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Impact of Capital Structure on Financial Performance: A case study of Pakistan Textile Industry

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Abstract:

The capital structures of a firm have a value of backbone and essentials part. Its play a very important role to capture the market while fabricating maximum financial performance which is best interest of the share and stake holders for more investment as well. The textile industry of Pakistan is the largest industry and major segment of manufacturing sector which is very helpful to capture the exporters. But unfortunately the performance of Pakistan textile industry is under the optimum level which is very serious matter. In this quantitative study, 31 registered firms at Karachi Stock Exchange (KSE) of Pakistan were analyzed for the period of four years 2010-2013 to seek the best mixture of capital structure to enhance the firm's profitability. The panel data was fetched from annual financial reports of the firms'. Wherein, return on assets, return on equity and earnings per share considered as dependent variables. Independent variables are short-term debt, long-term debt, debt to assets ratio, debt to equity

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ratio and firm size which is consider as control variable. To indentify the cause and effects relationship between the variables, pooled and fixed effects regression models were applied. The analysis concludes that capital structure is significant with financial performance in case of return on equity & earnings per share and insignificant in case of return on assets.

Key words: Capital Structure, Short-term Debt (STD), Long-term Debt (LTD), Debt to Assets Ratio (DAR), Debt to Equity Ratio (DER), Firm Size (FSV), Financial Performance, Return on Assets (ROA), Return on Equity (ROE), Earnings per Share (EPS) and Textile Industry of Pakistan.

1. INTRODUCTION

The core and essential purpose of any kind of business is to earn highest profit and improve to the financial performance day to day. The officials and management always try to make the maximum profit and utmost advantages to the share and stake holders and this cause may capture more investments. The textile industry is the largest industry of Pakistan and major segment of manufacturing sector after agricultural sector of the country (Raheman, Afza, Qayyum, & Bodla, 2010).

Financial performance of a business depends upon the capital structure and best combination or mixture of debt and equity would be most beneficial and helpful to enhance the financial performance. A best and suitable combination of long or short term debt and common and preferred equity are the backbone of the firm and get rid of over and under investment issues (Memon, Bhutto, & Abbas, 2012). For better performance of manufacturing firms the working capital management plays a vital role and specialized and relevant persons should be hired for enhancement and efficient working capital management for better performance in the manufacturing sector of Pakistan. (Raheman, Afza, Qayyum, & Bodla, 2010).

In this study capital structure measured by short-term debt, long-term debt, debt to assets & equity ratio and firm size which is considered control variable as independent variable. Performance of any firm is called financial performance which is measured by return on assets, return on equity and earnings per share as dependent variables. Thirty one registered textile firms at Karachi Stock Exchange selected for analysis. Unit root tests were applied on each variable and result shows that the data is stationary which is suitable for further processing and analysis. After that two regression models were applied, fixed-effects and pooled regression model. And result of both models show that capital structure is significant with financial performance in case of return on equity and earnings per share and insignificant with return on assets means that return on equity and earnings per share are more influenced by capital structure of a firm as compare to return on assets.

2. LITERATURE REVIEW

Financial performance of a firm is the basic purpose of its business. There are lots of factors which are matter or effect to the financial performance and best combination or mixture of capital structure can increase the profitability of the firm. Measurement of profitability of any firm having the status of backbone of the firm and planning for its improvement is the basic need. In this study, textile industry of Pakistan was analyzed which is the largest industry of the country. A good mixture of long or short term debt analysis to monitor and maximize the financial performance or profitability is very necessary part for long term survival of the firm.

(Salim & Yadav, 2012) analyzed that there are many factors involve for enhance or improve financial performance of a firm but capital structure of a firm is one of the most probably factor which can help to improve the performance to achieve the maximum debt level. According to financial theories the

selection of best financing mixture can control the performance of a firm. Short & long term debt and total ratios used as financing as independent variable. Return on equity & assets, Tobin's Q and earning per share used as financial performance as dependent variable for the period of 1995-2011 of 237 Malaysian companies listed on Bursa Malaysia Stock Exchange. Firm performance is positively associated with capital structure as shows in Tobin's Q experiment. Capital structures have negative relation with return on assets and no significant relationship with return on equity.

(Memon, Bhutto, & Abbas, 2012) investigated the relationship between financial performance and capital structure, on the application of log linear regression the results shows that all determinant of capital structure are significant. Pakistan textile industry especially large size of firms is performing under the optimum level which is very serious matter for financial and policy makers authorities of the firms and industry as well. (Shubita & Alsawalhah, 2012) examined the profitability is effected by capital structure and revealed that negative relationship between debt and financial performance. (Ali L. , 2011) the panel data of 170 textile firms of India listed on Bombay Stock Exchange from 2006 to 2010 was examined by regression model. Leverage ratio was the component as dependent variable and profitability, asset tangibility, firm size, non-debt tax shields and growth in total assets are other variable which were analyzed. Leverage ratio has highly significant positive relationship with tangibility, size and non-debt tax shield but debt ratio has highly significant negative relationship with profitability and growth.

(G. Singh 2013) argued that ideal ratio of debt and equity is very useful to enhance the profitability and investment or financing prospects increased the profitability of the firm. (Antoniou, Guney, & Paudyal, 2002) examined the panel data of British, French and German companies used for investigation the determinant of leverage ratio which is

positively influenced by the size of firm but not influenced by market to book ratio. (Ningsih & Djuaeriah, 2013) They found that capital structure significantly correlated with financial leverage. (Quang & Xin, 2014) analyzed that the impact of capital and ownership structure on the financial performance of the firm and found that by the help of mix of return of assets and return of equity that relationship is negative between capital structure and financial performance. (Ahmad & Zaman, 2013) founded that profitability and size of the firm have negative relation with leverage but whereas leverage have positive relationship with growth of the firm.

(Barakat, 2014) effect of profitability, financial leverage and financial structure for long term strategic analysis were investigated that relationship was week between company's value and financial leverage and positive association between capital structure and return on equity. (Chisti, Sangmi, & Ali, 2013) effects of capital structure on profitability were examined and profitability ratios have negatively correlated with debt to equity ratio and positively correlated with interest coverage ratios and debt to assets ratio. (Fareed, Aziz, Naz, Shahzad, Arshad, & Amen, 2014) relationship between earnings before interest and tax and return on equity is weak and negative, earnings before interest and tax and return on assets and leverage has positive but weak relationship and moderate positive relationship with firm size. Equity is the main resource of finance and also helped to maximize the firm financial performance therefore decision making regarding capital structure about best debt and equity combination play a very vital role.

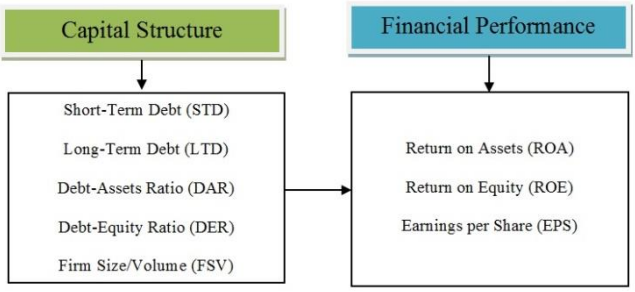
(Ahmad & Zaman, 2013) the time series data of 46 textile firms of Pakistan textile industry were examined for the period of 5 years i.e. 2005-2009 and found that profitability and size of the firm have negative relation with leverage but whereas leverage have positive relationship with growth of the firm. Debt and equity of the firm are its essential part and

there are the total values of the firm. (Ali S. , 2011) investigated that the relationship of working capital management and profitability which is measured by cash conversion efficiency, days of operating cycle & working capital and return on assets & equity and profit margin respectively. Return on assets has negative relations with average day's receivable and payable but average days in inventory has positively related and positive correlation with cash conversion cycle which is more profitable for this industry. To capture the interest of shareholders the decision of financial managers plays a very vital role because they can minimize the risk by adopting those strategies which are more beneficial for the firm and such strategies helps to keep away from insolvency.

3. DATA AND METHODOLOGY

Approximately more the 100 textile firms are registered at Karachi Stock Exchange (KSE). But after some screening procedure and keeping in view of availability of annual financial reports for collection of time series data for the period of four years i.e. 2010 to 2013 the total 31 firms were finalized for regression analysis in this article. The unit roots test was applied and found that the data is stationary at 1% level. After that two models of regression, fixed effects regression which is corroborate by Hausman test and pooled regression model were applied on the panel data to identify the cause and effects relationship between independent and dependent variables, capital structure and financial performance of the firms from textile industry.

3.1 Theoretical Framework



3.2 Variables

In the context of field of finance, there are lots of financial terms to monitor the capital structure and financial performance of the firm. But in this study the Return on Assets (ROA) Return on Equity (ROE) and Earnings per Share (EPS) used as dependent variable for the measurement of firms' financial performance. The combination of Short-term Debt (STD), Long-term Debt (LTD), Debt to Assets Ratio (DAR), Debt to Equity Ratio (DER) and Firm Size/Volume (FSV) used as independent variable as a substitute of capital structure to find out the best capital constitution for a firm of Textile Industry of Pakistan. The firm size or volume is considered as control variable.

3.3 Econometric Model

Regression model is used to guesstimate the cause & effect relationship between the independent and dependent variables by using the analysis reports which was derived from E-Views. There are three equations to seek out the significant relationship between the variables.

ROA_t (*Financial Performance*) = $\alpha + \beta_1 STD_t + \beta_2 LTD_t + \beta_3 DAR_t + \beta_4 DER_t + \beta_5 FSV_t + €$
ROE_t (*Financial Performance*) = $\alpha + \beta_1 STD_t + \beta_2 LTD_t + \beta_3 DAR_t + \beta_4 DER_t + \beta_5 FSV_t + €$
EPS_t (*Financial Performance*) = $\alpha + \beta_1 STD_t + \beta_2 LTD_t + \beta_3 DAR_t + \beta_4 DER_t + \beta_5 FSV_t + €$

Wherein:
ROA = Return of Assets

ROE = Return of Equity
EPS = Earnings per Share
STD = Short-Term Debt
LTD = Long-Term Debt
DAR = Debt to Assets Ratio
DER = Debt to Equity Ratio
FSV = Firm Size/ Volume

α = Intercept
ß = Coefficients
€ = Expected/ Estimated Error

3.4 Hypothesis

H_{1-a}: There is significant relationship between short-term debt and return on assets

H_{1-b}: There is significant relationship between long-term debt and return on assets

H_{1-c}: There is significant relationship between debt-assets ratio and return on assets

H_{1-d}: There is significant relationship between debt-equity ratio and return on assets

H_{1-e}: There is significant relationship between firm size/volume and return on assets

H_{1-f}: There is significant relationship between short-term debt and return on equity

H_{1-g}: There is significant relationship between long-term debt and return on equity

H_{1-h}: There is significant relationship between debt-assets ratio and return on equity

H_{1-i}: There is significant relationship between debt-equity ratio and return on equity

H_{1-j}: There is significant relationship between firm size/volume and return on equity

H_{1-k}: There is significant relationship between short-term debt and earnings per share

H_{1-l}: There is significant relationship between long-term debt and earnings per share

H_{1-m}: There is significant relationship between debt-assets ratio and earnings per share

H_{1-n}: There is significant relationship between debt-equity ratio and earnings per share

H_{1-o}: There is significant relationship between firm size/volume and earnings per share

4. ANALYSIS AND RESULTS

In this article, to check the status regarding panel data is stationary or not. The units root tests were conducted on each variable and the results of all unit root tests strongly indicate that the given data is stationary and significant at 1% level as shown in table 4.1.

Table 4.1
Unit Root Tests

Series	Method	Statistic	Cross-Sections
ROA	Levin, Lin & Chu t	-27.7951*	31
	ADF - Fisher Chi-square	112.910*	31
	PP - Fisher Chi-square	130.495*	31
ROE	Levin, Lin & Chu t	-56.2902*	31
	ADF - Fisher Chi-square	106.930*	31
	PP - Fisher Chi-square	124.372*	31
EPS	Levin, Lin & Chu t	-58.5923*	31
	ADF - Fisher Chi-square	105.962*	31
	PP - Fisher Chi-square	120.340*	31
STD	Levin, Lin & Chu t	-6.51235*	31
	ADF - Fisher Chi-square	59.4670	31
	PP - Fisher Chi-square	70.2749	31
LTD	Levin, Lin & Chu t	-4.90271*	31
	ADF - Fisher Chi-square	99.6989*	31
	PP - Fisher Chi-square	121.503*	31
DAR	Levin, Lin & Chu t	-324.098*	31
	ADF - Fisher Chi-square	61.9482	31
	PP - Fisher Chi-square	80.0501	31
DER	Levin, Lin & Chu t	-88.8572*	31
	ADF - Fisher Chi-square	113.109*	31
	PP - Fisher Chi-square	135.061*	31
FSV	Levin, Lin & Chu t	-45.2970*	31
	ADF - Fisher Chi-square	90.8441*	31
	PP - Fisher Chi-square	107.176*	31

* indicates statistical significance at 1% level.

The effect of capital structure on firm's performance is shown in table 4.2 the firm's financial performance is used as dependent variable and measured by return on assets, return on equity and earnings per share and capital structure denoted by short-term debt, long-term debt, debt-assets ratio, debt-equity ratio and firm size. After application of unit root tests, the two regression models were also applied to identify the cause and effects relationship between dependent and independent variables, financial performance and capital structure respectively.

Table 4.2

Effect of Capital Structure on Financial Performance

Independent Variable	Pooled Regression			Fixed-effects Panel Regression		
	ROA	ROE	EPS	ROA	ROE	EPS
Constant	0.055970*	9.009564*	16.21005*	0.052956*	9.634245*	16.64993*
	(4.474859)	(2.712928)	(5.393614)	(3.301627)	(4.001261)	(7.466580)
STD	-0.026059	-17.68517	-22.24852**	-0.013625	-20.26198**	-24.06303*
	(-0.591432)	(-1.511691)	(-2.101433)	(-0.218360)	(-2.163095)	(-2.773793)
Adj. R^2	-0.005314	0.010341	0.027022	0.324862	0.787544	0.781249
DW-Stat	1.432937	0.262812	0.489887	2.829210	1.625546	2.889334
F-Stat	0.349792	2.285209	4.416023	2.909190	15.70781	15.17046
Prob. (F-Stat)	0.555325	0.133199	0.037661	0.000042	0.000000	0.000000
Constant	0.068271*	6.796999*	14.83704*	0.071248*	6.967362*	13.57983*
	(8.161171)	(2.927585)	(7.190190)	(5.661102)	(3.561067)	(7.426142)
LTD	-0.114866*	-12.79993	-24.80439*	-0.133232	-13.85097	-17.04823
	(-3.340244)	(-1.341138)	(-2.924121)	(-1.886801)	(-1.261777)	(-1.661647)
Adj. R^2	0.076280	0.006451	0.057836	0.349677	0.780536	0.769862
DW-Stat	1.557247	0.268323	0.520821	2.941435	1.612037	2.814862
F-Stat	11.15723	1.798651	8.550485	3.133441	15.11151	14.27298
Prob. (F-Stat)	0.001111	0.182367	0.004119	0.000013	0.000000	0.000000
Constant	0.113762*	16.62025*	30.00620*	0.088253*	15.12526*	23.32378*
	(7.104039)	(3.732622)	(7.985257)	(3.777838)	(4.351500)	(7.379074)
DAR	-0.158484*	-29.41296*	-47.43881*	-0.095423	-25.71722*	-30.91924*
	(-4.325997)	(-2.887405)	(-5.518284)	(-1.695777)	(-3.071577)	(-4.061000)
Adj. R^2	0.125888	0.056293	0.193186	0.344986	0.797504	0.798988
DW-Stat	1.662585	0.268437	0.569634	2.902807	1.650556	2.980092
F-Stat	18.71425	8.337108	30.45146	3.089747	16.62645	16.77112
Prob. (F-Stat)	0.000031	0.004596	0.000000	0.000016	0.000000	0.000000
Constant	0.048489*	1.991519	6.142813*	0.059270*	7.306199*	12.76858*
	(5.886551)	(0.918811)	(3.250493)	(7.407056)	(6.110598)	(11.17930)
DER	0.000635	1.491390**	2.552524*	-0.005252	-1.411231*	-1.066152**
	(0.230842)	(2.059010)	(4.041819)	(-1.595327)	(-2.868556)	(-2.268633)
Adj. R^2	-0.007757	0.025662	0.110862	0.342695	0.795068	0.775514
DW-Stat	1.432107	0.333318	0.701764	2.915842	1.662998	2.895272
F-Stat	0.053288	4.239520	16.33630	3.068640	16.39350	14.70702
Prob. (F-Stat)	0.817824	0.041622	0.000093	0.000018	0.000000	0.000000
Constant	-0.160694	56.31048	-63.85633**	0.476326	-274.3907*	-151.6835
	(-1.264022)	(1.652218)	(-2.082747)	(0.739381)	(-2.888575)	(-1.650804)
FSV	0.022390	-5.491325	7.948567**	-0.045417	29.71026*	17.29736
	(1.656722)	(-1.515610)	(2.438674)	(-0.662330)	(2.938387)	(1.768582)
Adj. R^2	0.013986	0.010435	0.038665	0.327717	0.795894	0.770750
DW-Stat	1.440735	0.282692	0.496958	2.936194	1.544583	2.666028
F-Stat	2.744728	2.297075	5.947129	2.934154	16.47183	14.33972
Prob. (F-Stat)	0.100145	0.132205	0.016181	0.000037	0.000000	0.000000

Figures of t-statistics are given into the parentheses and * indicates statistical significance at 1% &** at 5% levels.

According to the results of pooled regression the return on assets have significantly negative relationship with long-term debt & debt-assets ratio at 1% level, return on equity have significantly negative relationship with debt-assets ratio at 1% level and positively significant with debt-equity ratio at 5% level. Whereas earnings per share have significant negative relationship with short-term debt, long-term debt & debt-assets ratio at 1% level and positively significant with debt-equity ratio & firm size at 1% & 5% level respectively.

According to the results of fixed-effects panel regression the return on assets have insignificant relationship with capital structure, return on equity have significantly negative relationship with short-term debt at 5% level & at 1% level with debt-assets ratio & debt to equity ratio and positively significant with firm size at 5% level. Whereas earnings per share have significant negative relationship with short-term debt & debt-assets ratio at 1% level and at 5% with debt-equity ratio.

The results of both regression models show that capital structure is significant with financial performance in case of return on equity and earnings per share and insignificant in the case of return on assets. Infect, financial performance of firms is affected by capital structure and return on equity and earnings per share are more affected instead of return on assets.

5. DISCUSSION

Pakistan textile industry especially large size of firms is performing under the optimum level which is very serious matter for financial and policy makers authorities of the firms and industry as well (Memon, Bhutto, & Abbas, 2012). Debt and equity of the firm are its essential part and there are the total values of the firm (Ahmad & Zaman, 2013). Equity is the main source of finance and also helped to maximize the firm

financial performance therefore decision making regarding capital structure about best debt and equity combination play a very vital role (Fareed, Aziz, Naz, Shahzad, Arshad, & Amen, 2014).

To capture the interest of shareholders the decision of financial managers plays a very important role because they can minimize the risk by adopting those strategies which are more beneficial for the firm and such strategies helps to keep away from insolvency or bankruptcy (Ali S. , 2011).

For better performance of manufacturing firms the working capital management plays a crucial role (Raheman, Afza, Qayyum, & Bodla, 2010). There is payment and collection policies are only major problem, therefore, improvement of payment, collection and working capital management policies are very necessary for better performance. The authors suggested that specialized and relevant persons should be hired for enhancement and efficient working capital management for better performance in the manufacturing sector of Pakistan (Raheman, Afza, Qayyum, & Bodla, 2010).

In this study first of all unit root test were applied to check the reliability of data for further analysis which were shows that collected data from selected financial reports is stationary at 1% level. Then by adopting the fixed effect and pooled regression models it has been observed that capital structure and financial performance have significant relation in case of return on equity and earnings per share and insignificant in case of return on assets as discussed in earlier study of (Memon, Bhutto, & Abbas, 2012). On the other side the author described that capital structure and financial performance have negative relationship (Quang & Xin, 2014).

6. CONCLUSION

In this study it has been empirically examined and proved that the data of selected firms is stationary by unit root tests and

significant relationship between capital structure and firm's financial performance has also proved by both regression pooled models at one percent level. Productivity of firm is based on the capital structure, because it's a backbone of a firm. A financial performance of the firm also help to capture more and more investment for future progress and firms could be run its business on long terms basis. The results of both regression models show that capital structure is significant with financial performance in case of return on equity and earnings per share and insignificant in the case of return on assets. Infect, financial performance of firms is affected by capital structure and return on equity and earnings per share are more affected instead of return on assets.

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