World Applied Sciences Journal 29 (5): 605-609, 2014
ISSN 1818-4952

DOI: 10.5829/idosi.wasj.2014.29.05.1949

Testing the Relationship Between Profitability and Capital Structure of Textile Industry of Pakistan

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Abstract: This study is conducted to test the relationship between capital structure and profitability of textile industry of Pakistan. In this purpose, panel data of 22 listed textile firms is used for the period of seven years from 2006 to 2012. These firms are listed on Karachi Stock Exchange. Multiple regression and correlation analysis is applied to check the relationship and significant level between profitability and capital structure. The results reveal that there is negative weak relationship between EBIT and ROE. EBIT has the weak positive relationship with ROA. EBIT has also weak positive relationship with LEVERAGE and there is moderate positive relationship between EBIT and Firm Size. The firms which are more profitable they need to use more equity as main source of finance. There should be better decision making for capital structure which will increase the profit of firms.

Key words: Multiple Regressions · Correlation · ROE · ROA · Capital Structure · Pakistan

INTRODUCTION

One of the major way to finance any organization is capital structure company adopt capital structure to raise its fund from creditors and its reserve and surplus. This issue has been discussed for a long period of time that firms value affected by capital structure [1]. If more leverage is used it can act as a tax protection shield and gives best capital structure for firm [2].

For the purpose of increase the value of firm or increase the shareholder wealth firm need to use the optimal capital structure, it also reduces the capital cost which is help to maintain company competitive advantage with the usage of debt and equity combination [1]. It is the responsibility of firm managers use cash which is receive from debt; effectively for the purpose of generate more cash because there is also need to necessary payment of interest on debts. When firm use more debt, then business become more risky and rate of interest will also higher, but when more interest rate higher then profit of the company shows low and firm pays low taxes. In capital structure choose of debt and equity, companies managers should take good decision and should be very careful. If use more debt in company business operation then there is more chances of company bankruptcy, so there must need more information and knowledge of managers increase the profitability. Now companies do their business in more competitive and complex environment, there is need to use optimal capital structure which will increase profitability level of the companies. One of the largest industries of Pakistan is textile industry. This paper explores the relationship between capital structure and profitability of Pakistan textile sector. Various industries have various financing constraints; researcher like [3] says that in a given industry a firm develops similar capital structures.

Objectives of the Study:

- Effect of capital structure on the profitability of textile industry.
- Effect of leverage on firm value of textile industry.

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Literature Review:A firm earns profit through sale. This sale may be tangible (products) and intangible (services). When favorable condition in the economy then firm production increase at that time and due to this profit earning ability also increase. When bad economy conditions in country exist then profitability will decreases. Shareholder earning also increases in good time period. So capital structure has positive relation with market structure [4].

Profitability and leverage has positive relationship with each other [5]. There is negative correlation between profitability and long term debt emerging companies as well as companies having high level of fixed asset using more debt than long term debt [6].

Profitability and capital structure are correlated with each other [5]. They used 35 listed companies in Hong Kong. There is positive correlation between profitability and size of firm because small firms use short term loans as compare mature firm. They also indicate that short term and long term loans depend on firm size and age [7].

In simple meaning leverage indicate borrowing business, when a business leverage, it show that borrow money for the purpose of purchase assets which will use in business. It is measure by debt and equity ratio. Debt indicates negative impact on performance for this purpose return on assets is used to show relationship between performances and leverage [5].

Debt to equity analysis is important because it reveals many internal aspect of firm like degree of financial leverage and its equity participation [6]. Leverage had a negative relation with profitability [8]. When profitability and business risk is high industry debt ratios are low or negative [9].

According to agency theory leverage is very better for shareholders, higher leverage expect lower agency cost reduce inefficiency & improve firm performance by monitoring the managers [10].

The log of the firm's sales is known as firm size. It can also be calculated through number of employees and Total sector employment. Firm size is more important because it tells the firm debt taking power and ability [5]. Firm size is positively correlated with performance [11].

Firm Size has a negative correlation with long term debt, so the large and profitable companies use debt in general [6]. Firm size has a positive relation with profitability [8]. Firm size and profitability has a positive relationship with each other, in large firms and may be in small firms it has negative relationship [7].ROE show the net income or net profit which is received by the corporation from the investment which is invested by the shareholder.

Subita andAlsawallah [5] find out in his research that short term debt to total asset has negative relationship with ROE. Profitability has a positive relationship with ROE because these have not more expensive and help in increasing earning level [11]. Capital structure relates to the combination of liability of the firm or what part of firm total obligation is formed by other sources of finance and what is the volume of equity; common stock and preferred stock [6].

There is a negative association between debt to equity and return on equity [12]. Firms like to issue more equity which has low marginal tax rate for example companies having tax loss carry forwards [9].

ROA indicates how a firm uses its total assets to generate income. There is positive relationship between value of tangible fixed asset and capital structure. The relationship between return on assets of companies and capital structure is significant and accepted in Tehran stock exchange. The industry type also influence the relationship of return on asset of firm and capital structure. The investigation of experimental relationship between capital structure and profitability in accepted companies of Tehran stock exchange [13]. There is negative relation between capital structure and return on asset [11]. Size and total investment to total assets affect profitability if it defines as adjusted ROA [8]. Companies having safe tangible leads to borrow more debt as compare to those firm having risky intangible assets [9].

Conceptual Framwork: For any type of research, conceptual framework is very helpful and provides the map and approach to reach the preferred outcomes. It is commonly created to express the relationship between variables, concept and purpose of the study. In this study this conceptual framework constructed on the basis of literature review available.

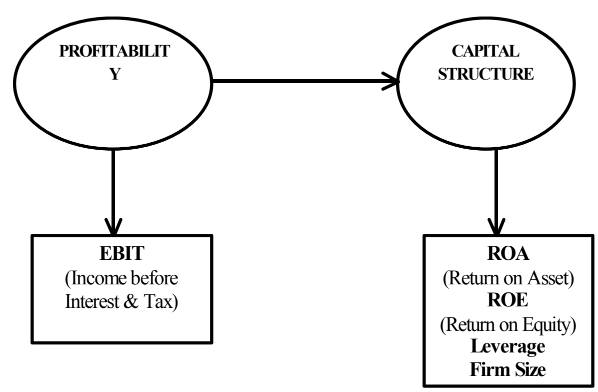

Fig. 1:
Source: Authors self-created

EBIT (Income before Interest and Income) used as proxy for profitability and capital structure include ROA, ROE, Leverage and Firm size.

MATERIALS AND METHODS

"A firm earns profit ability" is known as profitability. Through sales firm can generate profit these sales may be tangible and intangible. EBIT used as a proxy of profitability as dependent variable because it shows company pure income including interest and taxes. EBIT also help to estimate company leverage and its tax estimation.

"Return on equity (ROE) shows the corporation common stock owner who invest their money to generate profit". It is calculated through following formula:

ROE = Net income/Shareholders' equity

"Return on asset (ROA) shows how the firm uses its total assets to generate income". Because firm's effectiveness is related to higher return on assets and higher return on equity. ROA is used as independent variable because it tells how firm utilizes its assets effectively to magnifying its earning. It can be calculated:

ROA= EBIT/Total assets

"Leverage is the ratio of asset to capital" because leverage play vital role in the firm's capital structure due to its effectiveness on firm return and risk.

Firm size is an important factor which can affect the firm's capital structure. "The log of the firm's sales is taken as firm size" because sales tell the current situation of the firm earning ability. It also serves as a proxy firm size commonly.

Profitability = $\beta 0+\beta 1$ leverage+$\beta 2$ ROE+$\beta 3$ ROA+$\beta 4$ Firm size+e

Target industry for this study is Textile industry of Pakistan because textile sector is one of the largest sectors of Pakistan. Secondary data from Balance Sheet Analysis from state bank of Pakistan official document of 22 companies is used to dig out how capital structure of Pakistani textile industry is effected fires profitability. For this purpose seven years data, 2006-2012 is used.

Regression and correlation analysis was used to dig out the association of profitability and capital structure. Microsoft excel is used as a tool to explore the association

Table 1: Description of variables and expected relationship

Variables	Description	Expected Relationship
	Dependent	
EBIT	It is used as proxy of profitability. (Earnings before Interest and Tax)	NA
	Independent	
ROA	Net income/Shareholders' equity	+/–
ROE	EBIT/Total assets	+
Leverage	It is measured by the ratio of debt to equity.	_
Firm size	The log of the firm's sales is taken as firm size	+

Table 2:

	Coefficients	Standard Error	t Stat	P-value
Intercept	7.67204069	0.538052676	14.25890257	0.00000
ROE	0.005765969	0.002482186	2.322939942	0.021573149*
ROA	0.013799182	0.014418465	0.957049352	0.340135313
LEVERAGE	-0.032344983	0.011321644	-2.856915613	0.004907229**
FIRM SIZE	0.606759827	0.082972942	7.312743302	0.0000**

R square value is 0.30 and Adjusted R square value is 0.28

P-value<.05*, p-value <.01**

Table 3:

	ROE	ROA	LEVERAGE	FIRM SIZE	ln EBIT
ROE	1				
ROA	0.28289907	1			
LEVERAGE	0.501870643	0.014647677	1		
FIRM SIZE	-0.349227251	-0.159431734	-0.135699064	1	
ln EBIT	-0.080548479	0.038471494	-0.201680292	0.492062116	1

of profitability which is measure by natural log of EBIT and Capital structure which is measured through debt to equity ratio.

Analysis

Regression Analysis: Table 2 indicates significance and insignificance relationship of profitability (dependent variable) and ROE, ROA, LEVERAGE and FIRM SIZE (independent variables). The p-value of ROE is 0.02<0.05 which means that ROE has significance association with profitability at 0.05 level of significant. The p-value of ROA is 0.34>0.1 which means that ROA has insignificance association with profitability. The p-value of LEVERAGE is 0.004<.01 which means that LEVERAGE has significance association with profitability at .01 level of significant and p-value of Firm size is .000<.01 which means that Firm size has highly significance association with profitability at .01 level of significant.

The value of R^2 shows the goodness of fit of our model. The model shows the value of R^2 is .30 and Adjusted $R^2$is 0.28 which means that there is 28% variation in profitability (dependent variable) which is explained by the independent variables (ROE, ROA, Leverage and Firm size). So, our model is not good because there may be the reason of less number of observations or some irrelevant variables in our model.

Correlation Analysis: Table 3 depict the correlation among variables. This table illustrate the relationship among ROE, ROA, LEVERAGE, FIRM SIZE and EBIT. There is a negative weak (-0.08) relationship between EBIT (profitability) and ROE. The correlation is 0.03 which shows that EBIT has the weak positive relationship with ROA. EBIT has also weak positive relationship with LEVERAGE because the value of correlation is -0.20 and there is moderate positive relationship between EBIT and Firm Size.

CONCLUSION

This paper explores the association of capital structure and corporate profitability in textile sector of Pakistan. This research has been conducted on 22 listed companies in KSE (Karachi stock exchange). This study examines that as firm size increase the firm profitability also increases in Pakistan textile industry. Firm size has positive impact on a firm's profitability because large companies have low insolvency cost Ahmad *et al.* [11] and increase in ROE due to increase in corporate profitability while ROA has no impact on profitability in textile industry of Pakistan. But debt to equity ratio (leverage) affects negatively profitability of companies. As leverage increases the profitability of the textile firms of Pakistan is decreases. There is negative association between leverage and profitability [11]. There is also a significant positive correlation between long term debt and ROA [14].

Limitations: This study is limited only to the 22 companies of textile industry of Pakistan. And secondary data is used to determine the relationship of capital structure and profitability while this study may show different result when other data collection tools used. Adjusted R square value depict that there are other variables which can be used to explore this relationship more accurately like firm age, risk, taxes and liquidity. The results can be more significant if number of observations will increase.

Recommendations: This study can be done other sectors like sugar industry, Cement industry, Automobile industry or any other sector from 34 sectors of Pakistan. This relationship can be check out in private and non-listed companies. Instead of natural log of EBIT as a proxy of profitability measurement other proxies like Gross Profit, net income may use. We can add more variables in this study to check the relationship between firm structure and profitability.

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