The Impact of Debt Capacity on Firm's Growth: (A Case Study of Selected Firms from Pharmaceutical Industry in Pakistan)

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Abstract
The ultimate goal of all activities within organizations is to achieve higher growth and finding new sources for mounting firm capital. This study aims to investigate debt capacity as the source of firm capital and its impact on firm's growth. The objectives of this research to shows the relationship between market to book ratio and debt to asset ratio. Multiple liner regression is used between Growth and book leverage. By selected pharmaceutical sector that has been listed at Karachi stock exchange in Pakistan. In this research 8 companies are selected that are listed at Karachi Stock Exchange during the period of 2005-2014. In this paper secondary data is used. The result reveals a significant positive relationship between the debt to asset ratio and market to book ratio and debt to asset ratio. It displays that there is no negative effect of debt capacity on firm's growth.

Keywords: *Firm's Growth, Debt Capacity; Market to Book ratio, Debt to Asset ratio*

1. Introduction

Company' growth and capital structure play important role in firm success as it shows stability and profitability of firm in long run. Every company set the capital structure policy according to their nature and size of company but most of the firm's arrange lower debt portion than equity because its reduce the chances of bankruptcy and minimized risk. Debt capacity is the ability of borrowing money and deals those funds that a firm can borrow from lenders. The choice of debt in capital structure for attaining loans is the issue for the corporate policy maker, because there are no patterns for the proportion of debt in capital structure. There are many factors which taking in to consideration before any decision regarding debt. Most of researchers argued that firms use low level of debt in capital structure during their growth stage of life cycle. In some cases, organization does not have the ability to borrow funds from lenders as much they

want. There are many factors that influence the borrowing but I concern the main factor the company growth because debt and growth are highly depended on each other's if the firm growth is on the roadway their debt level will be high and if the firm growth level decreases then their debt level will be low. It is repeatedly argued that companies use fewer debts in their capital structure during their growth stage of life cycle. (Rajan & Zingales (1995), Billet et al. (2007), Smith & Watts, (1992). As acknowledged by Ittner et al. (2003), new economy companies are smaller; follow more riskier strategies, which have expressively lesser accounting returns, and new enterprises more expenses such as, advertising, broad research and development than old economy firms. Financing decision differs across firms to firm as a purpose of their life cycle stages. Smith and Watts (1992) and Gaver (1993) found that multinationals have lesser debt to equity ratio in the life cycle of growth stage. Rajan and Zingales (1995) found adverse relationship between market to book ratio and the leverage while taken the growth as a proxy, and result is statistically significant across seven countries. Billet et al. (2007) documented that, firm growth is directly moves to the corporate debt in an adverse direction. Scholars have only in recent times revealed that capital structure changes express information to stockholders. This discussion emphasis on the concerns related to debt capacity and firm's growth. The scope of our study is directly linked with these concerns to find out the mutual impact of these factors in pharmaceutical industry of Pakistan. Reason behind choosing this industry is that there are more than 400 licensed pharmaceutical corporations in Pakistan, including 30 multinational corporations that have more than 50 % of total market share. Pakistan pharmaceutical sector totally worth is roughly 1.90 billion US dollar with an annual 9.4% of growth rate.

1.1 Research Question

Study will examine the relation between debt capacity and growth of firms?

2. Literature Review

Earlier investigation in the subject area Michael et al (2003) shown a negative relationship between growth and leverage and provides a different economic explanation of leverage regressions. Bradley et al (1984) show that firms low level of debt have high growth rate. Smith and Watts (1992) and Long and Malitz (1985) commonly used proxy for growth options and all has found a negative relationship between the market-to-book ratio and market leverage. Zingales and Rajan (1995) studied across seven countries and bring into being a negative relationship between market to book ratio and leverage. Frasmo and Joseph (2013) found that there is a significant and strong positive relationship between debt capacity and growth used a regression base result with evidence from quasi natural experiment in pharmaceutical industry. Johnson (2003) shown that there is negative relation between firm's growth and debt and further argued that high use of debt may lead high liquidity risk, using the data of 4,945 nonfinancial firms from 1986_1995, this study support strongly Myer's estimates that short term obligation has inverse impact on growth of firm. Gaver and Gaver (1993) displayed preliminary evidence that growth firm uses lesser amount of debt in their capital structure. Goyal et al. (2002) concluded that defense firms of United State boost their use of debt as growth declines. Billet et al. (2007) shows that firm growth are directly

affected by the corporate debt in an inverse direction. Johnson (2003) displayed that there is inverse relation between debt capacity and growth of firm. They also discussed that small period obligation has an adverse effect of growth on debt by giving a proof that short term debt leads high liquidity of risk and that risk adversely affects book leverage. Athar et al (2012) found a significant and strong positive relation between growth of firm and leverage(debt to asset ratio). Yusof and Bahlous (2012) used a sample of 1588 firms from the East Asia during the period 1999 to 2007. They examined the relationships between growth and debt maturity of external financing. Lemmon and Zender (2003) found that if outside funds are required to firm, in the absenteeism of debt capacity concerns, debt seems to be favored on equity. Giambona and Golec (2013) regression results displayed that there is a significant and strong positive relationship between growth and debt. Huang and song's (2001) analyzed market and accounting data of 1000 companies listed in Shanghai stock exchange to show the effect of leverage in Chinese firms. The study revealed that more stable firms in term of size and fixed assets used more debt while reduce the debt level low profitability and correlates with other industries. They further argued that levered firm effect ownership structure of firms. Chaibi (2012) studied the industry impact on financing growth. "According to overinvestment as well as underinvestment problem, companies are additional probable to have a smaller portion debt in their growth period of life cycle.

Ezeoha (2008) investigate the significance of firm size as a determinant of financial leverage and found negative relation between them. Hes and Kotter explore empirically the link between debt capacity and corporate financing decisions of a firm. Their analysis and result documented that firms target on preserve financial flexibility provides debt capacity. Stephen et al (2011) concluded debt in a moderate level, they argued that debt improves welfare funds for corporate social responsibility and increases the firm growth while increasing the levels of debt can be damaging the firm value and increase chances of bankruptcy. Barclay et al (2003) results and analysis revealed that there is an inverse relationship between leverage and growth.

2.1 Hypotheses

H_0: There is a relationship between firm growth and debt capacity.
H_1: There is a relationship between firm growth and market price per share.

3. Research Methodology

Scientific and logical procedure is known as Methodology. This chapter deals with methodology that has been used for carrying out this research. The methodology is just a method of organization that building theoretical and practical activity. The study focuses on empirically analyzing the impact of debt capacity on firm growth. This data of this research paper is totally based on secondary data. The data of this research is bring together from the (SBP)State Bank of Pakistan publications statement of comprehensive income and balance sheet analysis and also used internet sources as well as company annual report of Pharmaceutical sector selected companies listed at Karachi stock exchange during the period of 2005 to 2014. State Bank of Pakistan publication delivers valuable information of the financial statements analysis of pharmaceutical sector selected corporations listed at Karachi stock exchange and stock prices of selected

companies has been taken from annual reports of specific company, share price considered as yearend. In this study, first analysis and interpretation is descriptive statistics and correlation among all variables and recognized their significant relationship. Then analyzed and assesses the data in multiple linear regression models.

$MTB = \beta o + \beta_1 (DTA) + \beta_2 MPS + \varepsilon.$

3.1Nature and Source of Data

In this research paper secondary data is used for the period of 2005-2014

3.2 Sources of Data Collection

Data were collected from different sources and from different website, such aswww.businessrecorder.com, http://www.answers.com/topic/abbott-laboratories and open door.com. Books and annual report of different companies are also used for data collections. This research is totally based on secondary data.

3.3Data Processing

For data processing analysis I used SPSS software and other statistical tools namely, descriptive statistic ,correlation as well as regression analysis and excel has always been used for data processing.

3.4Regression Model

To find the relationship in the middle of debt capacity and firm growth using the multiple linear regression model done by pervious researchers Rajan and Zangal (1995) as well as correlated with the model discussed by Athar et al (2014). The regression model is estimated as below:

$$MTB = \beta o + \beta_1 (DTA) + \beta_2 MPS + \varepsilon.$$

Where MTB= Market to Book Ratio, βo =constant term of model, DTA = dividend per share, MPS= market price per share and ε= error term

3.5 Variable Define

Variables for the model of this study are explained below

3.5.1 Growth

In this paper, market-to-book ratio (MTB**)** is used for measuring and calculating the growth of the firm, for the reason that it shows the total market value of firms by matching and comparing the book value of company and it is calculated by year end share price multiple by outstanding shares divide by Share Holder's Equity. Wu, Sercu (2001), A. Johnson (2003), Mao (2003) and Chi (2006) also used this ratio.

Formula: MTB = Year end Share price * outstanding shares / Share Holder's Equity

3.5.2 Book Leverage (Debt to Asset Ratio)

The debt to asset ratio **(DTA)** is defined as the current plus noncurrent assets divide by short term and long term liabilities. For calculating and measuring the debt capacity (debt to asset ratio) was used. Debt to asset ratio indicates the portion of a business's assets which is received to corporation through debt. Suhaila, and Mahmood (2008), as well as Dittmar (2004) also used this ratio in their studies.

Formula: DTA = Total Debt / Book value of Assets.

3.5.3 Market Price per Share (MPS)

(MPS) Market price for each share considered as an independent variable which can be taken directly from company annual report for specific year, as the year end share

price.

3.8 Sample Size

In this paper secondary data is used and collected from annual report of the 08 out of 10 listed companies on Karachi Stock from official and relevant website.

Table2: 4.1 Descriptive Statistics

Table 4.1 shows the descriptive analysis of variables which is statistically includes minimum value, maximum value, means and standard deviation, while N representing total number of observations. As we know that mean shows the average value of total observation while standard deviation shows variation among data.

	N	Minimum	Maximum	Mean	Std. Deviation
debt to asset	80	.02	3.76	.4298	.45828
market to book	80	71.08	6399.77	2.3674E3	1574.39461
market price	80	28.35	4500.00	4.0766E2	809.09514
Valid N (list wise)	80				

The first variable is debt to asset, which is independent variable. The means is .4298; standard deviation is 45828 minimum values are.02and maximum value is3.76. The second variable is MTB and it is dependent variable which means is 2.3674E3, minimum value is 71.08, its maximum value is 6399.77 and standard deviation is 1574.39461. The third variable is **MPS** which is also independent and its means is 4.0766E2, standard deviation is 809.09514, minimum value is28.35 and maximum value is 4500.

Table 3: 4.2 Correlations:

The interdependency between two or more than two variables is called correlation. The correlation shows the directional relationship among variables. The direction may be negative or it's may be positive.

	Debt to asset	Market to book	Market price
Debt to asset	1		
Market to book	.188	1	
Market price	-.079	.317**	1

Table 4.2 shows the co-relation among dependent and independent variables. The analysis of data and result revealed that firm's growth and debt capacity is significantly and positively related. It shows that firm growth increase with the increasing of debt. The relationship between firm's growth and market price is negative. It shows that market price decrease firm growth will be increase.

4.3 Regression Analysis and Hypothesis Testing

The dependency of one variable (dependent variable) upon another variable (independent variable is known as regression. It shows the relationship between variables. Regressions which have one independent variable are called simple linear regression. In the same way, a regression containing two or over independent variables is known as multiple linear regression. In this study I used multiple linear regressions. The following table shows the regression result.

Table 4.3.1: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.382[a]	.146	.124	1473.63621

From the above table the result reveals that the value of R square is .146 which indicates the two independent variables that used in this study explained 14.6 variations in the dependent variable, which indicates other factor that influence firm growth which is not study in this paper is 85.4. Further study can be conducted to examine other factor which has impact on firm growth.

Table 4.3.2: Analysis of Variance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	2.861E7	2	1.430E7	6.586	.002[a]
	Residual	1.672E8	77	2171603.674		
	Total	1.958E8	79			

a. Predictors: (Constant), market price, debt to asset

b. Dependent Variable: market to book

ANOVA shows the overall model fitness. From the above table I conclude that the significance value .002 and F value is 6.586 which indicates that the model is statistically significant to predict the effect of debt to assets and market price per share on firm growth.

Table 4.3.3: Regression Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1786.067	246.103		7.257	.000
	debt to asset	736.469	362.921	.214	2.029	.046
	market price	.650	.206	.334	3.160	.002

$MTB = \beta o + \beta_1 (DTA) + \beta_2 MPS + \varepsilon.$

MTB=1786.067+736DTA+.650MPS

The above equation shows that an intercept value is 1786.067. It shows that if the

value of all independent variables are taken constant at 0 the firm growth will be1786.067. Where B1 value is 736 which indicates that if debt to asset change by 1 unit the firm growth will be change by 736 units if all other variable are held constant. Therefore the paper found the significant and direct relationship between growth of firm and debt capacity. This relationship is significant at 5% level of significance. In this study, the hypothesis which has been developed is accepted. Where B2 value is .650 which shows that if MPS increase by one unit and other predictor are constant the value of firm growth will be.650. The result is significant at 5% level of significant. In this study, the developed hypothesis is accepted.

5. Conclusion

This research paper is all about of debt capacity and their effect on firm growth. The finding of this study, I conclude and found that debt capacity is significantly and positively related with growth of firms in pharmaceutical sector selected companies listed at Karachi stock exchange and therefore the hypothesis which I developed in methodology is accepted. This study further shows that if a corporation debt level decreasing or increasing; there will be no inverse effect on the growth of firms. This study consists of three variables. Growth is considered as an dependent variable and market price per share as well as debt to asset ratio both are taken as independent variables. In this research, on yearly basis 10 years secondary data is used of selected companies. For data analysis descriptive statistics, correlation and Regression model is used. The study developed hypothesis that there is significant and positive relation among debt capacity and firm growth and my findings are supported by the analysis of Minjina (2008; Sercu & X.wu, 2001).

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