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REVIEW OF CAPITAL STRUCTURE THEORIES

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ABSTRACT

Everything you need to know about the theories of capital structure. Capital structure theories seek to explain the relationship between capital structure decision and the market value of the firm. There are conflicting opinions regarding whether or not capital structure decision (or leverage or proportion of debt and equity) affects the value of the firm (or shareholder's wealth). The value of the firm depends on two basic factors i.e. the earnings of & the cost of capital.

KEYWORDS: *Capital Structure Theories, Cost of Capital, Shareholder's Wealth, Debt and Equity.*

Introduction

In order to understand the relationship between leverage, cost of capital & vale of firm, the following assumption are made:

- Only two source of funds i.e. equity & debt.
- Total Assets of a firm are given & there would be no change in the investment decision of firm.
- Entire Profit will be distributed, No Retained Earning.
- The Operating Profit of the firm are given & are not expected to grow.
- There is No corporate or Personal taxes.
- The business Risk Complexion of the firm is given & is constant & is not affected by the financing Mix.

Net Income Approach: Capital Structure Matters (David Durand)

This theory states that there is a relationship between Capital structure &the value of firm.

Assumption

- kd<ke & both are constant & inc. in financial leverage doesn't affect the risk perception of the investor.
- That the total Capital requirement of the firm is given & remain constant.
- NI approach suggest that higher the degree of leverage , better it is as the value of firm would be higher.

Conclusion

Easy to understand, simple & be realistic. But it ignore perhaps, the most important aspect of leverage that the market price depends upon the risk which varies in direct relation to the changing proportion of debt in the capital structure.

Value of firm = value of equity + value of debenture

It is interesting to note that the NI approach can also be graphically presented

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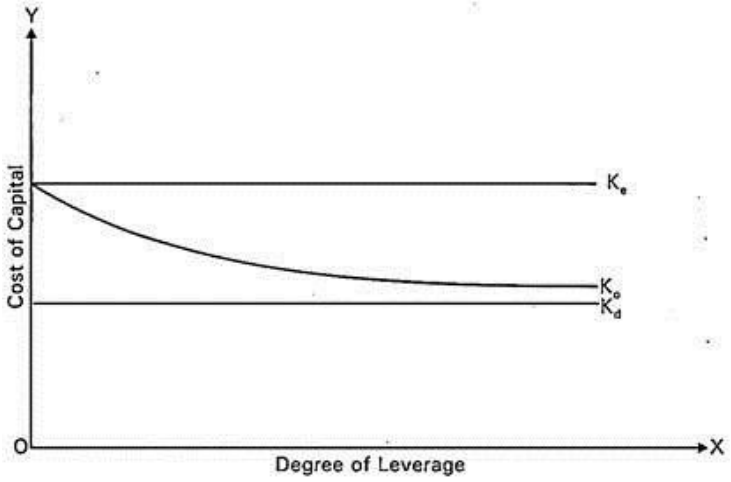

Fig. The effect of leverage on the cost of capital under NI Approach.

Net Operating Income Approac:

Capital structure doesn't matter. It is also known as independent hypothesis. According to this approach, the market value of the firm depends upon the Net Operating Profit or EBIT & the overall Cost of Capital, WACC. The financing mix or the capital structure is irrelevant & doesn't affect the value of the firm.

Assumption

- The Investor see the firm as a whole & thus Capitalizes the total earnings of the firm to find out the value of the firm as a whole.
- Ko Constant & business risk unchanged, kd also constant, No tax
- The use of more & more debt in the capital structure increased the risk of the shareholders & thus result in the increase the risk of the shareholders & thus result in the inc. in the cost of equity i.e. ke. The increase in ke is such as to completely off-set the benefits of employing cheaper debt.

The NOI Approach can be illustrated with the help of the following diagram

Under this approach, the most significant assumption is that the ko is constant irrespective of the degree of leverage. The segregation of debt and equity is not important here and the market capitalizes the value of the firm as a whole. Thus an increase in the use of apparently cheaper debt funds is offset exactly by the corresponding increase in the equity capitalization rate.

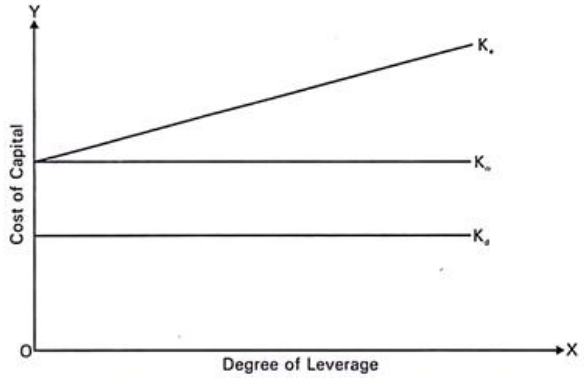

Fig. The effect of leverage on the cost of capital under NOI Approach.

So, the weighted average Cost of capital kw and kd remain unchanged for all degrees of leverage. Needless to mention here as the firm increases its degree of leverage it becomes more risky proposition and investors are to make some sacrifice by having a low P/E ratio .

Value of whole firm	**= EBIT/Ko**
E (value of equity)	**= Value of firm *Value of debt.**
Ke= EBIT-Interest	

V-D	

Thus the financing mix is irrelevant & doesn't affect the value of firm. The value remain ame for all types of D/E mix. The NOI approach considers Ko to be constant & therefore, there is no optimum capital structure is as good as any other& every Capital Structure is an optimal one.

So one capital structure is as good as any other. The same is also suggested by the risk return trade off principal that investors do not take on additional risk unless compensated with additional return. This means that using more debt by a company will not be ignored by the investors who will require a higher return on equity share capital to be compensated for the increased uncertainty stemming from the addition of the debt security in the capital structure.

Traditional Approach

The NI/NOI approach hold extreme views on the relationship between the leverage, cost of capital & the value of the firm. In practical situation , both these approach seen to be unrealistic. The traditional approach takes a compromising view between the two. **It takes a midway between NI/NOI**

As per this approach, a firm should make a judicious use of both the debt &the equity to achieve a capital structure which may be called the optimal capital structure. At this capital structure the overall cost of capital of firm will be minimum & the value of the firm maximum. The traditional views says that the value of the firm inc. with inc. in financial leverage but up to a certain limit only. Beyond this limit , the inc. in financial leverage will inc. its WACC also, & the value of the firm will decline.

Kd<Ke , the increase in leverage beyond a limit increase the risk of the equity investor also & as a result the Ke also start increasing . However, the benefits of use of debt may be so large that even after offsetting the effect of inc.in Ke, the Ko may still go down or become constant for some degree of leverage. If firm inc. the leveraged future, then the risk of the debt investor may also increases & consequently the Kd also start increasing. The already increasing Ke & now increasing Kd makes the Ko to increase. Therefore, the use of leverage beyond a point will have the effect of increase in the overall cost of capital of the firm & thus results in the decrease in value of the firm . However, the traditional approach is critized on the point that the value of the firm is a factor of its profitability rather than its financial mix.

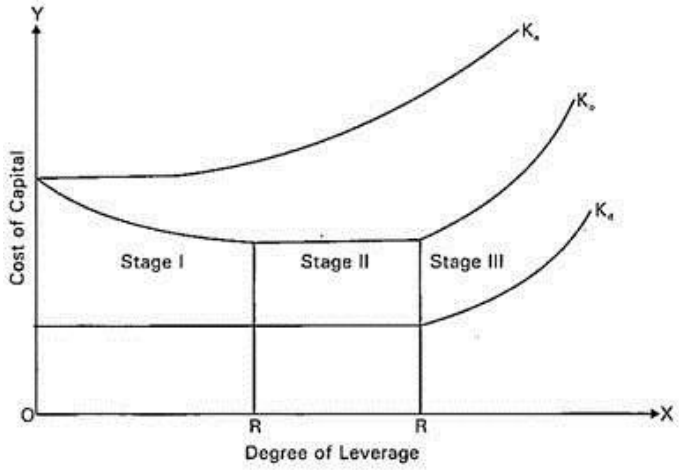

Fig. Traditional Approach.

Modigilani – Miller Model

MM Model which was presented in 1958 on the relationship between the leverage, cost of capital & the value of the firm. They have maintained that under a given set of assumptions, the capital structure & its composition has no effect on the value of the firm. MM model shows that the financial leverage doesn't matter & the cost of capital & value of firm are independent of the capital structure. There is nothing which may be called the optimal capital structure, they have infact restated the NOI approach & have added to it the behavioral justification for their model.

Assumption

- The capital market are perfect & complete information is available to all the investor free of cost. The implication of this assumption is that investor can borrow & lend funds at the same rate & can move quickly from one security to another without incurring any transaction cost.
- The securities are infinitely divisible.
- Investor are rational & well informed about the risk- return of all securities.
- There is no corporate income tax
- The Personal Leverage & the corporate leverage are perfect substitute.

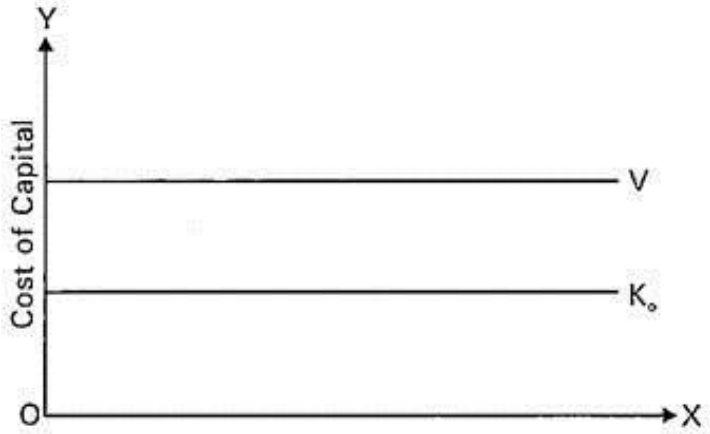

Fig. MM Approach.

On the basis of this assumption, the MM model derived that

- The total value of the firm is equal to the capitalized value of the operating earning of the firm. The capitalization is to be made at a rate appropriate to the risk class of the firm.
- The total value of the firm is independent of the financing mix i.e. the financial leverage.

Critical Evaluation of MM Model

- Non- substitutability of personal & corporate leverage.
- Different Borrowing Rates for the corporate & the individuals
- Leverage Capacity
- In real life, the assumption that all the investor have complete information, is also illusory.
- The MM is based on the assumption that there is non corporate tax. This is also realistic.

Other Points

Use of Leverage reduces the portion of EBIT going out as taxes. Due to tax benefit on interest. Interest is Tax-deduction in case of the Levered firm & the difference between the cost flow from levered firm & unlevered firm is known as Interest Tax Shield.

The value of levered & unlevered firm will differ only with respect to this interest tax shield which will be available to the investor of the levered firm perpetually (on the assumption of permanent levered capital structure). So the present value of the perpetuity of this interest tax shield is added to the value of the unlevered firm to find ot the value of the levered firm.

$$V_{unlevered} = \frac{EBIT(1-Tax)}{K_o}$$

VL = Vu + P.V. of Interest tax shield

Under NOI approach, Capital Mix is irrelevant & doesn't affect the value of firm, on the other hand,the value depends upon the EBIT & value may be found by Capitalising EBIT at the Capitalising rate. Therefore, any capital mixing as good as any other. MM provide a behavioral justification for the NOI approach through the arbitrage process. However, in later analysis, they have agreed that the value of the levered firm may be more than unlevered firm due to tax advantage of interest payment. The traditional approach takes a middle way & argues that leverage may increase the value of the firm but to a certain degree only & therefore a judicious se of D/E mix can help maximizing the value of the firm.

Mix Approach

- **Pecking Order Theory**

Proposed by Donaldson in 1961 suggest that the firm do not have any target capital structure. No capital structure is termed as optimal. As per pecking order theory, the internally, generate funds have the lower cost. while the new equity to the higher cost & middle in debt. The use of internal funds ensure that there is a regular source of funds which might be inline with a firm's expansion program me. & in order to built a reservoir of retained earnings, the firm may even skip or pay lesser dividends to equity shareholders.

Financial Distress

The increase in Debt thus increase the Profitability of financial Distress. It is a situation when a firm finds it difficult to honor its commitment to the creditors invested. Or it is a situation when the firm faces difficulty in paying interest & Principal repayments to the debt investors. financial distress arises when the fixed financial obligations of the firm affect the firm Normal operations.

Agency Cost

The debt investor generally impose conditions in the loan agreements. These conditions may be

- Representative Director on the BOD
- Debenture trustees
- Maintaining a minimum current ratio
- Intensive internal control
- Regular follow up & reporting etc.

All these entail considerable costs as well as may impair the operating efficiency of the firm. There is always a cost, through non-monetary of letting some outsiders in. this agency cost is agnation of leverage.

For lower degree of leverage this cost may be nil or neglible, but as the level of financial leverage. Increase the debt investors may emphasize extensive monitoring & have considerable costs.

The agency cost can appear in two ways real costs.

Demanding a higher rate of interest

The indirect cost of lost flexibility because the firm is not able to take certain projects. This cost will also include the conditions become more restrictive.

Conclusion

In designing the capital structure for any firm, the first major policy decision facing the firm is that of determining the appropriate level of debt. No such standard form of capital structure can be prescribed, which takes care of all types of firm & situations. The financing mix for a particular firm must be tailored made to sit the requirements, situations & the position of the firm. The operating efficiency of firm, the capital market condition, the expectations of different types of investors, the liquidity positions of the firm & the legal & regulatory framework & the constrains should all be factored in the evaluation of proposed capital structure.

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