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Effect of Financial Leverage on Performance of the Firms: Empirical Evidence from Pakistan

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Abstract

This research finds the effect of financial leverage on efficiency of firms in Pakistan. The ordinary least square technique is used to detect efficiency of financial leverage of 154 textile firms in Pakistan over the period 2006-2011. The regression results indicate that leverage has s negative association with the efficiency of firms. Financial leverage is negatively associated with return of assets and equity, which shows that firms borrow less, while market-to-book ratio shows positive profitable association with firms. Consequently firms tend to borrow more and pay their contractual payments in time.

JEL: E44, L1, M31, F38
Key words: Leverage, structure of capital, firm performance, theory of pecking order, theory of trade-off

1. Introduction

Here we see that either financial leverage affects the performance of firms or not. Notwithstanding, cooperate governance shows ugly picture between ownership and control of firms regarding financial leverage. Therefore, the managers could not achieve main objectives against the owner of firms. To handle this situation, some specific mechanisms are used to earn maximum profit.

For enrichment of high market value, firms and investors use different amalgamations of financial tools of debt and equity. Financial management make capital structure decisions to enhance returns of the firms in the area of corporate finance (Raza 2013).

The basic responsibility corporate financial managers are to boost up the property of participators, raise of investment and capital cost should be reduced. Thus we reach at this conclusion from the theory of capital structure that cost of outside equity reduces through the

high leverage. Managers of firms do right way jobs in favor of the interest of shareholders (Berger and Patti, 2006).

In corporate finance future growth opportunities and financing policy is a central issue. There are two types of financial leverage: Market value of equity and booked value of equity. In perfect capital markets we can easily see impact of capital structure on profit value of a firm, and then can see presence of taxes and bankruptcy costs. Financial managers and researchers face the problem of association among a firm's assets configuration and its equity worth. Consequently we may say that existent finance literature supports the idea that the benefits of firms are based on choice of capital structure. (Higgins, 1977; Miller, 1977; Myers & Majluf 1984; Harris & Raviv, 1991) (Lööf, 2003) Modigliani and Miller (1958, 1963).

Organization of the study

The organization the study is described such as. The review of literature is given in section II. Data description and description of variables and research methodology are argued in segment III. The empirical analysis is elaborated in segment IV. Section V is based on empirical conclusion and discussion. Finally section VI provides the conclusion of the study.

2. Literature Review

The study shows efficiency of leverage on capital structure and on earning of firms. The finance managers receive or gather the funds very hardly. Therefore, the maximum benefit which is attained by using of these funds is also very difficult. Mostly, some finance managers get benefit from the use of financial funds, while some cannot get successes in the use of financial funds (Madan 2007).

The corporate performance provides provision of investment which is based on debt and equity (Grinblatt, Titman 2003), (Pandey 2008) and (Raza 2011). The short- term and long-term benefits are attained through the idea of capital structure (Horne, 2002) and (Jensen 1989).

The tax reward of debt and the choice of debt, cost of debt and managerial discretion are based on capital structures theories (Modigliani and Miller 1963), Ross (1977) and Leland and Pyle (1977), (Jensen and Meckling 1976) (Myers 1977) (Harris and Raviv 1988), (Harris and Raviv 1988), (Jensen and Meckling 1976), (Myers 1977) and (Jensen 1986) and (Harris and Raviv 1991), (Titman and Wessels 1988).

According to idea of Pecking order theory that firms will try to provide liquid assets without giving proper consideration to the best capital arrangement Myers & Majluf (1984) (Sunder & Myers, 1999) and (Alinezhad & Taghizadeh, 2012).

The associations between productivity cost of capital and structure of capital amongst the construction and development of companies of Hong Kong is inspected by Hung et. al (2002). The outcome advocates that structure of capital is significantly positively associated with assets and is negatively associated with earning. Madan, K (2007), Ebaid, (2009) Fosberg (2004) suggests that generally efficiency of the foremost hotels in India is checked by the role financing decision. The financing decision show that financial leverage works for only for a few companies.

3. Data and Empirical Method Data

This research try to find the impact of leverage on the efficiency of textile sector on the data of 154 textile firms which are registered in Karachi Stock Exchange(KSE) over the period of 2006-2011. For analysis, the data are obtained from the various publications of the S B of Pakistan.

Table 3.1 Specification of Sample

Sr. No.	Types of firms	No of firms	Percentage
1	Spinning, Weaving, Finishing of Textiles - Overall	136	88.31%
2	MADE-UP TEXTILE ARTICLES	6	3.89%
3	OTHER TEXTILES N.E.S	12	7.79%
Total		154	100%

3.2 Variables

Descriptions of variables are given as under:

Table 3.2: Characterization of variables

Variable	Proxy	Definition
Dependent variables		
Return of assets	ROA_{it}	Profit after deduction of duty to total property.
Return of equity	ROE_{it}	Profit after deduction of taxes to stockholder's equity
Market-to-book ratio	MBR_{it}	Lagged market to book ratio. The price of market is determined by captivating the middling of tall and small cost per share throughout the year.
Independent variables		
Ratio of total debt	TDR_{it}	Ratio total debt to total property
Long term debt ratio	$LTDR_{it}$	Ratio of long term debt to total property
Control Variables		
Liquidity	LIQ_{it}	Ratio of current assets to whole property
Size	$SIZE_{it}$	Ratio of natural log to whole property

3.3 Methodology

The panel data methodology is used for estimation. Pool observations are collected through published and non published materials.

The general form of panel data is given as:

$$Y_{it} = \alpha_{it} + \beta X'_{it} + \quad \varepsilon_{it}$$

i=1,……,154, t=1,……, 6

Where the subscript I denote the cross-sectional measurement. t Stand for the time-series. Y_{it} stand for the dependent variable in the model. α is constant term over time t. Individual firm is i. A predictable coefficient of the vector is β. X_{it} contains a set of descriptive variables and ε_{it} is the error term. The error vector given by

$$\varepsilon_{it} = v_{it} + u_{it}$$

where v_{it} is the individual effect of each of the firm. u_{it} is the error term.

$$ROA_{it} = \alpha_{it} + \beta_1 TDR_{it} + \beta_2 SIZE_{it} + \beta_3 LIQ_{it} + \varepsilon_{it} \quad (1)$$

$$ROA_{it} = \alpha_{it} + \beta_1 LTDR_{it} + \beta_2 SIZE_{it} + \beta_3 LIQ_{it} + \varepsilon_{it} \quad (2)$$

$$ROE_{it} = \alpha_{it} + \beta_1 TDR_{it} + \beta_2 SIZE_{it} + \beta_3 LIQ_{it} + \varepsilon_{it} \quad (3)$$

$$ROE_{it} = \alpha_{it} + \beta_1 LTDR_{it} + \beta_2 SIZE_{it} + \beta_3 LIQ_{it} + \varepsilon_{it} \quad (4)$$

$$MBR_{it} = \alpha_{it} + \beta_1 TDR_{it} + \beta_2 SIZE_{it} + \beta_3 LIQ_{it} + \varepsilon_{it} \quad (5)$$

$$MBR_{it} = \alpha_{it} + \beta_1 LTDR_{it} + \beta_2 SIZE_{it} + \beta_3 LIQ_{it} + \varepsilon_{it} \quad (6)$$

Where ROA_{it} is the profit on asset for the i^{th} firm at time t, ROE_{it} is the profit on equity for the i^{th} firm at time t, MBR_{it} is book ratio for the i^{th} markets at time t, the dimension for the i^{th} firm at time t is $SIZE_{it}$, LIQ_{it} is the asset tangibility for the i^{th} firm at time t, β_1, β_2 & β_3 are the coefficients. In the above equations, ROA_{it}, ROE_{it} and MBR_{it} are dependent variables and the TDR_{it}, $LTDR_{it}$, LIQ_{it} and $SIZE_{it}$ are independent variables. ROA_{it} is the productivity of the i^{th} firm at time t.

4. Results

The values of descriptive statistics for all the variables are given in Table 4.1. Standard deviation is the measure of dispersal that shows the uppermost and the lowly values of the variables. The Mean value of debt ratio is 0.6567 and 0.1632 is standard deviation. The long term debt ratio has mean value which is equal 0.1917 and its standard deviation is 0.1353. The return of assets has mean value which is equal to 0.0241 and its standard deviation is 0.0921. The return on equity has mean value which is equal to 0.0257and its standard deviation is 0.3019. The market-to-book ratio indicate that its mean value is 0.4992 and standard deviation is 0.5581. The size of firms show that its mean value is 14.390 and

standard deviation is 1.229.The liquidity indicates that its mean value is 0.4387 and standard deviation is 0.1680.

Table 4.1: Descriptive statistics

Variable	Observations	Mean	Std. Dev.	Min	Max
TDR_{it}	606	0.6567	0.1632	0.0735	0.9656
$LTDR_{it}$	606	0.1917	0.1353	-0.3583	0.6545
ROA_{it}	606	0.0241	0.0921	0.3583	0.8243
ROE_{it}	606	0.0257	0.3019	-1.7988	1.0983
MBR_{it}	606	0.4992	0.5581	0 .0427	6.4008
$SIZE_{it}$	606	14.390	1.229	11.144	18.070
LIQ_{it}	606	0.4387	0.1680	0.0277	0.8592

4.2 Correlation of Variables

Long term debt ratio shows significant positive relation with total debt ratio. The assets are negatively related with total debt ratio and long term total debt ratio. The return on asset and return on equity are significantly positively correlation with the total debt ratio and the long term total debt ratio. The total debt ratio and long term total debt ratio are positively related market to book ratio and firm size. Liquidity shows positive significant correlation with return on asset, return on equity, market to book ratio.

Table 4.2: Correlation Matrix

Variables	TDR_{it}	$LTDR_{it}$	ROA_{it}	ROE_{it}	MBR_{it}	$SIZE_{it}$	LIQ_{it}
TDR_{it}	1.0000						
$LTDR_{it}$	0.4162***	1.0000					
ROA_{it}	-0.3821***	-0.1890***	1.0000				
ROE_{it}	-0.3116***	-0.1739***	0.7804***	1.0000			
MBR_{it}	0.1776 ***	0.0849 **	0.0496	0.0623	1.0000		
$SIZE_{it}$	0.0260	0.0688**	0.1139***	0.1645***	-0.0136	1.0000	
LIQ_{it}	0.0428	-0.5009***	0.2211***	0.2069***	0.0724**	0.1656***	1.0000

Notes: Figures in parentheses indicate the level of significance. *Indicates significance at 10% level. **Indicates significance at 5% level. ***Indicates significance at 1% level.

4.3 Results of Regression

Empirical results given in Table 4.3 indicate that return on assets is negatively related to total debt ratio.

Table 4.3. Impact of Total debt ratio on Return on Asset

Dependent variable: ROA_{it}				
Variables	Coefficient	Std. error.	t-statistics	Prob.
C	0.0224	0.0411	0.55	0.586
TDR_{it}	-0.2223	0.0204	-10.86	0.000
$SIZE_{it}$	0.0065	0.0027	2.37	0.018
LIQ_{it}	0.1226	0.0201	6.08	0.000
R^2	0.2099	F-statistics		53.32
Adjusted R^2	0.2060	Prob.(F – Statistics)		0.0000
Root MSE	0.0821	Observations		606

Table 4.4 indicates that the firm size and liquidity are positively related with return on assets and are negatively related to the long term debt ratio.

Table 4.4. Impact of Long-term debt ratio on Return on Asset

Dependent variable: ROA_{it}				
Variables	Coefficient	Std. error.	t-statistics	Prob.
C	-0.1005	0.0428	-2.34	0.019
$LTDR_{it}$	-0.0846	0.0314	-2.69	0.007
$SIZE_{it}$	0.0074	0.0030	2.44	0.015
LIQ_{it}	0.0781	0.0256	3.04	0.002
R^2	0.0663	F–statistics		14.25
Adjusted R^2	0.0616	Prob.(F – Statistics)		0.0000
Root MSE	0.0892	Observations		606

Table 4.5 indicate that total debt ratio is negatively related with return on equity is negatively related with total debt ratio, while size of firm and liquidity are positively related to return on equity.

Table 4.5.Impact of Total debt ratio on Return on equity

Dependent variable: ROE_{it}				
Variables	Coefficient	Std. error.	t-statistics	Prob.
C	-0.2321	0.1386	-1.67	0.095
TDR_{it}	-0.5984	0.0689	-8.68	0.000
$SIZE_{it}$	0.0344	0.0092	3.71	0.000
LIQ_{it}	0.3549	0.0679	5.23	0.000
R^2	0.1648	F–statistics		39.58
Adjusted R^2	0.1606	Prob.(F – Statistics)		0.0000
Root MSE	0.2766	Observations		606

Table 4.6.Impact of Long-term debt ratio on Return on equity

Dependent variable: ROE_{it}				
Variables	Coefficient	Std. error.	t-statistics	Prob.
C	-0.5564	0.1401	-3.97	0.000
$LTDR_{it}$	-0.2785	0.1028	-2.71	0.007
$SIZE_{it}$	0.0376	0.0099	3.79	0.000
LIQ_{it}	0.2137	0.0838	2.55	0.011
R^2	0.0715	F–statistics		15.46
Adjusted R^2	0.0669	Prob.(F – Statistics)		0.0000
Root MSE	0.2916	Observations		606

Table 4.6 indicates that return on equity is negatively related with long-term debt ratio. Return on equity is positively related with size of firm and liquidity. Empirical results which are given in Table 4.7 indicate that total debt ratio is positively related with market-to-book ratio, while and firm size and liquidity are also positively related to market-to-book ratio.

Table 4.7.Impact of Total debt ratio on market-to-book ratio

Dependent variable : MBR_{it}				
Variables	Coefficient	Std. error.	t-statistics	Prob.
C	0.1977	0.2752	0.72	0.473
TDR_{it}	0.5994	0.1368	4.38	0.000
$SIZE_{it}$	-0.0134	0.0184	-0.73	0.464
LIQ_{it}	0.2320	0.1348	1.72	0.086
R^2	0.0366	F –statistics		7.63
Adjusted R^2	0.0318	Prob.(F – Statistics)		0.0001
Root MSE	0.5491	Observations		606

Table 4.8.Impact of Long-term debt ratio on market to book ratio

Dependent variable: MBR_{it}				
Variables	Coefficient	Std. error.	t-statistics	Prob.
C	0.4661	0.2650	1.76	0.079
$LTDR_{it}$	0.7110	0.1945	3.66	0.000
$SIZE_{it}$	-0.0241	0.0187	-1.28	0.199
LIQ_{it}	0.5568	0.1585	3.51	0.000
R^2	0.0275	F–statistics		5.68
Adjusted R^2	0.0227	Prob.(F – Statistics)		0.0008
Root MSE .	0.5517	Observations		606

Table 4.8 indicates that market-to-book ratio is positively related with size of firm, total debt ratio and liquidity.

5. Discussions

This study finds the effect of leverage on efficiency of firms in textile sector of Pakistan. Results indicate that total debt and long term debt are negatively related to return on asset and return on equity. The negative relationship is steady with the results of pecking order theory. The results suggest that firms tend to borrow less because firms maintain the sufficient amount of funds internally. The negative relationships are related with the conclusion of Gleason et al. (2000).

The firms which have larger size, they achieve economies of scale, get new technology and obtain funds at lower costs. Big companies have higher benefit as compared to small companies. This tendency of investors and creditors will affect the amount of surplus cash and liability level (Ramaswamy, 2001; Frank & Goyal, 2003; Jermias, 2008). The size of company has been considered as important determinant of company profitability (Babalola, 2013). Large companies can exploit economies of scale and scope and thus being more efficient (Almajali, 2012). Liquidity is positively related to profitability. This positive relationship shows that firm can easily manage liquid resources short term and long term. These practices improve the confidence of the lenders in specific banks and firms may be able to borrow the funds at the lowest cost. Thus reduction in cost of capital may be given better performance of textile firms in Pakistan.

6. Conclusion

This study finds the impact of leverage on performance of firms in textile sector of Pakistan. Empirical results show that the return on asset and return on equity are negatively related total debt and long term debt. The pecking order theory suggests that firms get minimum amount of borrow and earn maximum. The regression results show that there is negative association between efficiency and financial leverage of textile sectors.

Nevertheless, the market-to-book ratio is positively related to long term debt and total debt ratio.

Big companies earn maximum profit than small companies. Liquidity is positively related to profitability. Thus reduction in cost of capital may be an important reason for better performance of textile firms in Pakistan.

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