

Capital Structure Theories: A Comprehensive Review

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Abstract

In this article the authors review almost all the preliminary and fundamental capital structure theories. Evidently, capital structure is still an unsettled puzzle and scholars are constantly in search of those factors that help a firm to articulate optimal capital structure. However, explained theories of capital structure elucidate a theoretical platform for the firm's management that assist them to select optimal mixture of equity and debt. Therefore, the importance of these theories is not possible to ignore. Though, academic literature has discussed various theories of capital structure but theory presented by Modigliani Miller, Trade Off theory and Pecking Order theory are deliberated broadly. Similarly, the other capital structure theories have their own importance in defining and explaining capital structure choices for firms that enhance their overall financial performance. Certainly, by applying the guideline provided by these theories a firm can easily attain a maximum profit, minimize its cost and also boost its overall market value. This article is an attempt to discuss nearly all capital structure theories to deliver a comprehensive explanation for the firm's management which help them to formulate their capital structure in accordance with theoretical guidelines.

Key-words: Capital Structure Theories, Modigliani Miller Theory, Trade Off theory, Dynamic Trade Off Theory, Pecking Order theory, Market Timing Theory.

1. Introduction

Capital Structure is one of the key deliberated topics in the finance world. However, the question that how a firm selects an optimal capital structure that moves it toward its main target of financial performance and decreases its overall cost of capital is still unanswerable. Fundamentally, capital structure is a mixture of numerous types of funds that contain firm's own retained earnings, external

debt and shareholder's equity (Rehan and Abdul Hadi, 2019; Ghasemi and Razak, 2016). Accordingly, an optimal capital structure is a best combination of internal and external funds that increases overall financial performance of a firm and declines its cost of capital (Abdul Hadi et al., 2018). Remarkably, capital structure theories guide the firms how to pick up a best mix of debt and equity to generate optimal capital structure. Furthermore, various scholars explained the theoretical relationship that provide a way for a firm to select its capital structure related choices in a way that increases market value of a firm and decreases its total weighted average capital cost (see for example Rehan and Abdul Hadi, 2019; Durand, 1959; Jensen and Meckling, 1976; Myers and Majluf, 1984; Modigliani and Miller, 1958). Likewise, various theories are introduced by earlier researchers with a expectation to deliver best solution that expresses optimal capital structure. This paper addresses various capital structure theories that has been explained in the empirical literature. The main capital structure theories are discussed below.

1) Net Income (NI) Approach

The Net Income approach is offered by Durand David in 1959 (Pandey, 2005). This theory explains that value of a firm's shares price relies on its profit or income that is accessible after the settlement of interest on loans. Hence, the firm's income that is available after the settlement of capital cost excluding cost of interest is explained as net operating income (NOI), whereas, the income that is present for stockholders after adjustment of total costs together with cost of interest is named as firm's Net Income. Particularly, this theory is known as a net income approach (NI) because it emphasizes on the idea that a firm's market value and price of its equity share depend on its total income that is available for its shareholders. Likewise, the value of a firm is explained by observing the value of its debt to the value of its shares. Therefore, this indicates that net income and capital cost of firms are affected by using debt portion in its capital structure. Similarly, use of debt not only affects firm's net income and its capital cost, but it also affects the firm's equity share market value. In conclusion, this theory indicates that any change in the capital structure of a firm also impacts on its overall cost of capital and value. Notably, this theory ignores the concept of optimal capital structure (Mundy, 1992). Net income approach depends on the following suppositions:

1. There are two sources of finance for all firms i.e. equity and debt.
2. There is absence of corporate taxes, transaction cost and retained earnings.
3. The cost of equity is higher as compared to debt cost.
4. The total percent of equity capital and debt capital remains equal.

5. The ratio of debt does not impact on the overall financial risk.
6. The debt cost is remains consistent at any level for debt.
7. The dividend payout fraction should be equal to 100%.

Clearly, this approach explains that the firms have option to optimize their capital structure by availing maximum level of debt which is less costly than employing equity. Therefore, if debt level of a firm increases, which is also considered as the cheapest source of finance, the total capital cost of a firm decreases and then value of the firm and price of its equity shares increases. Later, Durand (1959) reveals the weaknesses of NI proposition and amends it to NOI approach (Pandey, 2005).

2) Net Operating Income (NOI) Approach

According to the suggestions of net operating income, the market value of a firm depends on the revenue available for its shareholders after settling all incurred expenses except interest on attained debt. Therefore, the income that is available for stockholders or for estimation of value of a firm is called net operating income approach. Additionally, this theory is opposed to the approach of Net income (NI). Technically, NI approach is appropriate for the determination of firm's capital structure. It suggests that value of firm and its weighted average cost of capital (WACC) are affected by firm's capital structure related decisions. On the contrary, NOI method explains that the decisions related to capital structure are irrelevant, hence, financial leverage level does not affect the company's WACC and its overall market value. Therefore, firm's capital structure does not determine the value of firm. Remarkably, like Net Income approach, NOI also does not consider an optimum level of capital structure for firms (Mundy, 1992). The NOI theory depends on following presumptions:

1. There are two sources of finance for all firms i.e. equity and debt.
2. There is absence of corporate taxes, transaction cost and retained earnings.
3. Value of firms is calculated by EBIT / Overall cost of capital.
4. Debt cost is always less than the equity cost.
5. Altogether the capital cost of debt and the capital cost of equity capital remain same.
6. Firm's worth depends on presumed NOI and its overall rate of capitalization.
7. The level of acquired debt does not impact on firm's net operating income.
8. Uncertainty situation of a firm does not settle with the alteration in capital structure.
9. There is no change in the value of WACC due to alteration in the structure of leverage.
10. The proportion of dividend payout is 100%.

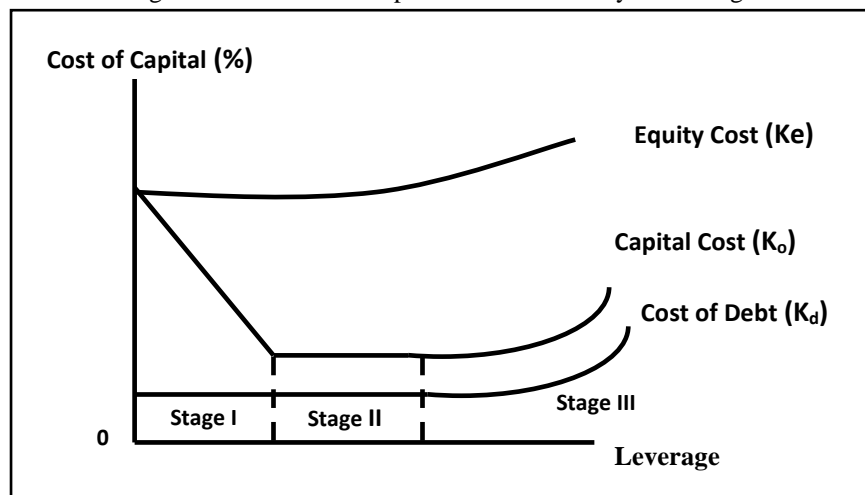
Theoretically, the approach of net operating income is divided into two propositions. Proposition I explains that the value of a firm depend on its return and risk associated with its operations. Whereas, the second Proposition explains that in comparison with equity, debt is less expensive item for formulating firm's capital structure, therefore, when a firm use extra debt its cost for capital remains constant.

3) Traditional Capital Structure Theory

According to traditional theory, by selecting suitable blend of debt, an optimum capital structure can be achieved for a firm. Fundamentally, this theory explains that the existence of optimal or appropriate capital structure for a firm can be detected when the cost of capital, that is weighted average cost, is minimized and value of a firm is at its peak (Demirgüneş, 2017). Furthermore, this theory also assumes that if a business continues getting debt from other sources, then later at a certain point, its value become constant and then slowly it starts to drop down (Abdul Hadi, Pyeman and Ismail, 2017).

Fundamentally, this theory can be elucidated in three different stages (Ahmadinia, Afrasiabishani, and Hesami, 2012). Firstly, the stage I clarifies that the equity cost (K_e) may increases a slight or remains at constant phase with the increase in firm's level of debt. Moreover, at this stage, cost of overall debt (K_d) is not more than the cost of its equity (K_e) and at this point cost on debt (k_d) is also constant. Therefore, increase in debt level of total capital cost (K_o) becomes constant which results in an increase in total firm's worth (v). Secondly, the stage II assumes that if size of debt rises then firm's cost for equity (k_e) also rises faster than its earlier phase. Remarkably, this dissolves the low equity cost (k_e) benefits which is due to increase in its size after a certain level. Notably, at this specific stage the cost of capital (k_o) for firm is at its minimum level and its overall value is at maximum level. Hence, at this stage optimal or best combination of capital structure is attained. Finally, stage III explains that because of increase in firm's debt size, after a certain point its cost for equity (k_e) starts increasing that is more than low cost of debt benefits. Consequently, the WACC moves upward, hence, firm's worth starts declining. Notably, at this stage, the firm's value drops down due to alternation of its equities with debts. The below figure represents all the three stages of Traditional Theory in a graphical manner.

Figure 1 - Traditional Capital Structure Theory & Its Stages



Source: Ahmadinia, Afrasiabishani, and Hesami (2012)

4) Modigliani-Miller Capital Structure Irrelevance Theory

After traditional theories, Modigliani and Miller (1958) present their theory which is named as MM irrelevance proposition. Technically, this theory is parallel to Net Income approach with a slight alteration. The core difference in NOI approach and MM theory is that NOI is an explanatory term which describes an idea, whereas MM theory offers behavior clarification in indulgence of theory.

Modigliani and Miller (1958) in their preliminary irrelevance proposition illustrate that in a perfect capital market, a firm's choices for formulation of its capital structure does not leave any impact on its value, and in the nonexistence of bankruptcy cost and the taxes, the overall weighted average cost of capital (WACC) should remain constant. In short, the MM proposition explains that the firm's market value does not rely on the way it selects to distribute its dividends and allocate finances for investment, but it is estimated by the underlying risk for its assets and its power of earnings (Abdul Hadi, Pyeman and Ismail, 2017).

Remarkably, MM proposition I covers some basic assumptions by considering capital market as a perfect market i.e. absence of taxes, no cost on transactions, asymmetry information for everyone, absence of bankruptcy cost, borrowing cost and lending cost is same for the firms and outsiders, similar interest rate for borrower and lenders, interest payable on debt do not provide tax shield thus, firms follow 100% dividend payout policy. Hence, by following these assumptions they postulate that there are no optimal capital structure and debt equity choices irrelevant to the stockholders wealth (Modigliani and Miller, 1958). Later, in proposition II they point out that increase in a firm's leverage

results in firm's risk which also increases equity cost for the firm, however, weighted average capital cost is continuously constant as equity cost compensates with higher cost of debt.

Technically, MM irrelevance theory is very sound but its provided assumptions especially for capital market that exists without taxes are not realistic and impractical in real world. Therefore, to make these propositions more realistic and strong, Modigliani Miller (1963) added the influence of corporate taxes on the firm's value and on the capital cost. Hence, in the existence of tax shield, the firm's value increases with the increase in debt. Remarkably, interest cost on debt is treated as a deductible expense from firm's profit margin and thus it reduces the overall net tax liability of firm. This explains that using debt capital is beneficial for the firm and it lowers its capital cost. Due to its impractical and unjustified assumptions, MM theory has constantly been debateable among scholars and it provides a way of entering for new theories.

5) Trade-Off Theory

Trade Off theory is offered by Myers & Majluf (1984). Principally, this theory is one of the oldest concepts of capital structure which is introduced after removing the constraints of tax shield in the MM irrelevance proposition. Notably, this theory considers benefits of tax shield on interest settlements.

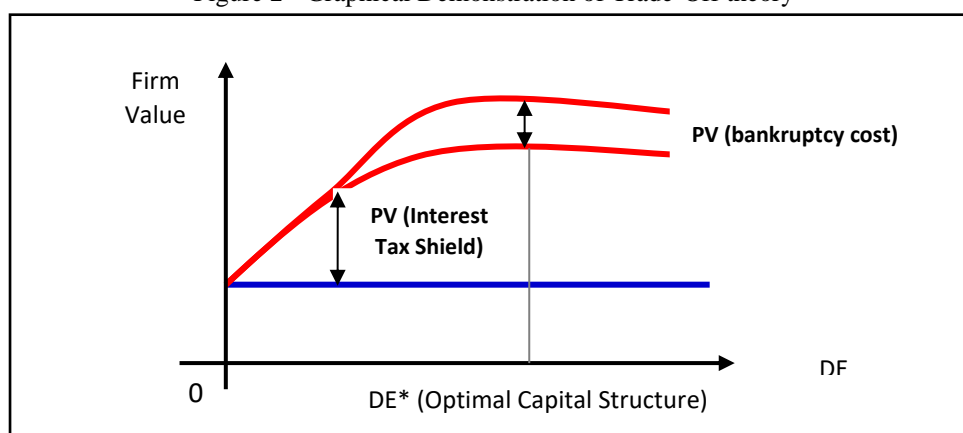
Static Trade-Off Theory

The Static Trade Off model postulates the idea of capital structure that is optimal. According to this theory a business can create an capital structure that is optimal by adjusting the level of debt and equity in such a way that it balances financial distress cost and agency cost with debt benefits i.e. interest tax shield (Baxter, 1967). This theory considers that tax shields on interest payments balance firm's financial distress cost. Moreover, Myers (1997) explains that debt availing by a firm up to a certain point offsets its financial distress cost and interest tax shield. In addition, this theory assumes that those firms which have high cost of financial distress always select less quantity of debt in their capital structure.

Moreover, this theory assumes that income generating sources of a firm are attached with some cost and return which are connected with the nature of business in which a firm is engaged, its risk of bankruptcy and earning capacity (Awan and Amin, 2014). Similarly, a firm which have high tax shield is able to raise extra percent of debt for its capital structure (Abdeljawad et al., 2013).

Likewise, Trade-Off theory primarily emphasizes on the point of financial distress cost and agency cost (Abdul Hadi, Pyeman and Ismail, 2017). Notably, this theory proposes an idea that a firm can adopt a best mix of debt and equity by trading off between the costs i.e. agency cost, bankruptcy cost and taxes with other benefits. Apart from the bankruptcy cost, the model of Trade-Off theory also considers agency cost which is introduced by Jensen and Meckling (1976). According to Jensen and Meckling (1976), the division of shareholders' ownership and the control of managers are the core reason that increases agency cost. Similarly, Trade-Off theory suggests that the rise in agency cost may become the cause of conflict between shareholders and firms' managers. The drawback attached with this theory is that if tax shield is considered, a firm avails extra percentage of debt then it moves towards financial disaster (Iqbal et al., 2012). In short, this theory presents the idea of optimal capital structure by matching the benefits acquired by using debt with the disadvantages of debt.

Figure 2 - Graphical Demonstration of Trade-Off theory



Source: Ferdous (2019)

The figure 2 above presents graphical presentation of Static Trade-Off theory. The graph describes that as the ratio of debt and equity that represents capital structure of firm rises, the trade-off starts between firm's interest tax shield and its cost of bankruptcy, which leads the firm toward optimal capital structure.

Dynamic Trade-Off Theory

The idea of Dynamic Trade Off theory is first offered by Fischer, Heinkel & Zechner (1989). In comparison of static model, Dynamic Trade Off theory emphasizes more on element that is time which is overlooked and not considered by static or single time period models. Technically, the core

concept on which model of Dynamic Trade Off theory lays emphasis is that firm's capital structure cannot be ideal at all the times and it deviates from its targeted or optimal level. Besides, the market factors i.e. adjustment cost, financial imperfection and market frictions diverge the firm from its optimal level of capital structure moves back toward its optimal level after necessary adjustment (Ghazouani, 2013). In reality, a firm requires funds for the settlement of its future obligations. Therefore, the Dynamic Trade Off theory emphasizes more on the accurate selections of equity and debt by considering financing needs for the firm in some particular time period of future (Iqbal et al., 2012). Furthermore, the Dynamic Trade-Off theory emphasizes more on the presence of targeted capital structure and firm's alteration or adjustment toward that target by measuring speed of adjustment (Abdeljawad et al., 2013).

6) Pecking Order Theory

Considering MM assumption of perfect capital market Myers & Majluf (1984) present this theory that is defined as a competitive idea of Trade-Off theory. Actually, Myers & Majluf (1984) present this model by considering the assumptions of Donaldson (1961) which postulate that firm's managers prefer internal available funds first rather than external debt. Therefore, this theory first favor retained earning then debt and finally as the last choice equity capital (Myers and Majluf, 1984).

Myers & Majluf (1984) explain that behavior of their theory depends on findings of information that is asymmetrical. According to them, financing cost for a firm has a significant association with information that is asymmetrical. The Pecking Order theory explains that external financiers do not have any proper idea about the firms worth, its upcoming growth chances and about its assets. That is why equity price of the firm is not evaluated properly in the market. Therefore, when the firm requires external finance for its projects, the outside investors buy at higher price than the actual net present value of the shares that results in weakening the possession rights of the current shareholders (Chen and Hammes, 2004). Notably, in line with MM propositions, Pecking Order model ignores concept of capital structure that is optimal (Luigi and Sorin, 2009). In conclusion, Myers and Majluf (1984) advise four core assumptions of this capital structure theory (i) First, firms give preference to internal finance (ii) Second, debt is preferred over equity (iii) Third, as the last option, the firm moves toward equity (iv) Last, by following strict dividend payout policy the firm must select its targeted dividend disbursement ratio which should be in line with firm's projected investment project.

7) Market Timing Theory

Market Timing theory explains that a firm considers market timing and issues its equity shares when price for its shares are overestimated and repurchased back when they are underestimated (Baker and Wurgler, 2002). Basically, this hypothesis is founded on supposition that a firm's administration mostly does not have awareness about the best time for making decisions related to the debt equity choices for their firms. This turn into a difficult problem when the administration needs to identify the factors of the appropriate time for creating the capital structure. Technically, Market Timing theory makes it simple for financial management of firms to select appropriate time period by considering market for selling and buying their firm's shares. In conclusion, this theory clarifies that when a price of a firm stock is overrated, the firm should run its operational projects through debt, or else it would be underestimated, and it would have to rely on equity finance (Setyawan, 2011).

Baker and Wurgler (2002) claim that market timing is a very important and main factor which affects firm's capital structure decision, but mostly the financial managers ignore this factor while selecting option of debt or equity for their firm's capital structure. They further explain that those firms which are consistent with Pecking Order theory do not move toward its target debt or equity as compared to firms which are consistent with market timing theory. Technically, this theory explains that a business would issue equity when its share prices are higher and overestimated. Likewise, a firm would repurchase equity when its share price or market-to-book value is undervalued (Luigi and Sorin, 2009). However, Hovakimian (2006) explains that considering market timing for the capital structure of a firm does not have any remarkable or longstanding significant effect on firm's debt choices for equity and debt. The same is confirmed by Alti (2006) who concludes that market timing consideration for the firm's debt equity choice is not long-lasting and it fades in maximum two years.

8) Agency Cost Theory

This theory is presented by Jensen & Meckling (1976). This theory explains that agency cost arises because of conflict among the owners and the managers. Furthermore, this theory explains that a firm can attain a capital structure which is optimal by managing the cost that faced because of conflict among managers and owners. Moreover, Jensen and Meckling (1976) describe that a debt level of a firm is a good indicator that helps to monitor the managers performance that how they are pursuing a firm's objectives rather than their own. Hence, by doing this a firm can reduce its overall cost and

moves toward the operational efficiency which ultimately enhances its financial performance (Buferna, Bangassa & Hodgkinson, 2005).

Clearly, the earlier academic investigations specify that a firm's selection for its leverage influences its overall market value (Jensen, 1989). However, the major issue in recent corporate finance world is how to solve out the conflicting issues among the firm's managers and its owners and how owners control their firms to lead it towards growth (Jensen, 1989; 1986). For this purpose, the Agency Cost theory provides a mechanism by which a firm controls its managers and pursues its goals by inserting more leverage for financing its assets and operations. Obviously, the injection of more and more debt provides threat of liquidation and losses of job to firm's managers. Hence, this leads managers to work in the benefits of the firm and owners resulting in the improvement of operational and financial performance.

9) Free Cash-Flow Theory

Technically, Free cash flow is the left-over balance that is in the firm's hand after paying all of its expenses with inclusion of investments. The free cash-flow is important as it permits the firm to follow those opportunities which increase shareholders' and firm' value. Clearly, with insufficient amount of cash it is difficult to create new products, meet operational costs, divide dividends and settle debt (Afrasiabishani, Ahmadinia and Hesami, 2012). Concerning capital structure for a firm this theory describes that using free cash-flow by settling interest cost that is incurred on debt and imbursement of dividends stop firm's managers to misuse firm's cash for private purposes. Besides, this theory prefers to pay principal amount and interest cost on debt and then dividends to reduce the free cash-flow level (Jensen, 1986).

10) Signaling Theory

This theory is coined by Ross (1977) and explains that the firm's top management is totally responsible to share its inner information of assets and projects to outsider investors to get high price for its announced stock and to enhance the firm's value. However, the firm's managers mostly work for their own benefits and do not deliver accurate information to outsider shareholders (Markopoulou and Papadopoulos, 2009). Hence, this spread misunderstanding about the business to outside investors and they may assume that a firm does not have enough assets and have less market value. Technically, this issue is controlled by generating a financial policy which provides a good signal for investors.

Particularly, this theory is not appropriate for those firms that market value is less. According to Bhattacharya and Dittmar (2004) a firm should deliver those signals to external investors that are valuable for firm, provide positive signals and help in increase of overall value of a firm.

2. Conclusion

This paper discourses numerous dissimilar capital structure theories. Visibly, there is no concept of optimal capital structure in preliminary capital structure theories that are Net Income (NI) and Net Operating Income (NOI) approaches. However, another primary theory that is Traditional theory of capital structure postulates that optimal capital structure exists for the firms. After that, Miller and Modigliani proposition I enlightens that in a perfect capital market where no tax shield exists capital structure of firms has no influence on its value. Later, in another proposition II they add interest tax shield and describe that using debt in firm's leverage influence on its overall market value. Subsequently, Static Trade-Off theory deduces that a firm can attain optimal capital structure by trading off between cost and benefits attained from debt. Comparatively, the Dynamic Trade-Off theory considers the time element and explains that the firm may deviate from its optimal level of capital structure but in the existence of various market forces it returns back to its optimal or targeted point. Pecking Order theory which is taken as a competitive theory of Trade-Off explains that a firm prefers internal funds first then debt and as the last option move toward equity to fulfill its capital structure needs. Later, Market timing theory suggests that market time is an important factor for a firm that should be considered before declaring equity shares. It explains that a firm only announces equity when its shares price is overvalued and purchased back when they are available at lower price. Agency Cost theory explains that cost arises because of conflict between the owners and the firms of the firm owners and the managers. On the other side, free cash-flow theory emphasizes first on the settlement of interest cost which arises on debt and then settlement of dividends to stop firm's manager to misuse available cash. Moreover, the Signaling theory suggests that top management of the firm should be responsible to share its internal information to external investors to get best price for its shares and to enhance firm's market value. Considering all of the above discussed theories, it is clear that there is no unique theory of capital structure which integrates all important concepts and aspects about selection of optimal capital structure. Evidently, this concludes that capital structure is still an unresolved puzzle.

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