

Impact of Leverage on Risk of the Companies

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Abstract

In modern competitive business era, the ability to increase return of the firm is mostly depends on efficient use of leverage in the capital structure. Leverage can be defined as a long term debt financing that improves the permanent financial performance as well as the success of the organization. It also explained as the use borrowed funds to establish investment and return on that investment but it is more risky if they cannot be able to generate higher rate of return in compare with cost of capital. For this reason the determination of the proportion of debt and equity is one of the most essential decisions that the organization faces, and any variability in leverage can affect a company's financial capacity, risk, return, investment, strategic decision and the wealth maximization of organization.

Keywords: Impact; Leverage; Risk

Introduction

Every experienced organization knows when debt capital is more suitable for them and from which sources they should collect their debt funds. Every financial expert should consider some factors before they will use debt funds. First of all, the impact of using leverage to the sales revenue of the organization. If the debt financing increase, the sales revenue of the firm will increase that indicates the positive potential profitability of a company. In other sense, if the leverage drop off the sales revenue of the company that indicates the potential losses of a company. Secondly, the financial manager should consider that, the use of debt funds will increase the return or not. If the return of the firm will increase, the value of the firm will increase that indicates the wealth maximization of the company. The debt overhangs theory of Myers [1] predicts that higher leverage increases the probability of a firm for going positive NPV projects in the future, because in some states, the payoff from these investments to shareholder, after fulfilling debt obligations, is lower than the initial investment shareholders have to outlay. This under-investment reduces the growth option value of a firm. Thus, an increase in the leverage ratio can result in a lower stock price, all other factors equal. In a related study, Dimitrov and Jain [2] find a negative relation between the annual change in leverage and the current year and next-year stock returns. They also find a negative relation between the leverage change and future earnings and argue that a firm may increase its borrowing when the underlying performance is expected to deteriorate. They conclude that the leverage change contains value-relevant information about future stock returns. Thirdly, the major concern of the firm is market interest rate regarding loan or cost of capital of debt funds because there are inverse relationship between cost of capital and use of debt financing.

Generally firm prefer to use debt funds when the cost of capital is relatively low than rate of return. In other way, if the market interest rate of loan is greater than the rate of return of investment. The loss will occur for the firm that may create financial risk. The negative relation between the leverage change and the stock price may also be consistent with the argument that default risk is priced. An increase in a firm's leverage ratio may increase the firm's likelihood of default. If the default risk is priced, the stock reacts with an immediate price drop but has higher expected return in the future. The negative effect of the leverage change on stock prices is stronger for firms that have higher leverages, higher default risks, or face more financial constraints. These results suggest that an increase in leverage ratio has a more severe adverse effect on stock price for firms that are more likely to suffer

from debt overhang. Fourthly, the financial manager also considers the ability of firm to recover the losses of loan account. There is positive relationship between ability of firm to recover the loss and use of debt fund. Generally the firm have sufficient ability to recover the loss will use more debt fund in their capital structure. In other way, the firm have unable to recover the loss will get less debt fund from different sources. Fifthly, this is a huge attraction for debt financing. In most cases, the principal and interest payments on a business loan are classified as business expenses, and thus can be deducted from your business income taxes. Finally the firm consider overall external environment such as political situation, economic condition and social cultural tendency etc. before using debt financing for the organization.

Objectives of Study

The main objective of this study is to find out the impact of leverage on risk of companies' in Bangladesh. To attain this goal following objectives are required.

1. To find out the impact of leverage on risk.
2. To find out the relationship between leverage and risk.

Literature Review

Business expansion more or less heavily depends on borrowed money or leverage in present competitive world. Most of the people use debt to finance operations because it can increase the investment without increasing equity capital in the business. It helps both the investor and the organization to invest or operate their business activities. In this business world, the firm can use leverage to try to make wealth of shareholder, but if they can't do so, the interest expense and credit risk of default destroy shareholder value.

Previous concept regarding leverage, risk and return

Earlier studies have used several definitions for returns and

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leverage. Gahlon [3] said that returns as profits after tax and ratio of book value of equity to assets as an indicator for leverage. His results indicate that leverage has a negative relation with returns. Weston and Brigham told some of today’s businessmen and women that, “High fixed costs and low variable costs provide the greater percentage change in profits both upward and downward”. Arditti [4] describe returns as the geometric mean of returns. He finds a negative though insignificant relation between leverage and stock returns. Hamada [5] calculates returns as profits after taxes and interest which is the earnings the equity and preferred shareholders receive on their investment for the period. He tests the relationship in the cross section of all firms. He uses industry as a proxy for business risk since his sample lacks sufficient firms to yield statistically significant coefficients. Schultz and Shultz [6], said that, “Since a fixed expense is being compared to an amount which is a function of a fluctuating base (sales), profit-and-loss results will not bear a proportionate relationship to that base. These results in fact will be subject to magnification, the degree of which depends on the relative size of fixed costs vis-a-vis the potential range of sales volume. This entire subject is referred to as operating leverage”. Brigham says that, “If a high percentage of a firm’s costs are fixed, and hence do not decline when demand decreases, this increases. This factor is called operating leverage [7]. If a high percentage of a firm’s total costs are fixed, the firm is said to have a high degree of operating leverage. The degree of operating leverage (DOL) is defined as the percentage change in operating income (or EBIT) that results from a given percentage change in sales....In effect, the DOL is an index number which measures the effect of a change in sales [number of units] on operating income, or EBIT [7]. Cherry said that, “Operating leverage, then, refers to the magnified effect on operating earnings (EBIT) of any given change in sales....And the more important, proportionally, are fixed costs in the total cost structure, the more marked is the effect on EBIT”. Archer and D’Ambrosio [8] in their 1972 textbook said that, “The higher the proportion of fixed costs to total costs the higher the operating leverage of the firm...”

Buccino and McKinley [9] define operating leverage as the impact of a change in revenue on profit or cash flow. It arises, they say, whenever a firm can increase its revenues without a proportionate increase in operating expenses. Cash allocated to increasing revenue, such as marketing and business development expenditures, are quickly. “Consumed by high fixed expense” Bhandari [10] defines stock returns as inflation adjusted. He includes all firms including financial companies in his sample, whereas he excludes financial companies from his sample due to the lack of ambiguity of the treatment of leverage in financial companies. He conducts his tests in the cross section of all firms without assuming different risk classes, where as his conduct or tests for each risk class separately. In his study, he represents returns to shareholders as equity returns in excess of risk free for a period of one year.

Arditti [4] who finds a negative though insignificant relation between leverage and stock returns define leverage as the ratio of debt measured in book value to equity measured at market value. Baker [11] measures leverage as the ratio of equity to total assets for the leading firms in an industry over a one year period. He finds that at the industry level, leverage raises industry profit rates, more leverage implying greater risks. In his study he used book values of debt and equity in defining the capital structure [12]. Garrison [13] said that “Risks are usually defined by the adverse impact on profitability of several distinct sources of uncertainty. While the types and degree of risks an organization may be exposed to depend upon a number of factors such as its size, complexity business activities, volume etc. The

basic premise of leverage in investment portfolios is to borrow at a cost of capital lower than the return at which the capital can be reinvested. Corporations use financial leverage to create flexibility, maintain access to capital markets, and buy back equity, and ultimately create shareholder value. Strategies differ from company to company but are always closely aligned to management’s overall goals and objectives”.

Jie Cai [14] said that “Leverage is commonly described as the use of borrowed money to make an investment and return on that investment. It is more risky for a company to have a high ration of financial leverage. It has also been noticed that on the outcome of financial leverage: if the level or point of financial leverage is high, the more increase is anticipated profit on company’s equity. Thus, financial leverage is used in various circumstances as a means of altering the cash flow and financial position of a company. There are four positions which show a relationship with the level of financial leverage. First, is the relation of equity and debt, for instance, the rate of capital. Another is the influences on business production and cycle of financial leverage. Then the company’s industry and branch whole financial leverage level. And also the correlation between the current financial leverage ratio of the company and the middle leverage level. Lastly, the conformity of company’s mission and philosophy with the situation connected to the relation of financial leverage. The outcome of the financial leverage can also be utilized to boost income and growth however, it is much common for business industries in the phase of the young and teens. Financial leverage ratio is relative to variability of profit and contrary to stability. Company’s profits with high rate leverage level differ with the same condition as with the company’s profits with lesser leverage level”.

Hypothesis

H₀: There is a positive and significant relationship between leverage and risk (financial) of a company.

H₁: There is a negative relationship between leverage and risk (financial) of a company.

Here, from these analyses we see that, the calculated value of F crit value is (3.938111078) which is greater than Table 1 value of F (1.228686058).

Overall Decision: So the researchers accept out null hypothesis (Ho) That is – “There is a positive and significant relationship between leverage and risk (financial) of a company”.

Results of Regression Analysis

The results of regression equation based on seven independent variables (risk, sales revenue, share price, EBIT, EPS and EVA) indicate positive and significant relationship with return, the following multiple regression model was run using the Microsoft Excel 2010:

$$Y = \alpha + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \mu_i$$

Where,

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.25	1	0.25	1.228686058	0.270375676	3.938111078
Within Groups	19.94	98	0.203469388			
Total	20.19	99				

Table 1: ANOVA.

Item	Proposed Effect	Path Coefficient	Standard Error	t-value	Significance level
Constant = 0.2306					
H3=sales revenue	+	0.4700	0.2944	1.5963	0.1199**
H4=share price	+	0.1146	0.0711	1.6104	0.1168**
H5=EPS	+	-0.1117	0.0913	-1.2241	0.2296
H6=EBIT	+	0.4630	0.2587	1.7901	0.0826*
H7=EVA	+	-0.0711	0.1022	-0.6955	0.4916
R ² =0.8111 F= .856533959 Significance=8.47061E-08 N=50	Adjusted R ² =0.7195 Significance at 10% level of significance* Significance at 15% level of significance**				

Table 2: Results of Regression Analysis.

Y= Return (profit)

X1 = sales revenue

X3 = EPS

X5 = EVA

μ_i = error term

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ = regression coefficient

α = intercept

X2 = share price

X4 = EBITI

Table 2 represents the overall F statistic is statistically significant at the 8.47061E-08 level. The regression equation with R² = (0.8111) explains 81.11% variance in returns (profit) with adjusted R² of 71.95%.

Conclusion

Leverage magnifies the effect of change in Sales revenue, EBIT, EPS and Profit etc. of the firm. It mainly involves the effective utilization of debt fund obtained at a fixed cost in the hope of increasing the return to the shareholders in future. The leverage is employed by every company is intended to earn more return on the fixed charge funds than their cost. The greater revenue in compare with the expenses regarding debt financing will enhance the net income of the organization. In other way, the poorer returns in contrast with the expenses regarding leverage will reduce the net income of the company. This research activity found that there are positive impacts of leverage with Sales revenue, Earnings before Interests and Taxes and EPS (Earning Per Share) of the firm. This study illustrates that debt financing also increase share price of the firm which indicates positive profit earning ability as well as wealth maximization. This thesis paper explore that the leverage can able to enhance the Financial Risk of the firm which indicates recovery of loss in terms of loan is very difficult to the firm because in general there are limited sources of alternative funding and business insurance policy is not popular in Bangladesh. It also found that high interest rate and unethical political influence negatively manipulate the profitability of the firm. The Firms that used leverage have increase investment capacity as well as enjoy the tax exemption facility. This research also found that there are limited source of debt capital and cost of capital is relatively high for this reason most of the small firm cannot prefers to get debt. From this study it is clear that there are impacts of leverage on risk and return of companies' in Bangladesh.

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