

A REVIEW OF CAPITAL STRUCTURE THEORIES: TRADE-OFF THEORY, PECKING ORDER THEORY AND MARKET TIMING THEORY

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ABSTRACT

Capital structure is the most debatable topic among the scholars and continues keep researchers to investigate. Capital structure decision consists of mix of debt and equity and this is a crucial decision because false decision may lead to financial distress and even to bankruptcy. Various factors contribute to the choice of these sources of fund for instance country specific characteristic, industry specific characteristic and firm-specific characteristics. Literature shows that there are three major theories of capital structure emerged which diverge from the assumption of perfect capital markets under which the “irrelevance model” is working named as Trade Off theory, Pecking Order theory and later Market Timing theory (Luigi & Sorin, 2009). Therefore, this paper will review the role of different traditional capital structure theories in decision making regarding leverage preference.

Keywords: Capital Structure; Trade-off Theory; Pecking Order Theory; Agency Theory, Leverage

1. INTRODUCTION

Capital structure represents one of the most debated concepts in corporate finance (Akinyomi & Adebayo Olagunju, 2013). Moreover, majority of companies are showing concerned regarding capital structure and decision on capital structure and is quite challenging for the management of the companies. This is because, capital structure’s

decision plays an important role in the business survival and wrong decision may leads to financial distress to the companies even to bankruptcy. Therefore, decision of firm capital structure is said to be one of the most important decisions confronting a firm in corporate finance (Schoubben & Hulle, 2004). Capital structure is about how to finance the business operation at optimum cost that will maximizes the total value of the firm (Sheikh & Wang, 2010). Mutairi (2011) defined as the relative proportion of debt and equity used to finance the enterprise of the long-term sources of funds used by firms. It includes debt, preferred stock and common equity. Various strategies can be employed to raise its required funds, but the most basic and important financial sources are retentions, shares and debt (Affandi, Mahmood, & Shukur, 2012). While, Mostafa & Boregowda(2014) mention there are two main sources of firms' financing which are internal and external financing. Internal financing refers to retained earnings whereas external financing refers to debt or issue of equity.

2. BACKGROUND REVIEW

Awan & Amin(2014) There are two schools of thought on capital structure. First, value of firm is independent of its capital structure: it means that a firm whatever has the combination of securities; it does not affect on its value. Modigliani & H. Miller, (1958) put a proposition that the market value of any firm is independent of its capital structure and market securities in a perfect financial market. The second school of thought says that value of firm is dependent of its capital structure: it means that a firm whatever has the combination of securities: it has effect on its value. There is growing body of literature discuss theories on capital structure. For example Hitt(1998) criticize on Modigliani and Miller(1958) which suggested that financing decisions may be 'irrelevant' for firm strategy and find that recent evidence indicates that financing decision may differently affect firm value because of market imperfections which is suggested by Myers and Majluf (1984).

3. LITERATURE REVIEW

3.1 Overview on Capital Structure Theories

There are numerous capital structure theories highlighted in the literature. Chen (2011) stated among the theories are Static Trade off theory which derived by Modigliani and Miller (1963) was the earliest and most recognized which explains the formulation of capital structure, then trade off theory which assumed that there are optimal capital structures by trading off the benefits and cost of debt and equity. However, recent studies have shown a focus shift from the Trade Off theory to Pecking Order theory Chen (2011) cited in Quan (2002); and Mazur, (2007). While Danso & Adomako(2014) mentioned the other theories are agency cost theory, the free cash flow theory, the market timing theory and the signaling theory. Mostafa & Boregowda (2014)mentioned traditional Trade-Off theory and Pecking Order theory are most acceptable theories of capital structure.

3.1 Modigliani-Miller (MM) Proposition: Capital Structure in a Perfect World

Mostafa & Boregowda(2014) asserted that the first theory about capital structure is Modigliani-Miller (MM) proposition. This theory suggests the firm value is irrelevant to capital structure or financing decision. Before that, there was no generally accepted theory of capital structure (Luigi & Sorin, 2009). The theory was proposed under perfect capital market conditions (without taxes, transaction costs and information asymmetry) value of any firm is independent of its financing decisions (Modigliani and Miller 1958). In a simplified context, the financial instruments issued by the firm do not affect the firm's productivity and thereby its value. Although, Modigliani and Miller's proof is based on those assumptions which do not hold in real world, but when these assumptions are relaxed the choice of capital structure becomes an important value determining factor (Sheikh & Wang, 2010). The following assumptions were laid down by them, which are hardly true in real world: i. Capital markets are ideal with no transaction and bankruptcy costs, ii. There are not different risk classes for firms, iii. Only one kind of tax matters is the corporate tax payable to the government (neutral taxes), iv. All cash flows are perpetuities and no growth factor in cash flow is assumed, v. Insiders and outsiders have no information asymmetry, vi. There is no moral hazard on manager's part and they work for shareholder's Wealth maximization, vii. Firms issue solely two varieties of claims: equity with risk and debt without risk. However, these assumptions do not hold in reality and for that matter the irrelevance theory has been criticized for being purely theoretical (Danso & Adomako, 2014).

3.2 Real World Theories

Miller and Modigliani (1963) and Miller (1977) addressed the issue more specifically, showing that under some conditions, the optimal capital structure can be complete debt finance due to the preferential treatment of debt relative to equity in a tax code (Villamil, 2007). Furthermore, Danso & Adomako (2014) mentioned M&M's (1963) theoretical assumptions inspired several other theories and these theories have been proposed to suggest the more reliable assumption in market imperfections. There are three major theories of capital structure emerged which diverge from the assumption of perfect capital markets under which the "irrelevance model" is working named as Trade Off theory, Pecking Order theory and later Market Timing theory (Luigi & Sorin, 2009). The most influential theories inspired by M&M's irrelevance theory were the Static Trade off models and the Pecking order model (Danso & Adomako, 2014). Therefore, this paper will discuss on these three main theories which are Trade Off theory, Pecking Order theory and Market Timing theory.

3.2.1 Trade-off theory

One of the prominent capital structure theories was Trade Off theory. Trade-Off theory suggested by Myers (1984) emphasize a balance between tax saving arising from debt, decrease in agent cost and bankruptcy and financial distress costs (Oruç, 2009). The Trade-Off theory is the oldest theory and is connected to the theory from Miller and

Modigliani on capital structure that emphasize on optimal capital structure. Trade-off theory suggested the modified MM proposition stress out that the benefit of tax shield are offset by the firm costs of financial distress and agency cost (Danso & Adomako, 2014; Mostafa & Boregowda, 2014). In other word, optimal level of leverage is achieved by balancing the benefits from interest payments and costs of issuing debt (Jahanzeb, Bajuri, Karami, & Ahmadimousaabad, 2014). While, Sheikh & Wang(2010) stated that Trade Off theory expected to choose a target capital structure that maximizes the firm value by minimizing the costs of prevailing market imperfections. This theory also called as tax based theories and bankruptcy costs. It assumed each source of money has its own cost and return and these are associates with the firm's earning capacity and its business and insolvency risks (Awan & Amin, 2014). Therefore, firm with more tax advantage will issue more debt to financed business operation and the cost of financial distress and benefit from tax shield are balanced (Chen 2011).

Bankruptcy cost is a cost directly incurred when the perceived probability that the firm will default on financing is greater than zero. One of the bankruptcy costs is liquidation cost, which represents the loss of value as a result of liquidating the net assets of the firm. Another bankruptcy cost is distress cost, which is the cost a firm incurs if stakeholders believe that the firm will discontinue (Chen 2011). Furthermore, financial distress & agency cost theories also assumed that higher debts bring financial distress and eventually bankrupt a firm or force it to go into liquidation or restructuring a companies (Awan & Amin, 2014). From the explanations above it shows that costs of financial distress and benefits from tax shields are balanced. Therefore, the companies which have high cost of financial distress would have less debt in their capital structure.

$$V(\text{firm}) = V + PV(\text{interest tax shields}) - PV(\text{costs of financial distress})$$

Actually, there are other elements in considering debt in firm's capital structure. Beside interest tax shield advantage, debt also has several advantages to the firms. First, debt is a valuable device for signaling by firms. It was suggested that leverage will increases firm's value, because enhancing leverage is coinciding with the market's realization of value (Ross 1977). Second, agency costs related to equity will be reduced by debt. These agency costs are such as free cash flow problem or also called over investment problem (Jensen 1986). Third, debt will reduce the agency cost of management so that it disciplines managers. While, details of disadvantages of debt are as follows (besides the costs of financial distress /bankruptcy): i. Managers acting in shareholders' interest may shift investment to riskier assets and the costs are incurred by the debt holders. ii. Managers may borrow still more and pay out to the shareholders, hence the debt holders suffer. iii. Excessive debt leads to the underinvestment problem or 'debt overhang' problem. This means that many good projects may be passed on because more debt cannot be issued at the right time due to the existing debt (Mostafa & Boregowda, 2014).

3.2.2 Pecking Order Theory

Trade Off theory did not consider the information asymmetry. This matter was later introduced by Pecking Order theory which was discussed the conflict between insider and outsider due to information asymmetry. However Pecking Order theory does not take consideration on optimal capital structure (or there is no target capital structure) (Luigi & Sorin, 2009; Mostafa & Boregowda, 2014). Beside consider the information asymmetry, this theory also consider signaling effect (Schoubben & Hulle, 2004). Pecking Order Theory proposed by Myers and Majluf (1984). Mostafa & Boregowda(2014). Myers and Majluf assume perfect market like Modigliani and Miller.

The main factor determining the level of debt ratios are supply and demand factors (Mostafa & Boregowda, 2014). However, decision on sources of financing depends on the preference order: internal finance like reserves and retain earnings; debt; equity (Chen, 2011) and companies maximize their value by choosing to finance new investments with cheapest available sources (Sheikh & Wang, 2010). For example, if internal funds are not enough to finance investment opportunities, firms may or may not acquire external financing, and if they do, they will choose among the different external finance sources in such a way as to minimize additional costs of asymmetric information (Luigi & Sorin, 2009). In other word, the hierarchy involved in the corporate financing decision is driven by the financing cost (Danso & Adomako, 2014). According to Myers & Majluf (1984), Pecking order theory argues that firms first choose to employ internal sources like reserves & retain earnings to finance a project instead of arranging new debt, or prefer debt to issuance of new shares. Managers will not issue new undervalued shares, if they are acting in favor of shareholders. In equilibrium a firm issues new stock only at a market down price (Mostafa & Boregowda, 2014) cited in Myers (1984). Managers will issue new equity shares with the hope of getting offset by NPV of growth opportunity or new investment opportunity. This leads to drop in share price. Hence, this is a bad news for assets in place. The issue becomes worse as the information asymmetry increases. For investing, firms with more growth opportunity are better than matured firms, because the price falling down is affected by growth opportunity value versus assets in place.

Debt has the prior claim over equity and debt issuers are less exposed to information asymmetry. Therefore, issue of the debt should affect on price as compared to equity issue. Kim and Stulz (1988) found that share price increased with the announcement of debt issue. The above statement support by Myers and Majluf (1984) model which mentioned outside investors normally discount the firm's stock price (share price fall) when managers issue equity or announce of equity issue instead of riskless debt. Thus, managers will avoid issue equity whenever possible (Luigi & Sorin, 2009). Mostafa & Boregowda(2014)express that firms rely on internal sources due to lowest information asymmetry costs, then debt and ultimately equity with highest information asymmetry costs (Sheikh & Wang, 2010). In addition, Myers and Majluf (1984) argued that if firms issue no new security but only use its retained earnings to support the investment opportunities, the information asymmetric can be resolved. That implies that issuing equity becomes more expensive as asymmetric information insiders and outsiders increase. Firms which information asymmetry is large should issue debt to avoid selling underpriced securities.

Furthermore, transaction costs also play an important role in a firm's capital structure decision. This transaction costs are associated with obtaining new external financing which is higher than the costs of obtaining internal financing (Chen 2011). According to Baker & Wurgler(2002), the pecking order theory regards the market-to-book ratio as a measure of investment opportunities.

This theory assumed firms with more profitability will issue less debt and more likely finance their activities with internal funds. While Mostafa & Boregowda (2014) stated small firms with more growth opportunities should issue more debt than equity. Mostafa & Boregowda(2014) cited in Myers (1984) came up with modified pecking order theory. He proposes that the firm should takes advantage from filling the financial slack by issuing equity when the information asymmetry is less. With the way proposed by Myers firms can issue debt with more flexibility. That is why firms with some growth maintain low debt issue. In some case, issue of more debt exceeding the debt capacity point will reduce the firm value. Firms working near debt capacity point will issue equity even if debt is preferred. This is due to issue of more debt exceeding the debt capacity point will reduce the firm value. With above concept, it has been concluded that the debt capacity point is similar to the target debt ratio explained in the traditional trade-off theory of capital structure. Hence, it is very difficult to distinguish between two theories of capital structure. One of the useful ways to identify which firms are following the traditional trade-off theory or the pecking order theory is that at the time of IPO check whether firm has used all internal sources (retained earnings) or not, if the company used all internal sources for investing in the new project, then it is following the pecking order theory.

3.2.3 Market Timing Theory

Other theory of capital structure includes Market Timing Theory pioneered by Baker and Wurgler (2002). According to Danso & Adomako(2014), the Market Timing theory is quite new and therefore, small numbers of studies have been conducted to test its validity. The Market Timing theory of capital structure assumes that firms time their equity issues whereby they will issue new stock when the stock price is perceived to be overvalued (high price), and repurchase their shares when there is undervaluation (low price) (Luigi & Sorin, 2009; Mostafa & Boregowda, 2014; and Baker and Wurgler 2002). As a result, fluctuations in stock prices will affect firm's decision on capital structures.

According to Baker and Wurgler (2002) equity market indicates to be an important element of real corporate financial policy in relation to the issuing equity. Their main finding shows that low leverage firms are those that raised funds when their market valuations were high, as measured by the market-to-book ratio, while high leverage firms are those that raised funds when their market valuations were low. There are two versions of Equity Market Timing. One is a dynamic version of Myers and Majluf (1984) with rational managers and investors (Baker & Wurgler, 2002). Manager

expected to issue equity directly after a positive information release which reduces the asymmetry problem between the firm's management and stockholders. The decrease in information asymmetry will result with an increase in the stock price (Luigi & Sorin, 2009). This theory indicates that firms create their own timing opportunities to finance their project (Luigi & Sorin, 2009). The extent of adverse selection varies across firms or across time and is inversely related to the market-to-book ratio (Baker & Wurgler, 2002). The second version of Equity Market Timing involves irrational investors (or managers) and time varying mispricing (or perceptions of mispricing) whereby managers issue equity when they believe its cost is irrationally low and repurchase equity when they believe its cost is irrationally high (M Baker & Wurgler, 2002; Luigi & Sorin, 2009). The second version of Market Timing does not require that the market actually be inefficient and it does not ask managers to successfully predict stock returns (Luigi & Sorin, 2009). This story explains the results if variation in the market-to-book ratio is a proxy for managers' perceptions of misevaluation (Baker & Wurgler, 2002). To explain the persistent empirical effect of past valuations, both versions require that adjustment costs, perhaps related to adverse selection, reduce the desirability of undoing Market Timing (Baker & Wurgler, 2002). Result from Luigi & Sorin (2009) supports the assumption in the market timing theory mentioned above which is that managers believe they can time the market, but does not immediately distinguish between the mispricing and the dynamic asymmetric information version of market timing.

(Baker & Wurgler, 2002) used the market-to-book ratio to measure the Market Timing opportunities perceived by managers and they find that low-leverage firms tend to be those that raised funds when their valuations were high, and conversely high-leverage firms tend to be those that raised funds when their valuations were low. The result also shows that fluctuations in market valuations have large effects on capital structure that persist for at least a decade and these results are hard to understand within traditional theories of capital structure. There is no optimal capital structure in Market Timing Theory but manager make decision on capital structure based Equity Market Timing strategies.

4. CONCLUSION

Several empirical studies have examined the above theories, but the researcher still cannot identify the theory best explains the capital structure choice (Sheikh & Wang, 2010). (Mostafa & Boregowda, 2014) cited in Shyam-Sunder and Myers (1999) asserted that Pecking Order Theory is better in explaining the firm's behavior rather than the Traditional Trade-off Theory. Nevertheless, many researchers argued contrast between the Traditional Trade-Off Theory and Pecking Order Theory. According to Fama and French (2002) some firms track Traditional Trade-Off Theory while others the Pecking Order Theory but none of them can be rejected. According to (Sheikh & Wang, 2010) cited in Myers (2001), there is no universal theory of the debt-equity choice and no reason to expect one. However, there are several useful conditional theories, each of which helps to understand the financial structure that firms choose.

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