The modigliani-miller proposition i theory (mm i)

1. Introduction

According to many research of corporation finance, the capital structure decision is one of the most fundamental issues facing to the executives and management level. The corporate finance is a specific area of finance dealing with the financial decisions corporations make and the tools as well as analysis used to make these decisions. The discipline as a whole may be divided among long-term and short-term decisions and techniques with the primary goal being maximizing corporate value while managing the firm's financial risks. Capital investment decisions are long-term choices that investment with equity or debt, and the short-term decisions deals with the balance of current assets and current liabilities which is managing cash, inventories, and short-term borrowing and lending. Corporate finance can be defined as the theory, process and techniques that corporations use to make the investing, financing and dividend decisions that ultimately contribute to maximizing corporate value. Thus, a corporation will first decide in which projects to invest, then it will figure out how to finance them, and finally, it will decide how much money, if any, to give back to the owners. All these three dimensions which are investing, financing and distributing dividends are interrelated and mutually dependent.

The capital structure of a company refers to a combination of debt, preferred stock, and common stock of finance that it uses to fund its long-term financing. Equity and debt capital are the two major sources of long-term funds for a firm. The theory of capital structure is closely related to the firm's cost of capital. As the enterprises to obtain funds need to pay some costs, the cost of capital in the investment activities is also the main consideration

of rate of return. The weighted average cost of capital (WACC) is the expected rate of return on the market value of all of the firm's securities. WACC depends on the mix of different securities in the capital structure; a change in the mix of different securities in the capital structure will cause a change in the WACC. Thus, there will be a mix of different securities in the capital structure at which WACC will be the least. The decision regarding the capital structure is based on the objective of achieving the maximization of shareholders wealth.

With regard to the capital structure of the theoretical basis, most well-known theory is Modigliani-Miller theorem of Franco Modigliani and Merton H. Miller (1958 and 1963). Yet the seeming simple question as to how firms should best finance their fixed assets remains a contentious issue.

2. Modigliani-Miller Proposition I

The Modigliani-Miller Proposition I Theory (MM I) states that under a certain market price process, in the absence of taxes, no transaction costs, no asymmetric information and in an perfect market, the cost of capital and the value of the firm are not affected by the changed in capital structure. The firm's value is determined by its real assets, not by the securities it issues. In other words, capital structure decisions are irrelevant as long as the firm's investment decisions are taken as given.

The Modigliani and Miller (1958) explained the theorem was originally proven under the assumption of no taxes. It is made up of two propositions that are (i) the overall cost of capital and the value of the firm are independent of the capital structure. The total market value of the firm is given by capitalizing

the expected net operating income by the rate appropriate for that risk class. (ii) The financial risk increase with more debt content in the capital structure. As a result, cost of equity increases in a manner to offset exactly the low cost advantage of debt. Hence, overall cost of capital remains the same.

The assumptions of the MM theory are:
1. There is a perfect capital market. Capital markets are perfect when

- investors are free to buy and sell securities
- investors can trade without restrictions and can borrow or lend funds on the same terms as the firms do
- investors behave rationally
- investors have an equal access to all relevant information
- capital markets are efficient
- no costs of financial distress and liquidation
- there are no taxes

2. Firms can be classified into homogeneous business risk classes. All the firms in the same risk class will have the same degree of financial risk.

3. All investors have the same view for the investment, profits and dividends in the future; they have the same expectation of a firm's net operating income.

4. The dividend payout ration is 100%, which means there are no retained earnings.

In the absence of tax world, base on MM Proposition I, the value of the firm is unaffected by its capital structure. In other words, regardless of whether a company has liabilities, the total risk of its securities holders will not change even the capital structure is changed. As the weighted average cost of capital unchanged, so must the same as the total value of the company. That is VL = VU = EBIT/ requity where VL is the value of a levered firm = price of buying a firm that is composed of some mix of debt and equity, VU is the value of an unlevered firm = price of buying a firm composed only of equity and EBIT is earnings before interest and tax. Whether or not the company has loans or the loans for high or low, investors are all accessible through the following two kinds of investment on their own to create the desired type of earning.

1. direct invested in the company's stock borrowing

2. if shares of levered firms are priced too high, investors will try to take advantage of borrowing on their own and use the money to buy shares in unlevered firms. The use of debt by the investors is known as homemade leverage.

The investors of homemade leverage can obtain the same return as the levered firms, therefore, for investors; the value of the firm is not affected by debt-equity mix.

The MM Proposition I assumptions are quite unrealistic, there have some implications, (i) Capital structure is irrelevant to shareholder wealth maximization. (ii) The value of the firm is determined by the firm's capital budgeting decisions. (iii) Increasing the extent to which a firm relies on debt

increases both the risk and the expected return to equity – but not the price per share. (iv) Milton Harris and Artur Raviv (1991) illustrated the asymmetric information that firm managers or insiders are assumed to possess private information about the characteristics of the firm's return stream or investment opportunities. They will know more about their companies' prospects, risks and values than do outside investors. Then it cannot fulfill the assumption of perfect market.

Based on the inadequate of MM Proposition I, Franco Modigliani and Merton H. Miller revised their theory in 1963, which is MM Proposition II.

3. Modigliani-Miller Proposition II

The Modigliani-Miller Proposition II Theory (MM II) defines cost of equity is a linear function of the firm's debt/equity-ratio. According to them, for any firm in a given risk class, the cost of equity is equal to the constant average cost of capital plus a premium for the financial risk, which is equal to debt/equity ratio times the spread between average cost and cost of debt. Also Modigliani and Miller (1963) recognized the importance of the existence of corporate taxes. Accordingly, they agreed that the value of the firm will increase or the cost of capital will decrease with the use of debt due to tax deductibility of interest charges. Thus, the value of corporation can be achieved by maximizing debt component in the capital structure. This theory of capital structure for the study provided an important and analytical framework. According to this approach, value of a firm is VL = VU = EBIT (1-T) / requity + TD where TD is tax savings. MM Proposition II is assuming that the tax shield effect of each is the same, and continued in sight. Leverage firms are increased in interest expense due to reduced tax liability, has also

increased the allocation to the shareholders and creditors of the cash flow. The above formula can be deduced from the company debt the more the greater the tax saving benefits, the greater the value of the company. The revised capital structure of the MM Proposition II, pointed out that the existence of tax shield in a perfect capital market conditions cannot be reached, in an imperfect financial market, the capital structure changes will affect the company's value. Therefore, the value and cost of capital of corporation with the capital structure changes in different leverage, the value of the levered firm will exceed the value of the unlevered firm.

MM Proposition theory suggests that the higher the debt ratio is more favorable to corporate, but though borrowing adds an interest tax shield it may lead to costs of financial distress. Financial distress occurs when promises to creditors are broken or honored with difficulty. Financial distress may lead to bankruptcy. The trade-off theory of capital structure theory in MM based on the added risk of bankruptcy and further improves the capital structure theory, to make it more practical significance.

3. 1 Trade-off Theory of capital structure

According to Myers (1984), a firm that follows the trade-off theory sets a target debt to value ratio and then gradually moves towards the target. The target is determined by balancing the tax benefits of using debt against costs of financial distress that rise at an increasing rate with the use of leverage. It so predicts moderate amount of debt as optimal. But there is evidence that the most profitable firm in an industry tend to borrow the least, while their probability of entering in financial distress seems to be very low. This fact contradicts the theory because if the distress risk is low, an

increase of debt has a favorable tax effect. Under the trade-off theory, high profits should mean more debt-servicing capacity and more taxable income to shield and therefore should result in a higher debt ratio.

3. 2 Pecking Order Theory of capital structure

The pecking order theory stems from Myers (1984) argues that adverse selection implies that retained earnings are better than debt and debt is better than equity. Firms prefer internal finance and if external finance is required, firms issue debt first and issue equity only as a last resort. The pecking order explains why the most profitable firms generally borrow less because they have low target debt ratios but they don't need outside money. As in Baskin (1989), asymmetric information affects capital structure by limiting access to outside finance. Managers know more than outside investors about the profitability and prospects of the firm. Information problems are particularly acute with common stock, announcement of stock issue can drive down the stock price.

4. Conclusion

The capital structure decision is one of the most fundamental issues in corporate finance. Regardless of which kind of capital structure, to achieve one of the most optimal capital structures, the company should be mixture of equity and debt and it cannot only focus on equity or debt. Equity is a cushion and debt is a sword, debt is always cheaper than equity, partly because lenders bear less risk and partly because of the tax advantage associated with debt. In general, there are differences in the capital structures of different industries; they are having their own characteristic. The most important thing is the company's liquidity is sufficient or not. In

making the decision of how to allocate the fund in which type of assets, the company has to consider and compare the different factors such as NPV, IRR and payback period. In evaluating the NPV, IRR and payback period, cash inflow is fund of the vital element. Therefore the company should know how to obtain the financing and how to invest it. They should carefully to allocate their resources to maximize the firm value.

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