MM CAPITAL STRUCTURE THEORY pdf

1: Capital Structure Theory - Modigliani Miller Proposition

Since the MM capital-structure irrelevance theory assumes no taxes, this benefit is not recognized, unlike the tradeoff theory of leverage, where taxes, and thus the tax benefit of interest.

All the firms in the same risk class will have the same degree of financial risk. 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. 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. 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, Capital structure is irrelevant to shareholder wealth maximization. Increasing the extent to which a firm relies on debt increases both the risk and the expected return to equity â€" but not the price per share. Also Modigliani and Miller 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. 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. 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. 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.

MM CAPITAL STRUCTURE THEORY pdf

2: Modigliani and Millar Theory of Capital Structure

Capital Structure Theory - Modigliani and Miller (MM) Approach Modigliani and Miller approach to capital theory, devised in the s advocates capital structure irrelevancy theory. This suggests that the valuation of a firm is irrelevant to the capital structure of a company.

Proposition of M-M Approach: The following propositions outline the MM argument about the relationship between cost of capital, capital structure and the total value of the firm: The cost of capital is equal to the capitalisation rate of equity stream of operating earnings for its class, and the market is determined by capitalizing its expected return at an appropriate rate of discount for its risk class. In short, increased Ke is offset exactly by the use of cheaper debt. Assumptions of M-M Approach: The MM proposition is based on the following assumptions: All the investors should have identical estimate about the future rate of earnings of each firm. That is, there will be no corporate tax effect although this was removed at a subsequent date. Interpretation of M-M Approach: The MM Hypothesis reveals that if more debt is included in the capital structure of a firm, the same will not increase its value as the benefits of cheaper debt capital are exactly set off by the corresponding increase in the cost of equity, although debt capital is less expensive than the equity capital. So, according to M-M, the total value of a firm is absolutely unaffected by the capital structure debit-equity mix when corporate tax is ignored. Proof of M-M Approach: MM has suggested an arbitrage mechanism in order to prove their argument. They argued that if two firms differ only in two points viz. As such, as soon as the firms will reach at the identical position, the average cost of capital and the value of the firm will be equal So, total value of the firm V and Average Cost of Capital Kw are independent. It can be explained with the help of the following illustration: Let there are two firms, viz. They are similar in all respects except in the composition of capital structure. The following particulars are presented below: This process will be continued till both the firms will have same market value. He will do the following: By this, his net income will be increased as under: Obviously, this net income of Rs. We have explained that the value of the levered firm cannot be higher than that of the unlevered firm other thing being equal due to the arbitrage process. We will now highlight the reverse direction of the arbitrage process. Consider the following illustration: Criticisms of the M-M Approach: There are some authorities who do not recognise such assumption as they are quite unrealistic, viz. We also know that most significant element in this approach is the arbitrage process forming the behavioural foundation of the M-M Hypothesis. As the imperfect market exist, the arbitrage process will be of no use and as such, the discrepancy will arise between the market value of the unlevered and levered firms. The followings are the shortcomings for which arbitrage process fails to bring the equilibrium condition. The arbitrage process is affected by the transaction cost. While buying securities, this cost is involved in the form of brokerage or commission etc. As such, the levered firm will enjoy a higher market value than the unlevered firm. The above proposition, that is, the firms and the individuals can borrow or lend at the same rate of interest, does not hold good in reality. Since a firm holds more assets and credit reputation in the open market in comparison with an individual, the former will always enjoy a better position than the later. As such, cost of borrowing will be higher in case of individual than the firm. As a result the market value of both the firms will not be equal. The arbitrage process is retarded by the institutional investor e. Unit Trust of India etc. For this purpose, both of them have a different footing in the capital market. If corporate taxes are considered which should be taken into consideration the M-M approach will be unable to discuss the relationship between the value of the firm and the financing decision. For example we know that interest charges are deducted from profit available for dividend i. In other words, the cost of borrowing funds is comparatively less than the contractual rate of interest which allows the firm regarding tax advantage. Ultimately, the benefit is being enjoyed by the equity holders and debt holders. According to some critics the arguments which were advocated by M-M, are not valid in the practical world. We know that cost of capital and the value of the firm are practically is the product of financial leverage. The M-M Hypothesis is valid if there is perfect market condition. But in the real world capital market, imperfection arises in the capital structure of a firm which affect the valuation. Because; presence of taxes

invites imperfection. We are, now, going to examine the effect of corporate taxes in the capital structure of a firm along with the M-M Hypothesis. We also know that when taxes are levied on income, debt financing is more advantageous as interest paid on debt is a tax-deductible item whereas retained earnings or dividend so paid on equity share are not tax deductible. In other words, the levered firm will have a higher value than the unlevered firm for this purpose, or, it can alternatively be stated that the value of the levered firm will exceed the unlevered firm by an amount equal to debt multiplied by the rate of tax. The same can be explained in the form of the following equation: Thus, a firm can lower its cost of capital continuously due to the tax deductibility of interest charges. So, a firm must use the maximum amount of leverage in order to attain the optimum capital structure although the experience that we realise is contrary to the opinion. Thus, due to the market imperfection, after tax cost of capital function will be U- shaped. In answer to this criticism, M-M suggested that the firm would adopt a target debt ratio so as not to violate the limits of level of debt imposed by creditors. This is an indirect way of stating that the cost of capital will increase sharply with leverage beyond some safe limit of debt. M-M Hypothesis with corporate taxes can better be presented with the help of the following diagram:

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3: Modigliani & Millerâ€™s Propositions in Finance (MM or M&M Theory)

The Modigliani-Miller theorem (of Franco Modigliani, Merton Miller) is an influential element of economic theory; it forms the basis for modern thinking on capital structure. The basic theorem states that in the absence of taxes, bankruptcy costs, agency costs, and asymmetric information, and in an efficient market, the value of a firm is.

It is synonymously used as financial leverage or financing mix. Capital structure is also referred as the degree of debts in the financing or capital of a business firm. Financial leverage is the extent to which a business firm employs borrowed money or debts. In financial management , it is a significant term and an important decision in a business. In the capital structure of a company, broadly, there are mainly two types of capital i. Out of the two, debt is considered a cheaper source of finance because the interest payments are a tax-deductible expense. Capital structure or financial leverage deals with a very important financial management question. The other question which hits the mind in the first place is whether a change in the financing mix would have any impact on the value of the firm or not. The question is a valid question as there are some theories which believe that financial mix has an impact on the value and others believe it to be not connected. How can financial leverage affect the value? One thing is sure that wherever and whatever way one sources the finance from, it cannot change the operating income levels. The reason is explained further. Changing the financing mix means changing the level of debts and change in levels of debt can impact the interest payable by that firm. The decrease in interest would increase the net income and thereby the EPS and it is a general belief that the increase in EPS leads to increase in the value of the firm. Apparently, under this view, financial leverage is a useful tool to increase value but, at the same time, nothing comes without a cost. Financial leverage increases the risk of bankruptcy. It is because higher the level of debt, higher would be the fixed obligation to honor the interest payments to the debts providers. Discussion of financial leverage has an obvious objective of finding an optimum capital structure leading to maximization of the value of the firm. If the cost of capital is high Important theories or approaches to financial leverage or capital structure or financing mix are as follows: Net Income Approach This approach was suggested by Durand and he was in the favor of financial leverage decision. According to him, change in financial leverage would lead to a change in the cost of capital. In short, if the ratio of debt in the capital structure increases, the weighted average cost of capital decreases and hence the value of the firm. It says that the weighted average cost of capital remains constant. It believes in the fact that the market analyses firm as a whole which discounts at a particular rate which is not related to debt-equity ratio. Traditional Approach This approach is not defined hard and fast facts but it says that cost of capital is a function of the capital structure. The special thing about this approach is that it believes an optimal capital structure. Optimal capital structure implies that at a particular ratio of debt and equity, the cost of capital is minimum and value of the firm is maximum. MM theory proposed two propositions. It says that the capital structure is irrelevant to the value of a firm. The value of two identical firms would be same and it would not be affected by the mode of finance adopted to finance the assets. The value of a firm is dependent on the expected future earnings. It says that the financial leverage boosts the expected earnings but it does not increase the value of the firm because the increase in earnings is compensated by the change in the required rate of return. To summarize, it is essential for finance professionals to know about the nitty-gritty of capital structure they have suggested to the management. Accurate analysis of capital structure can help a company save on the part of their cost of capital and hence improve profitability for the shareholders.

MM CAPITAL STRUCTURE THEORY pdf

4: Theories of Capital Structure (explained with examples) | Financial Management

Modigliani and Miller Approach (MM Approach) It is a capital structure theory named after Franco Modigliani and Merton Miller. MM theory proposed two propositions.

The theorem was basically proven under assumption of no taxes. It contains of two propositions which can be extended also to a situation with taxes. This foundation of theorem has an irrelevance proposition at its heart. It explains that this model provides conditions under which a firm financial decision does not affect its value. What we understand from the Modigliani- Miller theorem are the propositions which are comprised of four well-defined results. That is, under a certain market price process, without any taxes, agency costs, asymmetric information, and bankruptcy costs, and in an efficient market, the value of a firm is not affected by how that firm is financed Jenter, The third proposition states that a firm market value is independent of its dividend policy. We assume that the firm has only one sort of equity- ordinary shares or common stock- and if any debt is incurred, it is in the form of marketable bonds. The equity holders are residual claimants in the sense that they have to dispose of such revenue as remains once the contractual obligations have been met Amaro De Matos, If the firm becomes bankrupt, it defaults on its debt obligations: That is, bankruptcy includes a transfer of the whole of the value of the firm to its bond holders. Starting from a low level of debt, say zero, and the firm could reduce its cost of capital while increasing its market value, by issuing debt in exchange for some of its equity because equity is risky and its payment varies with the fortunes of the firm, while the debt is not and the firm promises to make payments of its contractual obligation no matter what is its earnings. In addition, if the level of debt is low, the probability that the firm will be unable to meet its debt obligations can be neglected. As more debt is substituted for equity, however, the possibility of bankruptcy is not negligible so that eventually the benefits of leverage equity plus debt dissolve and further substitutions of debt for equity increase the cost of capital. For MM proposition 1 we consider only two forms of financial instruments: The value of a firm is defined as: To achieve MM proposition 1, we make assumptions: Proof of the MM proposition 1 Suppose we have two firms, firm 1 and firm 2, both of their earnings is described by the same random variable X. If an investor owns fraction Alfa of the equity of firm 2, then this portfolio gives returns Alfa X- B2 r. Thus the investor has been able to get higher returns at the same cost. So, leverage lowers tax payments. Dividend pay off are not deductable. Less clear, however, is the empirical significance of the MM value invariance proposition 1 in its original sphere of corporation finance Miller, No tax scenario A second MM theorem, MM 2, explains that, under certain conditions, a firm cost of equity capital is a linear function of its debt to equity ratio in the form: A higher debt to equity ratio tends to a higher required return on equity; the reason is that the higher risk will be involved for equity holders in a firm with debt. The formula is obtained from the theory of WACC weighted average cost of capital. Proposition 2 with risky debt. However, the theorem is still studied and taught, it tells us something important and that is, capital structure matters because one or more of the assumption is violated. The theorem tells where to look for making a decision of optimal capital structure and how optimal capital structure will be affected by those assumptions. Further more, if tax rates are none-zero, different across sources of investment income, and the same for all investors, then the value of a firm is directed by its debt to equity ratio and the MM theorems fail in the presence of taxes. Nevertheless, with no additional assumptions, the maximization of market values of firms means that the firms will be financed only by debt or equity. The formula is like MM proposition 2, but here Tc is the tax rate. The same relationship as mentioned above stating that the cost of equity rises with leverage. The formula has implications for the difference with the weighted average cost of capital WACC. The following assumptions should be concerned in the propositions with taxes: Others might plan to re-invest their return in the firm, and prefer to aggregate capital gains or dividends paid in the form of additional shares. Of course, firms that pay high cash dividends tend to be owned by investors who wish to receive their return in the form of friction described. The ownership of the firm will be influenced but not essentially its market value. It is possible that people who make a decision within a firm believe that it is their advantage to claim that dividend policy influences the value of the firm. It is possible that the financial decisions are correlated with other

events that affect stock market values even if financial decision do not. However, we must admit that evidence against the forethoughts of the MM theorems is true. If the evidence is admitted, the theorems can hold much of their relevance by identifying why, and under what circumstances, the financial policy of firms affects their market values. Financial policies take many forms that the core attention is on leverage decisions or the choice of debt to equity ratio, and dividend payments. While it is widely accepted that financial decisions of firms are affected by the tax system, the Modigliani- Miller theorems can survive under some conditions. Although, it is believed that the forecasting of Modigliani- Miller theorems are inconsistent with empirical evidence, but the theorems have been influential to study of corporate finance. Theoretical foundations of corporate finance. The Modigliani- Miller propositions after thirty years.

MM CAPITAL STRUCTURE THEORY pdf

5: Modiglianiâ€“Miller theorem - Wikipedia

The Modigliani - Miller Hypothesis is identical with the net operating income approach, Modigliani and Miller (M.M) argue that, in the absence of taxes, a firm's market value and the cost of capital remain invariant to the capital structure changes.

That is unfortunate, because the Modigliani-Miller capital structure irrelevancy proposition when inverted provides a simple, but powerful framework that can be extremely useful to legal academics, practicing attorneys, and judges. Sixty years ago, the field of finance lacked mathematical precision and conceptual rigor, relying heavily on anecdotes and rules of thumb. With their article, MM, as both the pair of authors and their joint articles are referred to by economists, directly challenged conventional thinking by arguing that under certain idealized assumptions capital structure had no impact on firm value. Ultimately, however, after debate, economists concluded that the argument was theoretically correct. Nonetheless, most practicing finance professionals ignored MM because their assumptions were so inaccurate as to render the conclusion irrelevant. Academic economists, however, focused not on the MM result, but on their method of argumentation. MM introduced arbitrage, which is today the cornerstone of finance, into financial economics. Economists, however, were not finished studying capital structure. And when they returned, they recognized that the MM theorem provided the key: If capital structure affects value, it must operate through the MM assumptions. This reverse MM theorem holds that capital structure can affect firm value only through information, market frictions, taxes, or the allocation of assets with consumption elements. The reverse MM theorem provides a powerful framework to examine and evaluate capital structure decisions, which can be useful to lawyers as well as financial economists. The first and most obvious group of lawyers who can use the reverse MM theorem are academics who study transactional structures. Because the reverse MM theorem provides a complete list of ways in which capital structure can affect value, it provides legal scholars with a roadmap, whether they seek to explain or criticize existing capital structures or recommend new structures. Although not as immediately evident, the theorem is also useful to practicing lawyers. For nearly a century, transactional lawyers have been trained through the Cravath method, a form of apprenticeship whereby a junior associate would start by working on a small piece of a transaction under the supervision of a more senior associate. As the lawyer progressed, he would take responsibility for successively larger portions of the transaction. The rationale for the Cravath method was that transactional lawyering had to be learned through experience. Roughly 30 years ago, Ronald Gilson challenged that view and suggested that important aspects of the professional education of transactional lawyers could be taught in the classroom. Gilson recognized that lawyers face the same types of fundamentally economic problems, such as dealing with incentives and imperfect information, over and over again. Although these economics-based problems arise in different situations and present themselves in different forms, ultimately there are only a small number of basic economic concepts that underlie the core of the work that transactional lawyers spend the vast majority of their time addressing. Gilson further believed that lawyers would benefit from studying these basic economic concepts. Gilson then put that thought into practice by teaming with two Columbia University colleagues, Victor Goldberg and Daniel Raff, and offering the first Deals course at the Columbia law and business schools. After Raff left Columbia for the University of Pennsylvania and recruited me to teach Deals with him, Raff and I began using the reverse MM theorem to organize the ideas presented in our Deals course. Because the MM assumptions span the ways transactional structures can affect the total value of a firm and partition those ways into silos , the reverse MM theorem ensures that the full range of ways in which structure can affect value are at least introduced and covered at a high level of generality , even though not all of the ways can be explored at length. There are also benefits to lawyers from learning the reverse MM theorem. Lawyers and other transaction professionals structure and execute transactions. Each step of the way, they make choices. These choices involve tradeoffs, which operate within and across the MM assumptions. The reverse MM theorem makes those tradeoffs explicit. A lawyer who knows the reverse MM theorem and is familiar with the main ideas in each silo is better able to understand the issues driving a transaction. In

addition, she can more quickly acquire knowledge, because she is building out a framework using the reverse MM theorem as a skeleton , and she is better able to retain knowledge because she can store it systematically, not just as a series of one-off examples. Such a lawyer can also more readily recall and employ her knowledge. She can focus her search among solutions to structurally similar problems across various practice areas rather than gravitating towards what has been done before in the same practice area. Finally, one area where, to the best of my knowledge, reverse MM theorem has yet to be explicitly applied is in the court room. The reverse MM theorem can assist courts in drafting common law rules and is, thus, another tool litigators can employ. There is a broad range of issues, including prejudgment interest and ex-ante versus ex-post damage awards, that involve choosing among multiple remedies that could in principle compensate a successful plaintiff. The reverse MM theorem provides an economic approach to resolving these issues efficiently. If the reverse MM theorem is such a powerful tool for lawyers, why has it been overlooked for so long? Fennell and McAdams argue that some of the most well-known ideas in law, such as the Coase theorem, are commonly understood in their original form, in which they yield negative or impossible results. According to Fennell and McAdams, the many such theorems are better understood in their inverted form, which takes the focus off of the negative or impossible result and puts the focus on the assumptions. Fennell and McAdams find that reverse or inverted theorems are very uncommon in the law. If the MM theorem in its original form is accurate, then lawyers are just transaction costs and add no value for their clients. That is not a theorem that lawyers or legal academics are likely to embrace. Lawyers, however, need to embrace the MM theorem in its inverted form. It is a powerful tool that will help legal academics, practicing lawyers, and judges all perform their work better. McAdams, Inverted Theories, August 11, working paper, available at https: Gilson, Value Creation by Business Lawyers:

6: Assumptions of the Modigliani-Miller Theorem | www.enganchecubano.com

Modigliani and Millar Theory of Capital Structure The effective proportion of debt acquired by a firm is not fixed by any general rule. Debt is a delicate matter for any company, therefore there is a model presented by two professors, which give the guidance in the composition of the capital structure of a company.

From their analysis, they developed the capital-structure irrelevance proposition. Essentially, they hypothesized that in perfect markets, it does not matter what capital structure a company uses to finance its operations. They theorized that the market value of a firm is determined by its earning power and by the risk of its underlying assets, and that its value is independent of the way it chooses to finance its investments or distribute dividends. For example, no matter how the firm borrows, there will be no tax benefit from interest payments and thus no changes or benefits to the WACC. In additional papers, Modigliani and Miller included both the effect of taxes and bankruptcy costs. Paying dividends on equity, however, does not. Thought of another way, the actual rate of interest companies pay on the bonds they issue is less than the nominal rate of interest because of the tax savings. Studies suggest, however, that most companies have less leverage than this theory would suggest is optimal. In comparing the two theories, the main difference between them is the potential benefit from debt in a capital structure, which comes from the tax benefit of the interest payments. Since the MM capital-structure irrelevance theory assumes no taxes, this benefit is not recognized, unlike the tradeoff theory of leverage, where taxes, and thus the tax benefit of interest payments, are recognized. MM II with corporate taxes acknowledges the corporate tax savings from the interest tax deduction and thus concludes that changes in the debt-equity ratio do affect WACC. Capital Structure Theory â€" Modigliani and Miller MM Approach Modigliani and Miller approach to capital theory, devised in the s advocates capital structure irrelevancy theory. This suggests that the valuation of a firm is irrelevant to the capital structure of a company. Whether a firm is highly leveraged or has lower debt component, it has no bearing on its market value. Rather, the market value of a firm is dependent on the operating profits of the company. The capital structure of a company is the way a company finances its assets. A company can finance its operations by either debt or equity or different combinations of these two sources. The capital structure of a company can have a majority of debt component or majority of equity, only one of the 2 components or an equal mix of both debt and equity. Each approach has its own set of advantages and disadvantages. One such approach is the Modigliani and Miller Approach. Modigliani and Miller advocate capital structure irrelevancy theory. Whether a firm is highly leveraged or has lower debt component in the financing mix, it has no bearing on the value of a firm. Modigliani and Miller Approach further states that the market value of a firm is affected by its future growth prospect apart from the risk involved in the investment. The theory stated that value of the firm is not dependent on the choice of capital structure or financing decision of the firm. If a company has high growth prospect, its market value is higher and hence its stock prices would be high. If investors do not see attractive growth prospects in a firm, the market value of that firm would not be that great. This means that an investor will have access to same information that a corporate would and investors would behave rationally. Modigliani and Miller Approach indicates that value of a leveraged firm a firm which has a mix of debt and equity is the same as the value of an unleveraged firm a firm which is wholly financed by equity if the operating profits and future prospects are same. That is, if an investor purchases shares of a leveraged firm, it would cost him the same as buying the shares of an unleveraged firm. Modigliani and Miller Approach: Two Propositions without Taxes Proposition 1: In other words, leveraging the company does not increase the market value of the company. It also suggests that debt holders in the company and equity shareholders have the same priority i. It says that financial leverage is in direct proportion to the cost of equity. With an increase in debt component, the equity shareholders perceive a higher risk to for the company. Hence, in return, the shareholders expect a higher return, thereby increasing the cost of equity. A key distinction here is that proposition 2 assumes that debt-shareholders have upper-hand as far as the claim on earnings is concerned. Thus, the cost of debt reduces. But in the real world, this is far from the truth. Most countries, if not all, tax a company. This theory recognizes the tax benefits accrued by interest payments. The interest paid on borrowed

funds is tax deductible. However, the same is not the case with dividends paid on equity. To put it in other words, the actual cost of debt is less than the nominal cost of debt because of tax benefits. The trade-off theory advocates that a company can capitalize its requirements with debts as long as the cost of distress i. Thus, the increased debts, until a given threshold value will add value to a company. This approach with corporate taxes does acknowledge tax savings and thus infers that a change in debt equity ratio has an effect on WACC Weighted Average Cost of Capital. This means higher the debt, lower is the WACC. Development of the theory of capital structure, beginning with the capital structure theory of Miller and Modigliani: Investors have homogeneous expectations regarding future cash flows. Bonds and stocks trade in perfect markets. Investors can borrow and lend at the same rate. There are no agency costs. Investment and financing decisions are independent of one another. Proposition I without Taxes: There is no benefit to borrowing at the firm level because there is no interest deductibility. Firms would be indifferent to the source of capital and investors could use financial leverage if they wish. There is an optimal capital structure at which the value of the firm is maximized and the cost of capital is minimized.

MM CAPITAL STRUCTURE THEORY pdf

7: Modigliani Millar Approach | TutorsOnNet

Capital Structure Theories - C) Modigliani - Miller Model (MM) MM approach supports the NOI approach, i.e. the capital structure (debt-equity mix) has no effect on value of a firm. Further, the MM model adds a behavioural justification in favour of the NOI approach (personal leverage) Assumptions - o Capital markets are perfect and.

Modigliani and Miller advocate capital structure irrelevancy theory. This suggests that the valuation of a firm is irrelevant to the capital structure of a company. Whether a firm is highly leveraged or has lower debt component in the financing mix, it has no bearing on the value of a firm. Modigliani and Miller Approach further states that the market value of a firm is affected by its operating income apart from the risk involved in the investment. The theory stated that the value of the firm is not dependent on the choice of capital structure or financing decision of the firm. Assumptions of Modigliani and Miller Approach There are no taxes. Transaction cost for buying and selling securities as well as bankruptcy cost is nil. There is a symmetry of information. This means that an investor will have access to the same information that a corporation would and investors would behave rationally. The cost of borrowing is the same for investors as well as companies. There is no floatation cost like underwriting commission, payment to merchant bankers, advertisement expenses, etc. There is no corporate dividend tax. Modigliani and Miller Approach indicates that value of a leveraged firm a firm which has a mix of debt and equity is the same as the value of an unleveraged firm a firm which is wholly financed by equity if the operating profits and future prospects are same. That is, if an investor purchases shares of a leveraged firm, it would cost him the same as buying the shares of an unleveraged firm. Modigliani and Miller Approach: In other words, leveraging the company does not increase the market value of the company. It also suggests that debt holders in the company and equity shareholders have the same priority i. Proposition 2 It says that financial leverage is in direct proportion to the cost of equity. With an increase in debt component, the equity shareholders perceive a higher risk to for the company. Hence, in return, the shareholders expect a higher return, thereby increasing the cost of equity. A key distinction here is that proposition 2 assumes that debt-shareholders have upper-hand as far as the claim on earnings is concerned. Thus, the cost of debt reduces. But in the real world, this is far from the truth. Most countries, if not all, tax a company. This theory recognizes the tax benefits accrued by interest payments. The interest paid on borrowed funds is tax deductible. However, the same is not the case with dividends paid on equity. To put it in other words, the actual cost of debt is less than the nominal cost of debt because of tax benefits. The trade-off theory advocates that a company can capitalize its requirements with debts as long as the cost of distress i. Thus, the increased debts, until a given threshold value will add value to a company. This approach with corporate taxes does acknowledge tax savings and thus infers that a change in debt-equity ratio has an effect on WACC Weighted Average Cost of Capital. This means higher the debt, lower is the WACC.

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8: The Modigliani and Miller-Capital Structure of Corporations | masoud noordeh - www.enganchecubano.c

Modigliani-Miller' (MM) advocated that the relationship between the cost of capital, capital structure and the valuation of the firm should be explained by NOI (Net Operating Income Approach) by making an attack on the Traditional Approach.

Total Risk of a Company: Total risk faced by a company is composed of two types which are as follows. The risk of a company related to its assets and operations except debt is called business risk. It covers both the diversifiable company-specific and non-diversifiable market risks. The basic reasons of increase in the business risk of a company are the fluctuations and uncertainty in the costs and prices. This in turn results in the higher operating leverage. When a company takes debt its shareholders bear some additional risk, which is called financial risk. It is purely related to debt and as the debt increases the financial risk also increases. Higher the financial risk of a company is the higher would be the required ROR of its shareholders. Operating leverage OL is considered to be the effect of a small change in sales on the return on equity ROE. It means that if the sales of a company fall little, its ROE would fall to a great extent provided the sales less than the breakeven point. Numerically it is given as the ratio of fixed costs to the total costs. Modigliani and Millar Theory of Capital Structure The effective proportion of debt acquired by a firm is not fixed by any general rule. Debt is a delicate matter for any company, therefore there is a model presented by two professors, which give the guidance in the composition of the capital structure of a company. It is published in the form of article in June in the American Economic Review. Assumptions of the Theory: It is clear that the proportion of debt in the capital structure is not certain for a company and on the basis of certain factors this ratio changes from one company to another. There are no taxes to be charged. There are no costs associated with the bankruptcy. The markets are efficient. All the investors have equal information. Conclusion In the light of the above assumptions, the theory concluded the following generalizations. The capital structure of a company is irrelevant to its value. Capital Budgeting decisions are not affected by capital structure of the firm. It means that the decisions of the investments are made without taking into account the capital structure of the company. Therefore, certain modifications had been made in the theory in order to make it practical. Some of these changes were made by Modigliani and Millar themselves while the rest were applied by other economists. M-M Model Corporate Taxes: So the company should favor debt for their capital structure. M-M Model Personal Taxes: The investors bear higher personal income tax on their interest payments on bonds as compared to the personal income tax on dividend payments in most of the countries. The effects of the taxes are different on optimal capital structure from both perspectives. Therefore the net effect is difficult to measure, but practically the effect of corporate tax is stronger. So, the companies should favor debt for their capital structure. Modigliani and Millar Theory with Reference to Cost of Bankruptcy The pure M-M model has another unrealistic assumption related to the cost of bankruptcy. There are many difficulties in the way of companies in the modern world regarding the cash shortfall, an increase in the interest rates, loss in the operations, and dominance of operating cash outflows over cash inflows etc. All of these problems can lead a company towards bankruptcy. A company is said to be bankrupt when it is compelled to close down permanently as a result of the reasons like nonpayment of regular interest on debt and continuous loss etc. A company does not die free of cost; there must be a number of costs attached to it. Following are some of the costs incurred in the whole process of bankruptcy of a company. Fee given to the lawyers Fee given to accountants Legally protected penalties of the partner firms Bearing of loss by selling the assets of salvage value. A company bears certain costs even as a result of the spreading rumors about its bankruptcy. These costs are in the shape of problems that are faced by the company in carrying out its operations successfully. Examples of these problems are the Enhancement of interest rates by bank, refusal of supplier in giving raw material on credit, cancellations of purchase orders by customers. The highly excessive leveraged companies have more chances to become bankrupt because the liability of the interest payments increases on the basis of large debts. Moreover, certain companies are more likely to become bankrupt like. Company that does not keep liquid asset. Company that has a fluctuating EBIT. This theory is best explained with the help of an example illustrated by a graph. Now, as the proportion of debt increase in its capital structure, the value of the

company changed. The following graph shows the clear picture. Capital Structure Tradeoff Theory: It means that its value of stock is not affected by the financial leverage. Now consider another case of the leveraged company that gradually increases the proportion of debt in its capital structure. When the proportion of debt is added in the capital structure, initially the value of the company increases because the total return enhances. This point is most suitable for the company as it has the maximum value and minimum Weighted Average Cost of Capital for its capital structure. On further increase in the debt, the value of the company starts decreasing while the WACC gradually increases. The result is in the shape of an increase in the interest rates, loss of purchase orders and credit facility and the threat of bankruptcy. In other words the confidence of the investors declines upon the stock value of the company which pushes the company towards bankruptcy. The threats of bankruptcy equalize the previous benefits of debt and the price of the stock falls. The tradeoff between the advantages and disadvantages of debt provides the base for the decision of the proportion of debt in the capital structure. Trade-off theory gives the range about the optimal Capital Structure for a company. It does not indicate the exact proportion of debt that should be maintained in the capital structure for the success of the company. The range where the company has the highest value along with the lowest WACC is the optimal capital structure proportion of debt. The Signaling Theory takes into account the practical fact that all investors are not rational. The features of this theory are as follows. There are certain investors who have more knowledge about the company than others. When the company is in healthy condition and it has potential cash flows in the future, then the managers of the company prefer to raise money through debt. As the managers clearly know that the company prospers in the future, so they do not want to share the high profits with new people. Instead, they acquire debt and pay certain interest payments that are relatively less than the expected profit ratio. When the conditions of the company are unhealthy then the managers wish to raise capital through equity. In this way they actually share the future losses with the new people. On the other hand, if they acquire debt, then they will have to pay certain interest payments to debt holders and this will increase the chances of the bankruptcy of the company. In the practical world, the companies should keep the debt ratio less than the optimal capital structure of the tradeoff theory. In other words the company should keep some spare capacity of debt ratio so that in near future if any, good opportunity of investment comes in front of it, it can catch it by acquiring debt. There are three advantages in this regard. The managers do not want to share the high profit with the new shareholders. The managers spread the good signals to the investors in the market about the health of the company. Another advantage of debt financing is that the managers do not waste money on extra expenses. Instead, there cash is effectively handled. If the company raises money through equity, then it spreads the bad news in the market about the future health of the company. Resultantly they lose confidence on the stock of the company and sell the stock, which will decrease the demand and hence the price of the stock will also decrease.

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9: Capital structure - Wikipedia

The Modigliani-Miller theorem states that a firm's value is based on its ability to earn revenue plus the risk of its underlying assets. Discover capital structure theory as it relates to.

The following points will highlight the top four theories of capital structure. Capital Structure Theory 1. Net Income NI Approach: According to NI approach a firm may increase the total value of the firm by lowering its cost of capital. When cost of capital is lowest and the value of the firm is greatest, we call it the optimum capital structure for the firm and, at this point, the market price per share is maximised. The same is possible continuously by lowering its cost of capital by the use of debt capital. In other words, using more debt capital with a corresponding reduction in cost of capital, the value of the firm will increase. The same is possible only when: Since the amount of debt in the capital structure increases, weighted average cost of capital decreases which leads to increase the total value of the firm. So, the increased amount of debt with constant amount of cost of equity and cost of debt will highlight the earnings of the shareholders. Calculate the cost of capital and the value of the firm for each of the following alternative leverage after applying the NI approach. From the above table it is quite clear that the value of the firm V will be increased if there is a proportionate increase in debt capital but there will be a reduction in overall cost of capital. It is interesting to note the NI approach can also be graphically presented as under with the help of the above illustration: It reveals that when the cheaper debt capital in the capital structure is proportionately increased, the weighted average cost of capital, Kw, decreases and consequently the cost of debt is Kd. Thus, it is needless to say that the optimal capital structure is the minimum cost of capital if financial leverage is one; in other words, the maximum application of debt capital. The value of the firm V will also be the maximum at this point. Capital Structure Theory 2. Thus, the value of the firm, V, is ascertained at overall cost of capital Kw: Under this approach, the most significant assumption is that the Kw is constant irrespective of the degree of leverage. The segregation of debt and equity is not important here and the market capitalises 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- capitalisation rate. So, the weighted average Cost of Capital Kw and Kd remain unchanged for all degrees of leverage. Thus, if the cheaper debt capital is used, that will be offset by the increase in the total cost of equity Ke, and, as such, both Ke and Kd remain unchanged for all degrees of leverage, i. Capital Structure Theory 3. It is accepted by all that the judicious use of debt will increase the value of the firm and reduce the cost of capital. So, the optimum capital structure is the point at which the value of the firm is highest and the cost of capital is at its lowest point. The traditional approach explains that up to a certain point, debt-equity mix will cause the market value of the firm to rise and the cost of capital to decline. But after attaining the optimum level, any additional debt will cause to decrease the market value and to increase the cost of capital. In other words, after attaining the optimum level, any additional debt taken will offset the use of cheaper debt capital since the average cost of capital will increase along with a corresponding increase in the average cost of debt capital. Thus, the basic proposition of this approach are: The traditional approach can graphically be represented under taking the data from the previous illustration: It is found from the above that the average cost curve is U-shaped. If we draw a perpendicular to the X-axis, the same will indicate the optimum capital structure for the firm. Thus, the traditional position implies that the cost of capital is not independent of the capital structure of the firm and that there is an optimal capital structure. At that optimal structure, the marginal real cost of debt explicit and implicit is the same as the marginal real cost of equity in equilibrium. For degree of leverage before that point, the marginal real cost of debt is less than that of equity beyond that point the marginal real cost of debt exceeds that of equity. Calculate the cost of capital and the value of the firm under each of the following alternative degrees of leverage and comment on them: Hence, optimum capital structure in this case is considered as Equity Capital Rs. Variations on the Traditional Theory: Thus, there are some distinct variations in this theory. Some followers of the traditional school of thought suggest that Ke does not practically rise till some critical conditions arise. Only after attaining that level the investors apprehend the increasing financial risk and penalise the market price of the shares. This variation expresses that a firm can

have lower cost of capital with the initial use of leverage significantly. This variation in Traditional Approach is depicted as: It explains that optimum capital structure has a range where the cost of capital is rather minimised and where the total value of the firm is maximised. So, this approach grants some sort of variation in the optimal capital structure for various firms under debt-equity mix. Such variation can be depicted in the form of graphical representation: Capital Structure Theory 4. The Net Operating Income Approach, supplies proper justification for the irrelevance of the capital structure. In Income Approach, supplies proper justification for the irrelevance of the capital structure. In this context, MM support the NOI approach on the principle that the cost of capital is not dependent on the degree of leverage irrespective of the debt-equity mix. In the words, according to their thesis, the total market value of the firm and the cost of capital are independent of the capital structure. They advocated that the weighted average cost of capital does not make any change with a proportionate change in debt-equity mix in the total capital structure of the firm. The same can be shown with the help of the following diagram: The following propositions outline the MM argument about the relationship between cost of capital, capital structure and the total value of the firm: The cost of capital is equal to the capitalisation rate of equity stream of operating earnings for its class, and the market is determined by capitalising its expected return at an appropriate rate of discount for its risk class. In short, increased Ke is offset exactly by the use of cheaper debt. The MM proposition is based on the following assumptions: All the investors should have identical estimate about the future rate of earnings of each firm. That is, there will be no corporate tax effect although this was removed at a subsequent date. Interpretation of MM Hypothesis: The MM Hypothesis reveals that if more debt is included in the capital structure of a firm, the same will not increase its value as the benefits of cheaper debt capital are exactly set-off by the corresponding increase in the cost of equity, although debt capital is less expensive than the equity capital. So, according to MM, the total value of a firm is absolutely unaffected by the capital structure debt-equity mix when corporate tax is ignored. MM have suggested an arbitrage mechanism in order to prove their argument. They argued that if two firms differ only in two points viz. Naturally, this process will be going on till both attain the same market value. As such, as soon as the firms will reach the identical position, the average cost of capital and the value of the firm will be equal. It can be explained with the help of the following illustration: They are similar in all respects except in the composition of capital structure. The following particulars are presented: This process will be continued till both the firms have same market value. He will do the following: By this, his net income will be increased as: Obviously, this net income of Rs. We know that the value of the levered firm cannot be higher than that of the unlevered firm other things being equal due to that arbitrage process. We will now highlight the reverse direction of the arbitrage process. Consider the following illustration: Criticisms of the MM Hypothesis: There are some authorities who do not recognise such assumptions as they are quite unrealistic, viz. We also know that most significant element in this approach is the arbitrage process forming the behavioural foundation of the MM Hypothesis. As the imperfect market exists, the arbitrage process will be of no use and as such, the discrepancy will arise between the market value of the unlevered and levered firms. The shortcomings for which arbitrage process fails to bring the equilibrium condition are: The arbitrage process is affected by the transaction cost. While buying securities, this cost is involved in the form of brokerage or commission etc. As such, the levered firm will enjoy a higher market value than the unlevered firm. The above proposition that the firms and the individuals can borrow or lend at the same rate of interest, does not hold good in reality. Since a firm holds more assets and credit reputation in the open market in comparison with an individual, the former will always enjoy a better position than the latter. As such, cost of borrowing will be higher in case of an individual than a firm. As a result, the market value of both the firms will not be equal. The arbitrage process is retarded by the institutional investors e. At present these institutional investors dominate the capital market. For this purpose, both of them have different footing in the capital market. If corporate taxes are considered which should be taken into consideration the MM approach will be unable to discuss the relationship between the value of the firm and the financing decision. For example, we know that interest charges are deducted from profit available for dividend, i. In other words, the cost of borrowing funds is comparatively less than the contractual rate of interest which allows the firm regarding tax advantage. Ultimately, the benefit is being enjoyed by the equity-holders and

debt-holders. According to some critics the arguments which were advocated by MM, are not valued in the practical world. We know that cost of capital and the value of the firm are practically the product of financial leverage. The MM Hypothesis is valid if there is perfect market condition.

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