship between tangibility of assets and leverage.*

**Liquidity**

High liquidity has both positive and negative effect on the debt level. According to trade off theory, a high liquidity shows a firm's better position to serve debt obligation for its future investment opportunities, hence high liquidity carry a positive relationship to the leverage. On the other side, pecking order theory expects the high liquidity as an indicator of the firm's ability to meet its financing by its own resources, therefore a negative relation exist between liquidity and leverage. In this way the net effect is not conclusive. The empirical studies which have revealed consistency with pecking order theory include Opler et al. (1999); Deesomsak et al. (2004); Mazur (2007); Viviani (2008) and Shiekh and Wang (2011). Whatsoever, in this study, the negative effect of liquidity is expected on leverage and the current ratio is used as a measure if liquidity.

**H<sub>a7</sub>:** *There is a negative relation exists between liquidity and leverage.*

**Taxability:**

It is expected that the more tax rate, the more tax shield benefits associated with debt financing. This tendency generally induces a firm to use more debt financing (Miller and Modigliani, 1963).

Therefore, it is expected that a positive relationship exists between tax rate and level of leverage used by the firm. In this study effective tax rate is calculated by the ratio of provision for taxes to the profit before taxes.

**H<sub>as</sub>:** Higher effective tax rate affect positively on leverage.

## Results and Discussion

### Descriptive Statistics of Textile Sector:

In this section descriptive statistics of textile sector is presented. The numbers of KSE listed textile sector companies included in current study are 33.

**Table-1**  
**Descriptive Statistics (Textile Sector)**

Variable	Mean	Std. Deviation	Minimum	Maximum
Leverage	0.6190	0.2180	0.1078	1.1711
Ownership concentration	0.1309	0.1594	0.0101	0.8115
Institutional shareholding	9.1392	9.6937	0.0000	42.1900
Profitability	0.0712	0.0667	-0.1535	0.2897
Firm size	9.4533	0.4260	8.4178	10.3778
Firm growth	0.1062	0.3628	-0.6517	3.4874
Tangibility	0.4891	0.1715	0.0389	0.9462
Liquidity	1.0892	0.6611	0.0800	4.4000
Effective tax rate	0.2625	0.4923	-1.2818	3.7961

### Correlation results of Textile firms:

In Table 2 Pearson's correlation is presented for the variables used in the study. There seems no problem of multicollinearity as .594 is the uppermost value between liquidity and leverage variables. Leverage variable has negative and significant correlation with ownership concentration, profitability and liquidity and all these correlations are significant at 1% ( $p < .01$ ). The correlation between leverage and tangibility variables is positive and significant at 1% ( $p < .01$ ). Leverage variable shows insignificant correlation for institutional shareholding, firm size, growth and effective tax rate variables. That represents as ownership concentration, profitability and liquidity increase that has reducing effect on leverage level for textile sector firms. On the other hand increase in tangibility causes leverage level of textile firms to increase. This is justified on the ground that due to unpredictable operational results of textile sector firms, debt providers pay more consideration to the collateral value of tangible assets to provide debt financing.

Ownership concentration shows negative and significant ( $p < .01$ ) correlation with firm size variable and positive and significant ( $p < .05$ ) with growth variable, which represents, as firm size increases leverage decreases. On the other hand, leverage increase with the increase in firm growth. Ownership concentration and institutional shareholding, profitability, asset tangibility, liquidity and effective tax rate variables correlation is found to be insignificant. Institutional shareholding variable does not have significant correlation with any of the other variables for textile sector firms.

**Table 2**

VARIABLE	Leverage	Ownership concentration	Institutional shareholding	Profitability	Firm size	Firm Growth	Tangibility	Liquidity	Effective tax rate
Leverage	1								
Ownership concentration	-.287***	1							
Institutional shareholding	.111	-.121	1						
Profitability	-.240***	.060	-.152*	1					
Firm size	-.139	-.348***	.017	.443***	1				
Firm growth	-.023	.171**	-.025	.182**	.085	1			
Tangibility	.594***	-.074	.106	-.206**	-.343***	-.073	1		
Liquidity	-.617***	-.048	-.032	.350***	.178**	.000	-.592***	1	
Effective tax rate	.032	-.065	-.028	.134	.180**	.039	-.084	.039	1

\*Significant at 10 percent (2-tailed)

\*\*Significant at 5 percent (2-tailed)

\*\*\*Significant at 1 percent (2-tailed)

Profitability variable is found to have negative and significant ( $p < .01$ ) correlation with leverage, negative and significant correlation ( $p < .10$ ) with institutional shareholding and negative and significant ( $p < .01$ ) with tangibility variable. However, profitability variable has positive correlation with firm size (significant at 1%), firm growth (significant at 5%) and liquidity (significant at 1%) variables indicating that profitability decrease with increase in leverage, institutional shareholding and tangibility of assets. Whereas, profitability increase with increase in firms size, firm growth and firm liquidity. Firms size variable shows negative correlation with ownership concentration and tangibility variables, both significant at 1% level ( $p < .01$ ). That explains, for textile firms, that lesser ownership concentration is found in large size firms and higher ownership concentration exists in small textile firms. Further, large sized textile firms have lesser tangibility and vice versa. Firm size variable has positive correlations with profitability (significant at 1%), liquidity (significant at 5%) and effective tax rate (significant at 5%). That stand for, as firm size increase liquidity increase and tax large firms are subject to higher tax rates. Firm size variable has insignificant correlation for ownership concentration, institutional shareholding and growth variables. Growth variable has positive correlation with ownership concentration and profitability variables both significant at ( $p < .05$ ). Further, no significant correlation is found between growth variable and other eight variables for textile firms. Asset tangibility variable shows negative and significant ( $p < .01$ ) correlation with liquidity variable representing as asset tangibility of textile firms increases, liquidity decreases. Effective tax rate variable only has positive correlation with firm size variable and significant at 5%.

### Regression Results of Textile Sector

It is felt beneficial to perform regression analysis of this sector individually as it is observed that textile sector in Pakistan shows, to some extent, different financial characteristics from non-textile sector firms. Ownership concentration variable for textile sector sample data shows a negative coefficient with leverage but at highly insignificance level. That indicates no specific relationship exist between ownership concentration and leverage for this sector. The same regression results are obtained for institutional shareholding variable i.e. a low negative value of regression coefficient and insignificant. Profitability variable carries a positive coefficient and also insignificant. Firm size variable regression coefficient with leverage is negative but again insignificant p-value is obtained.

**Table-3**  
**Fixed Effect Regression (Textile Sector)**  
**(Fixed Effect Model-Dependent Variable: Leverage = Total Debt / Total Assets)**

Leverage	Co-eff.	Std. Error	t-value	p-value
Ownership concentration	-0.0345	0.4838	-0.0700	0.9430
Institutional Shareholding	-0.0012	0.0021	0.5800	0.5620
Profitability	0.0259	0.2233	0.1200	0.9080
Firm Size	-0.0933	0.0916	-1.0200	0.3110
Firm Growth	-0.0977	0.0529	-1.8500	0.0680*
Tangibility	-0.1056	0.1949	-0.5400	0.5890
Liquidity	-0.1209	0.0499	-2.4200	0.0170**
Effective Tax Rate	-0.0327	-0.0220	-1.4900	0.1400
Constant	1.3518	0.9307	1.4500	0.1500

\*Significant at 10 percent, \*\*Significant at 5 percent, \*\*\*Significant at 1 percent  
R-Square = 0.2382; F-Value = 2.09; Prob.> F = 0.0000; Durbin-Watson = 1.762

Firm growth variable regression result represents negative coefficient and it significant at 10% significance level. That shows firm growth variable negatively predicts the relationship leverage variable. Higher growth firms in textile sector obtain lesser debt. Asset tangibility variable bears no relationship with leverage as the negative coefficient obtained for this predictor found to be highly insignificant. Firm liquidity variable has negative coefficient with leverage and significant at 5% level indicating liquid firms in textile sector are reluctant to obtain debt financing. This shows the application of pecking order theory in textile sector firms in Pakistan. Effective tax rate variable again shows insignificant regression result with leverage variable but carries negative coefficient.

Overall regression results reveal that only firm growth and liquidity are representing influencing variable to the leverage. All remaining six predictors show insignificant regression results with leverage.

### Analysis of Non-Textile firms:

Descriptive analysis of all industries except textile industry is presented in Table-4 in order to get insight about the major areas of discrepancy between textile industry and remaining sectors. Leverage mean value in non-textile firms is 57.13% whereas this variable carries mean value for textile sector firms as 61.90%. That shows textile sector is geared more on average. One underlying reason may be that, in Pakistan, the textile sectors has

been offered with loans at subsidized rates as an incentive to promote the investment and exports in this sector. The high average debt level of this sector is indicative of this government policy in the past.

**Table-4**  
**Descriptive Analysis non-textile firms**

VARIABLE	Mean	Std. Deviation	Minimum	Maximum
Leverage	0.5713	0.2575	0.0746	2.3098
Ownership Concentration	0.2156	0.1815	0.0134	0.9029
Institutional Shareholding	12.6538	12.3895	0.0000	51.5600
Profitability	0.1097	0.1351	-0.278932	0.5863
Firm Size	9.4704	.7805	6.5740	11.2277
Growth	0.1742	0.2454	-0.5903	1.1034
Tangibility	0.4606	0.2302	0.0407	0.935366
Liquidity	1.6276	1.5208	0.0463	20.1600
Effective Tax Rate	0.2060	0.5280	-3.9022	4.4385

#### Correlation results of non-textile firms:

In table-5, non- textile sector firm's correlation results are presented. Leverage and ownership is significantly and negatively correlated with ownership concentration. That means increase in ownership concentration reduces leverage. Correlation of institutional shareholding, firm size, growth and effective tax rate variables with leverage are insignificant. Profitability and leverage are highly and negatively correlated and significant at 1% ( $p < .01$ ). Correlation between tangibility and leverage is positive and significant whereas liquidity has negative and significant ( $p < .01$ ) correlation with leverage.

**Table-5**  
**Correlation Matrix (Non-textile firms)**

Variable	Leverage	Ownership concentration	Institutional shareholding	Profitability	Firm size	Firm growth	Tangibility	Liquidity	Effective tax rate
Leverage	1								
Ownership concentration	-.185***	1							
Institutional shareholding	.042	-.287***	1						
Profitability	-.159***	.272***	-.125**	1					
Firm size	-.076	.272***	.111**	.128**	1				
Firm growth	.084	-.043	.048	.098*	.027	1			
Tangibility	.259***	-.268***	.077	-.236***	-.051	-.109**	1		
Liquidity	-.360***	.083	-.062	.057	-.049	-.107**	-.191***	1	
Effective tax rate	-.052	-.023	-.029	.022	-.026	.040	-.063	-.001	1

\*Significant at 10 percent (2-tailed)

\*\*Significant at 5 percent (2-tailed)

\*\*\*Significant at 1 percent (2-tailed)

Profitability and firm size are positively correlated at 5% significance level, which shows that in large size non-textile companies, profitability increase with the firm size. There is positive and significant correlation exists between profitability and firm size and it is significant at 5% ( $p < .05$ ) that shows profitability increase with firm size. Profitability variable has also positive and significant correlation with firm growth at 10% and negative correlation with tangibility at significance level of 1%. That represents as tangibility increases profitability decrease for non-textile firms. Correlation between firm growth and tangibility variable is negatively significant at 5% level, which represents high growth firms have lesser tangibility. Tangibility has negative and significant ( $p < .01$ ) correlation with liquidity, which is obvious as the more tangibles assets a firm keeps; lesser amount is in the form of liquid assets. Effective tax rate variable has no significant correlation with any of the variable included in the model.

#### Regression results of non-textile firms:

In this regression analysis, the textile sector firms have been excluded. Ownership concentration variable negatively affect leverage and this is significant at 0.01 level. Institutional shareholding coefficient is negative but shows not significant with leverage. Profitability is negatively and significantly related with leverage. This shows pecking order theory is followed by non-textile Pakistani firms.



**Table-6**  
**Regression Analysis non-textile**  
**(Fixed Effect Model -Dependent Variable: Leverage = Total Debt / Total Assets)**

Leverage	Co-eff.	Std. Error	t-value	p-value
Ownership concentration	-0.8157	0.2103	-3.8800	0.0000***
Institutional Shareholding	-0.0005	0.0021	-0.2500	0.8040
Profitability	-0.2697	0.1256	-2.1500	0.0330**
Firm Size	-0.0038	0.0445	-0.0800	0.9330
Firm Growth	-0.0866	0.0467	-1.8500	0.0650*
Tangibility	-0.2161	0.1050	-2.0600	0.0410**
Liquidity	-0.0763	0.0162	-4.7100	0.0000***
Effective Tax Rate	0.0150	0.0186	0.8100	0.4190
Constant	0.7494	0.4234	1.7700	0.0780

\*Significant at 10 percent, \*\*Significant at 5 percent, \*\*\*Significant at 1 percent  
R-Square = 0.1147; F-Value = 6.96; Prob.> F = 0.0000; Durbin-Watson = 1.540

Firm size is not significantly related to leverage. Firm growth negatively predicts leverage. Asset tangibility negatively predicts leverage and significant at 0.05 significance level. Firm liquidity shows highly significant (at 0.01 level) predictability to leverage and negative related to leverage. That once again provides evidence that Pakistani companies are following pecking order theory. Tax variable shows not significant relation with the use of debt in current study. That represents in Pakistani firms leverage is not used for the purpose of getting tax shield benefit.

**Table-7**  
**Results Summary**

Variable	Textile Sector		Non-Textile Sector	
	Expected Sign	Observed Sign	Expected Sign	Observed Sign
Ownership Concentration	Negative	Negative	Negative	Negative***
Institutional Shareholding	Positive	Negative	Positive	Negative
Profitability	Negative	Positive	Negative	Negative**
Firm Size	Negative	Negative	Negative	Negative*
Growth	Negative	Negative*	Negative	Negative*
Tangibility	Negative	Negative	Negative	Negative**
Liquidity	Negative	Negative**	Negative	Negative***
Effective Tax Rate	Positive	Negative*	Positive	Positive

\*Significant at 10 percent, \*\*Significant at 5 percent, \*\*\*Significant at 1 percent

**Conclusions:**

The important research objective addressed in current study was to explore the effect of ownership concentration, institutional shareholding and other distinguished deterministic factors which affect the firm’s choices of capital structure in textile sector and non-textile sector firms in Pakistan .Textile industry is the biggest manufacturing sector constituting almost 40% of all manufacturing firms in Pakistan. However, this sector carries much varied financial characteristics and not showing consistent pattern of financial performance over the years in past. Moreover, this sector also presents no specific configuration of ownership structure. For instance, there are some textile firms which are almost wholly owned by few people, usually the family members; on the other hand, some firms represent much dispersed ownership structures. In this context, it was considered meaningful in this study to conduct a separate analysis of textile industrial sector and the non-textile industrial sector, so that major attribute of each category can be highlighted with respect to the relationship between ownership structure and capital structure.

The results indicated that in textile sector firms, no particular relationship was found between ownership concentration and capital structure whereas in non-textile manufacturing firm, it was found to be a strong negative relationship between these two variables. Institutional ownership variable revealed no significant association with the choice of capital structure in both cases that indicate the lack of interest shown by institutional investors in long term corporate shareholding in Pakistani firm. As far as other determinants of capital structure are concerned, which are incorporated in the current study, profitability, growth, liquidity and asset tangibility variables indicated a negative relationship with leverage. Overall a negative relationship is an indication of following of pecking order theory by Pakistani firms. Asset tangibility’s negative relationship is indicative of reluctance of debt facility by the suppliers due to presence of more information asymmetry in Pakistani firms for the fear of less optimal use of debt by the management. Tax benefits aspect is not an area of

consideration in case of Pakistani corporate sector as no significant relationship was found between leverage and effective tax rate variable. All together, the finding of current study revealed that usage of debt is not optimum for the value creation rather it is a passive decision area of the large shareholders of the firm. The more ownership concentrated firms tend to avoid the debt to eliminate the monitoring and risk aspect which is the result of debt financing.

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