

## **Capital Structure: A Systematic Review of Theories and Concepts**

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### **Abstract**

*Capital structure is one of the main issues and key financial decisions in corporate finance. Extant literatures on capital structure show that the debt-equity mix of a firm affects its cost of capital and hence, the firm value implying that a firm would need to adopt the capital structure that maximises its value while resulting in cost minimisation. Based on this, the present study extensively reviews the various theories and conceptual framework that have been used in literature to explain capital structure of firms. The study also discusses the issue of target capital structure, adjustment costs and speed of adjustment; a recent development in the field of capital structure studies. The paper concludes that the various theories are not mutually exclusive, thus, for researchers to solve the capital structure puzzle, there is a need to consider the several factors involved in explaining a firm's capital structure.*

**Keywords:** Adjustment costs, Capital structure, Dynamic, Pecking-order, Static trade-off

**JEL Classification:** G30, G32,

### **Introduction**

The seminal study of Modigliani and Miller (1958) on capital structure irrelevancy laid the foundation of capital and debt maturity structure studies in corporate finance.<sup>1</sup> The study stated that under perfect market conditions, the capital structure adopted by a firm would not have any effect on firm value. Nonetheless, avalanche researches in corporate finance abound with theoretical and empirical literature that gives evidence contradicting the irrelevancy theory.

By relaxing the assumptions of the irrelevancy theory, some of these studies (Baker & Wurgler, 2002; Barclay and

Smith, 1995; Jensen and Meckling, 1976; Myers and Majluf, 1984; Myers, 1977) came up with theories that explain the effect of certain factors on firm value necessitating that firms consider them in capital structure decisions. For example, Jensen and Meckling (1976) considered the effect of agency cost of capital on firm value while Myers and Majluf (1984) focused on how information asymmetry between firm managers and outside investors affected firm value. However, in spite of the multitude of research that abounds in the field of corporate finance on capital structure decisions, the field of study still lacks an all-inclusive theoretical framework that explains capital structure (Barclay, Heitzman and Smith, 2017; Barclay and Smith, 2005; Bolton & Huang, 2017; Chipeta & McClelland, 2018; Fosu, 2013; Munisi, 2017). This may be due to various technicalities such as technique of analysis, variables employed, and other factors that

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<sup>1</sup> Barclay, Marx and Smith (2003) argue that capital structure consists of various components such as leverage, debt maturity, convertibility, contracts and importance. However, this study focuses on the leverage aspect.

are involved in the various investigations. The various theories used in extant literature are reviewed extensively in Section 2. Nonetheless, studies carried out after Modigliani and Miller (1958) provided useful insights in explaining the rationale behind capital structure decisions of corporate entities. These studies identified that factors influencing the capital structure of firms may be divided into firm-specific and non-firm-specific factors and are discussed in-depth in Section 3. Section 4 discusses current issues in capital structure decisions such as target leverage, adjustment costs and speed of adjustment. Section 5 presents the concluding remarks for the extensive reviews in this study.

### **Capital Structure Theories**

Capital structure theories provide the underlying theoretical basis for explaining observed firms' financing decisions (Li & Stathis, 2017; Munisi, 2017; Ngugi, 2008; Rajan & Zingales, 1995). A detailed review of the different theories provides answers to the question of why firms' capital structure differs from each other. This section reviews four common theories mostly used in extant literature.<sup>2</sup>

### **Irrelevancy Theory**

The irrelevancy theory of capital structure by Modigliani and Miller (1958) is one of the earliest theories developed. The theory argues that under perfect market conditions with certain assumptions, the capital structure of the firm does not matter because it does not have any effect on the value of the firm, i.e. the value of a firm is

independent of its capital structure.<sup>3</sup> This implies that any given combination of debt and equity will not cause a change in the firm's value. The irrelevancy theory demonstrates the conditions under which the firm's value is not affected by its choice of either debt or equity in perfect market conditions. However, available research queries whether the assumptions for the irrelevancy theory really hold in reality given the existence of transaction costs, bankruptcy costs and taxes. For example, as argued by Miller (1977), the fixed interest payments to debt holders act as a tax advantage of using debt by reducing the tax payable by firms (corporate taxes). This suggests the existence of a tax benefit with the use of debt. Another example is a firm's inability to make regular debt repayments. This action may result in bankruptcy and financial distress costs. These two instances negate the assumptions of Modigliani and Miller (1958). Noting that these assumptions may in fact not hold, extant literature has come up with several other theories that try to explain the factors firms consider in adopting a particular capital structure.

### **Trade-off Theory**

The trade-off theory relaxes the assumptions of irrelevancy theory of capital structure and considers the importance of the desired target debt. It posits that firms will try to balance the tax advantage of debt against the associated costs (bankruptcy and financial distress costs). The reason for this is that with increased borrowing, firms tend to default on loan repayment thereby increasing the likelihood of financial distress and bankruptcy costs. However, this does not make such firms use less debt because interest payments are tax deductible

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<sup>2</sup> The present study reviews four theories due to brevity of space to review other theories; the author thus acknowledges the existence of other theories not included in this study.

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<sup>3</sup> These assumptions are perfectly rational investors; absence of transaction costs and taxes; perfect market competition.

(debt benefits). Therefore, there has to be a trade-off where the two (costs and benefits) balance off. Kraus and Litzenberger (1973) provided one of the early studies on the trade-off theory. The study gave a clear argument of the trade-off between tax benefits and bankruptcy costs. In addition, the trade-off theory assumes that a firm has a target debt ratio that it tries to achieve and subsequently makes adjustment towards this target. By so doing, optimal capital structure is achieved when the present value of the marginal benefits and marginal costs are equal (Frank & Goyal, 2009; Gungoraydinoglu & Öztekin 2011; Myers, 1984; Munisi, 2017; Shyam-Sunder & Myers, 1999). The argument is that financial distress may decrease firm value due to increased borrowing that results in default on interest payments. This action exposes the firm to bankruptcy cost or financial distress cost. Nevertheless, the benefit of debt via tax deductibility of interest payment lures firms to use more debt to finance investments. A second reason why firms use more debt is that debt mitigates managers and shareholders' conflicts of interest because managers have the incentive to waste free cash flow on inferior investments. In this way, the use of debt adds discipline to management. However, Jensen and Meckling (1976) asserts that this leads to agency problem between shareholders and managers because it limits the free cash flow available to managers.

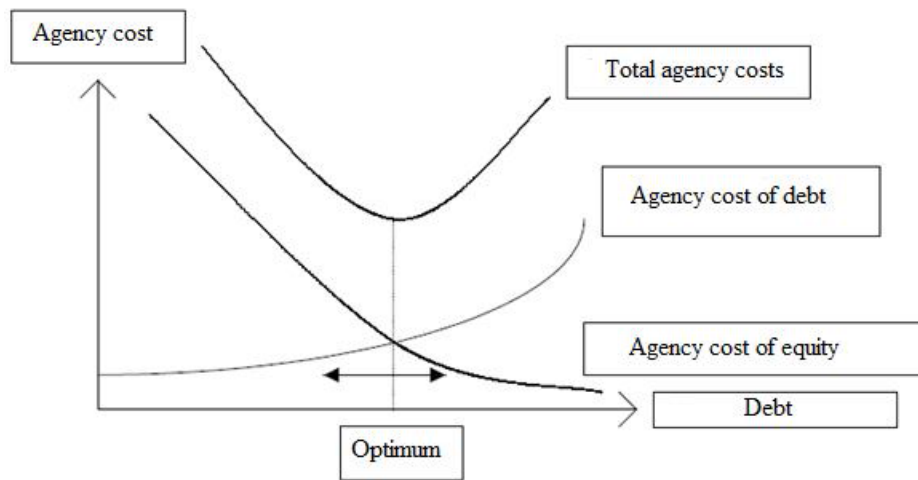
There are two versions of the trade-off theory, namely the static trade-off and the dynamic trade-off theory. The static

trade-off theory takes the observed debt ratio as the optimal debt ratio and does not consider shocks that may push a firm away from the desired debt level. Ghazouani (2013) viewed the static trade-off theory in terms of models that are related to bankruptcy costs and those related to agency costs. While the models related to bankruptcy costs infer a trade-off between tax advantages of debt financing against costs of financial distress as discussed earlier, the agency cost based on Jensen and Meckling (1976) is concerned with costs that result from the conflict of interest between:

(i) Shareholders and managers: this occurs when there is a conflict between shareholders and managers that do not have complete ownership of the entity. In this situation, managers rather than maximising firm value, tend to be more concerned with maximising their own actions. This action brings about a conflict of interest.

(ii) Shareholders and creditors: this occurs when shareholders are willing to engage in risky projects as against what creditors want. This is because if the project fails, the creditors endure the effect of the failure more than the shareholders.

Arising from the two concerns, the argument of Jensen and Meckling (1976) that an optimal capital structure is achieved at the point where total agency cost is the lowest (agency cost of debt plus agency cost of equity) holds forth as depicted in Figure 1. The figure shows a graphical representation of the trade-off theory in terms of agency costs as presented in Ghazouani (2013).



**Figure 1: Financing Structure and agency costs of debt**

Source: Ghazouani (2013)

In contrast to the static trade-off theory, the dynamic trade-off theory considers shocks and market frictions that may move a firm away from its target capital structure. Furthermore, studies on dynamic trade-off argue that costly adjustment costs, e.g. transaction costs due to market imperfections, may hinder a firm from reaching the desired debt ratio. In particular, Fischer, Heinkel and Zechner (1989) and Leary and Roberts (2005) argued that the existence of adjustment costs prevents frequent re-balancing of capital structure following deviations from the target capital structure. In addition, Hovakimian, Opler, and Titman (2001) noted that a firm will remain at the point that is not the optimal capital structure because it is cheaper for it to do so because of costly adjustment costs. The speed of adjustment which is inversely related to adjustment cost is an indication of how fast the firms adjust back to target leverage following deviations.

Based on these reasons, the observed debt ratio is noted to be different from the target debt ratio (Drobtetz and Wanzenried, 2006). Nevertheless,

Faulkender, Flannery, Hankins, and Smith (2012) argued that firms which need external capital to make up for the shortfall in retained earnings will issue securities that will keep them closer to the target capital structure. For this reason, they have to maintain low adjustment costs that will enable them to access debt finance.

Despite the arguments for the trade-off theory, critics of the theory opine that in reality, costly adjustment costs make it difficult for a firm to have an optimal capital structure, especially in situations of serious financial market imperfections and poor institutional qualities. This is because adjustment costs are likely to be high in such markets (Myers & Majluf, 1984). Another criticism of the theory is that it overemphasises the benefit of debt financing when compared to equity financing and overlooks the benefits of equity financing (Myers & Majluf, 1984). Jensen and Meckling (1976) in their own critique argued that the assumption that firms use more debt than equity will encourage risk shifting behaviour that leads to wealth being shifted from the debt holder to the holder of equity. This will happen

when the equity holder is involved in risky investment that benefits the firm if successful, but, if unsuccessful, erodes the tax benefit of debt.

### **Pecking Order Theory**

Because of the criticism of the trade-off theory, Myers and Majluf (1984) came up with the pecking order theory. With the pecking order theory, firms follow a hierarchical financing schedule and use retained earnings as the first choice in funding their financing need. Where it is insufficient, debt financing comes as the next option and equity finance is used as the last resort. The hierarchical schedule is used because of the agency cost and information asymmetry associated with debt and equity finance with the cost being higher in equity. With the pecking order theory, firms do not have target debt ratios but rather have changes in capital structure when an imbalance occurs in internal cash flows and investments with positive NPV. Myers and Majluf (1984) provided a theoretical explanation for the pecking order theory by using asymmetric information between firm managers and outside investors to demonstrate how the theory works. They noted that investors take into consideration the asymmetric information between them and firm managers in making investment decisions. This is because investors believe that firm managers have better information about the firms than they do and therefore, firm managers will overprice securities when they are issued. Due to the perceived overpricing, investors may not buy the securities even though the projects have positive NPV and this may result in an underinvestment problem for the firm.<sup>4</sup> To prevent the underinvestment problem,

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<sup>4</sup> The underinvestment problem occurs when firms with outstanding debt contracts are unable to take on profitable investment opportunities (Myers, 1977).

Myers and Majluf (1984) opined that firm managers would finance new investments first with retained earnings of the firm and where not sufficient, debt should be used. The use of debt sends a signal of the quality of the firm to outside investors in addition to indicating the absence of overpricing and minimal information asymmetry. Equity is used as the last resort in the event that retained earnings and debt are insufficient to finance the new investment.

The pecking order theory is not without its own criticism. Adedeji (1998) argued that it ignores the effect of factors such as interest rate, supplier of capital and government intervention on a firm's decision to use retained earnings, debt or equity. Cull and Xu (2005) put a similar viewpoint forward when they argued that cost of debt financing may be lower than cost of internal funds when monetary policy is introduced in an economy during periods of financial crisis. This motivates the firms to use debt finance rather than retained earnings. The points raised in these arguments imply that factors other than agency cost and information asymmetry are taken into consideration when firms choose the capital structure to adopt.

### **Market Timing Theory**

A more recently developed theory is the market timing theory and is premised on favourable market conditions such that firms issue equity when the cost of issuance is advantageous to the firm. Conversely, the firms utilize debt financing when cost of debt is favourable (Baker & Wurgler, 2002; Huang & Ritter, 2009). The underlying assumption with this theory is that firms examine the current conditions of the market (debt and equity) when financing is required and make use of the one that is most favourable. This theory, according to Celik and Akarim (2013), is mostly applicable in inefficient and segmented markets where the capital structure of firms

follows the condition of the money and capital markets. In this type of market, firm managers usually take advantage of information asymmetries for existing shareholders' benefit. However, if conditions in both markets are not favourable, the managers can defer issuance and if favourable, raise funds even if they do not currently need it (Frank & Goyal, 2009). Empirical survey evidence supporting the market timing theory is given in Graham and Harvey (2001) where managers acknowledged that they timed the market at one point in time.

The aforementioned theories suggest that several factors come into consideration in explaining a firm's capital structure. In addition to this, some studies have equally established that it is not necessary for the theories to be mutually exclusive. In other words, two different theories may be applicable at the same time in a given study. For instance, De Haan and Hinloopen (2003) found that for firms in Holland, the trade-off theory and the pecking order theory are both important in explaining their capital structure. Other studies that found that more than one theory is important in explaining capital structure include Antoniou, Guney and Paudyal (2008); Hovakimian, Opler and Titman (2001) and Titman and Tsyplakov (2007).

### **Determinants of Capital Structure**

Existing literature apart from establishing theories that explain capital structure decisions also identifies the factors that are important in determining firms' capital structure. These factors are used in explaining the theories of capital structure. Factors commonly identified are categorised into firm-specific and non-firm-specific. Firm-specific determinants are usually within the control of the firm and include profitability, firm size and age, tangibility of assets, and growth opportunity among others. Factors that usually come under non-

firm-specific include macro-economic, financial institutions (suppliers of capital), the legal origin of a country and institutional factors. These two groups are discussed as follows:

### **Non-Firm-Specific Determinants**

Non-firm specific determinants may be categorised in to three segments namely:

i) **Financial Institutions:** Firms' access to finance is partly a function of financial institutions through the role they play as financial intermediaries that resultantly paves the way for positive investment opportunities that promote growth (Fan, Wei & Xu, 2011). Buttressing this point further, Fan, Titman & Twite (2012) asserted that financial institutions influence the way firms are financed through the provision of either debt or equity. The development of these financial institutions puts in place an efficient transfer of resources from lenders to borrowers (investors and firms in this case) and risks are more aptly distributed. For example, Wurgler (2000) found that efficient capital allocation is done better in countries with developed financial systems. This is because of the stock market's ability to reflect firm-specific information into stock prices in developed markets thereby reducing asymmetric information in addition to low transaction costs and liquidity availability. Similarly, Dahou, Omar and Pfister (2009) and Oztekin (2015) both stressed the important role of financial market development in channelling available resources from surplus to deficit units for productive use. These studies noted that through their intermediary function, financial markets stimulate investments by providing a conducive environment for carrying out contractual transactions. Thus, the development of financial markets that comes with reduced transaction costs, reduced information

asymmetry and provision of much needed liquidity is expected to have a positive effect on the use of external finance by corporate firms (Tai, 2017).

ii) **Legal System and Institutional Factors:** The type of legal system operating in a country is also important in determining the choice of either debt financing or equity financing by firms. La Porta, Lopez-de-Silanes, Shleifer, and Vishny (1998) argued that legal rules and the quality of law enforcement are important determinants of the form and complexity of financial agreements. They stated that the legal protection offered by the legal system to investors to reduce agency problems and information asymmetry between the various stakeholders of the firm influence investors' decision to provide funds for firm financing. They equally noted that legal structures without adequate protection to investors worsen information asymmetries, agency costs and contracting costs. La Porta et al. (1998) concluded that firms in countries where the legal structure is weak usually have lesser access to external capital, which in turn limits investment opportunities and lowers economic growth. In particular and relating to the type of legal system in place in a country, they documented that the legal protection offered to investors in English common law countries is stronger than those offered in French civil law countries. This was evidenced by firms in English common law countries being more leveraged than firms in French civil law countries. This is because in the English common law countries, the legal protection offered to investors mitigates information asymmetry and agency costs more than in French civil law countries where these issues are more severe due to the lower protection offered to investors. Likewise, the same better legal protection to shareholders and creditors that mitigates agency costs and information asymmetry are obtainable in developed

markets/countries. This implies that firms in such countries face lesser constraint in financing and have more access to external finance in the form of either debt or equity or both (Belkhir, Maghyereh & Awartani, 2016; Mc Namara, Murro & O'Donohoe, 2017).

Relating these assertions to adjustment costs, the expectation is that it (adjustment costs) will be lower for firms in developed markets and English law countries for the same reason that agency costs and information asymmetry are less severe. They should therefore have faster speed of adjustments (Öztekin & Flannery, 2012). Conversely, firms in developing countries should have slower speed of adjustment due to higher adjustment cost. Related to the legal system are factors that define the quality of enforcement of existing laws especially as it concerns the financial system. These include government effectiveness, regulatory quality and the rule of law. According to Antoniou et al. (2008), higher rule of law leads to efficiency in enforcement of legal regulations inclusive of bankruptcy laws. This suggests that firms in countries where the rule of law is high use less debt in order to reduce the risk of bankruptcy. In a similar argument, Cho, El Ghouli, Guedhami and Suh (2014) showed that stronger creditor protection discourages firm managers and shareholders from using debt finance in order not to lose control of the firm when financial distress arises. They further noted that this is based on the view of the firms (demand-side) unlike the assertion of La Porta et al. (1998) which is looked at from the investors' (supply-side) angle. In contrast, De Jong, Kabir and Nguyen (2008) argued that in countries where law enforcement is efficient, firms tend to have high leverage because efficiency in law enforcement increases the ability of creditors to recover borrowed funds. The reverse is expected to be the case in countries where law enforcement is poor

and as such less debt is used (Fan et al., 2012).

iii) **Macro-economic Determinants:** Literature also establishes that macro-economic variables are important determinants of capital structure as evidenced in the demand and supply of capital by firms in financial markets. Economic growth and inflation are two important and consistent determinants of capital structure in theoretical literature. These two factors indicate the degree of stability in an economy (Bolton & Huang, 2017; Booth, Aivazian, Demirguc-Kunt & Maksimovic, 2001; Oztekin, 2015). The theoretical explanation given for the effect of the state of the economy i.e. gross domestic product on capital structure is in two folds: firstly, given a booming economy, there is an increase in stock price, a lowering of bankruptcy costs, an increase in collateral value and an increase in taxable income and cash. Consequently, firms are able to borrow more, while the reverse is the case during a recession (Chipeta & Derassa, 2016; Frank and Goyal, 2009; Gertler & Gilchrist, 1993). This implies that firms borrow against real investment opportunities and not speculative activities; secondly, Haas and Peeters (2006) and Frank and Goyal (2009) both argued that recessions worsen agency problems and result in a reduction in managers' wealth compared to shareholders' wealth. In other words, recession increases the agency conflict between inside and outside stakeholders. Accordingly, for the trade-off theory, there is an increase in the use of debt financing during periods of boom in the economy, while the reverse is the case for the pecking order theory.

In addition to economic growth, inflation is another macro-economic factor that is important in determining the capital structure choice. High inflation increases the real value of tax deductions on debt. Thus, during periods of high inflation, firms

tend to have higher leverage ratio in order to take advantage of the tax deductions (Frank & Goyal, 2009; Taggart, 1985). Another line of argument is that inflation reflects government's efforts at managing the economy and the local currency's stability in maintaining long-term contracts (Demirgüç-Kunt & Maksimovic, 1999; Oztekin, 2015). Therefore, a stable or low inflation rate will encourage the use of debt contracts.

### **Firm-Specific Determinants**

Several firm-specific factors that originate from the internal operations of the firm are identified in existing literature to be important determinants of capital structure and are used in explaining the various theories. Some of the determinants consistently used include profitability, asset tangibility, firm size, growth opportunity and non-debt tax shield (Antoniou et al., 2008; Frank & Goyal, 2009). These factors represent proxies for tax benefits, agency costs, financial distress/bankruptcy costs and information asymmetries. While factors such as asset tangibility and firm size are used as inverse proxies to represent the likelihood of bankruptcy and asymmetric information (Frank & Goyal, 2009; Rajan & Zingales, 1995); future growth opportunity and profitability are proxies for tax advantage of debt and need for extra financing in addition to the likelihood of bankruptcy and agency costs (Barclay & Smith, 1999; Mazur, 2007; Myers & Majluf, 1984).

The various factors identified exhibit different behaviours depending on the theory being investigated:

i) **Profitability:** The relationship between leverage and profitability under the trade-off theory can either be positive or negative. Profitable firms have lower cost of financial distress that makes interest tax shield more useful to them, thus, the use of more debt (Frank & Goyal, 2009; Jensen, 1986). On



the other hand, Kayhan and Titman (2007), Oino and Ukaegbu (2015) and Tsplakov (2008) argued that because certain firms aggressively store up profit, the relationship tends to be a negative one in dynamic trade-off models. This is because firms build up profit to increase production capacity that results in reduced profits due to the outflow associated with spending to increase production capacity. With the pecking order theory, a firm's profitability is negatively related to the leverage ratio. This is because firms prefer the use of internal finance as against external finance due to asymmetric information associated with external finance. Thus, the more profit a firm retains to finance investment, the less debt it employs in its capital structure (Abdeljawad & Mat Nor, 2017; Antoniou et al., 2008; Booth 2001; Haron, Ibrahim, Nor, & Ibrahim, 2013; Ramjee & Gwatidzo, 2012).

ii) **Asset Tangibility:** Tangibility of assets lowers the cost of financial distress for two reasons: firstly, tangible assets (property, plant and equipment) are easier to value by outsiders than intangible assets; secondly, shareholders find it difficult to substitute high-risk assets for low risk ones. For these reasons, the trade-off theory predicts a positive relationship between leverage and tangibility (Akhtar & Oliver, 2009; Frank & Goyal, 2009; Haron et al., 2013; Harris & Raviv, 1991). Hence, the more tangible assets the firm has, the more debt it can employ to finance investment. The prediction of the pecking order theory, on the other hand, is ambiguous because it gives both a positive and negative prediction. A negative prediction is predicated on the low information asymmetry associated with tangible assets that lowers cost of equity issuance, thus, equity will be preferred over debt. On the other hand, and in the presence of adverse selection that has to do with the type of assets in place, tangibility will have a positive relationship with leverage (Frank &

Goyal, 2009; Karadeniz, Kandir, Balçilar, & Onal, 2009; Li & Stathis; 2017; Mazur, 2007; Mukherjee & Mahakud, 2010).

iii) **Firm Size:** The trade-off theory predicts that the larger the size of the firm, the higher the debt ratio of the firm will be. This prediction is premised on the assumption that larger firms are more diversified, have a low default risk and less debt related agency cost (Frank & Goyal, 2009; Kythreotis, Nouri & Soltani, 2017; Zou & Xiao, 2006). The pecking order theory, conversely, predicts an inverse relationship between leverage and firm size. According to Frank and Goyal (2009), this is because larger firms are usually older and build up profit over the years to finance investments compared with smaller firms. Rajan and Zingales (1995) argued that because information asymmetry in larger firms is small, the odds of undervaluing new equity issue is low, therefore, such firms will issue equity to meet up with their financing need.

iv) **Growth Opportunity:** Growth opportunity is another important firm-specific factor that determines the capital structure a firm adopts. The trade-off theory predicts an inverse relationship between growth opportunity and leverage because growth escalates financial distress and lowers free cash flow issues (Frank & Goyal, 2009; Vo, 2017; Rajan & Zingales, 1995). Thus, the higher the growth opportunity, the lower is the debt ratio and vice versa. The pecking order theory, on the other hand reasons that firms accrue debt over time to finance investments that continuously grow as the firm grows (Chen, 2004; Frank & Goyal, 2009; Tong & Green, 2005). Consequently, the larger the firm, the more debt it uses to finance investments.

v) **Non-debt Tax Shield:** Evidence of the effect of non-debt tax shield on capital structure predicts a positive and negative effect for the trade-off theory. An argument put forward for the positive effect is that if

non-debt tax shield consists mainly of depreciation; the firm will have more tangible assets that generate high level of depreciation and tax credit. These type of assets (tangible assets) increases the firm's capacity to take on more debt because of the collateral value and thereby save on tax. Hence, the more non-debt tax shield the firm has, the higher its debt ratio (Antoniou et al., 2008; Barclay & Smith, 2005; Chang, Lee, & Lee, 2009; Kanatani & Yaghoubi, 2017). On the other hand, a negative effect is predicated on the argument that because non-debt tax shields are sometimes considered to be substitutes for tax benefits of debts, it may lead to each firm having an internal optimal leverage. This is because more non-debt tax shields in a firm's book imply the probability that it has lesser taxable income, a lesser expected corporate tax rate, and a lesser payoff expected from interest tax shields. Consequently, firms that have higher levels of non-debt tax shield tend to have lower debt levels (De Miguel & Pindado, 2001; Fama & French, 2002; Li, Feng, Lu & song, 2016; Ngugi, 2008; Ozkan, 2001).

### **Target Leverage, Adjustment Costs and Speed of Adjustment**

Hovakimian; Opler & Titman (2001) defined target leverage as the debt ratio that a firm will choose in the absence of information asymmetries, transaction costs and other adjustment costs. This implies that a firm frequently adjusts its debt level because of these issues and thus adjustment to target leverage is dynamic. The argument for a dynamic study of the trade-off theory of capital structure is premised on the existence of shocks that may push a firm away from its desired debt level. When this happens, a firm's desire to reach the desired level may be hindered by costly adjustment costs that make the observed and optimal debt ratio for firms different. This is due to the regular

adjustment made towards a moving target leverage by the firms since they may not be operating at the desired level of leverage (Ozkan, 2001; Öztekin & Flannery, 2012). The factor that firms who exhibit target leverage behaviour have to take into consideration is the cost of adjustment towards the target (Haas & Peeters, 2006). The cost of adjustment determines the speed at which the firm moves towards an optimal debt ratio. This is in contrast to the static trade-off theory that assumes the observed and optimal debt ratio are the same. By so doing, it ignores expensive adjustment cost that may prevent the firm from attaining the desired debt ratio. Studies on trade-off theory in developing and specifically African studies are mostly investigated within a static framework (Abor & Biekpe, 2009; Gwatidzo & Ojah, 2009; Kyereboah-Coleman, 2007).

Because of the dearth of literature on dynamic trade-off theory of capital structure for firms in developing countries, most of the supporting empirical evidence of the theory (dynamic trade-off) and cost of adjustment in non-financial firms is concentrated in developed countries rather than in developing countries (Haron et al., 2013; Rasiah & Kim, 2011). An example of a developed country study is the investigation of target leverage and speed of adjustment for Swiss firms by Drobetz and Wanzenried (2006). They documented that faster growing firms and firms that are far away from target leverage adjust easily with higher speeds of adjustment when the economy is booming. Similar findings of target leverage adjustment were reported for US firms in Flannery and Rangan (2006) with firms having mean speed of adjustment estimated at 30% per year. They equally pointed out that the 30% speed of adjustment is three times higher than is usually reported in literature which underscores the need for studies on target leverage behaviour.

Antoniou et al. (2008) also documented evidence of firms adjusting to optimal target leverage in a sample of non-financial firms in market and bank-based economies (France, Germany, Japan, the United States and the United Kingdom). The adjustment speed of firms in market-based economies (United States of America and United Kingdom) was found to be higher than that of firms in bank-based economies (Germany, Japan, and France). They argued that this is because firms in bank-based economies do not need to rely on debt financing as a signal of firm quality to investors unlike firms in market-based economies. Another argument put forward is that firms in bank-based economies weighed the cost of being off target against agency costs. If the cost of being off target is lower than the cost of adjustment, the firms adjust slowly and do not bear significant agency costs. Thus, for firms in bank-based economies in the study, the cost of being off target was lower than the adjustment cost, hence the slower speed of adjustment. Nevertheless, the study reported adjustment cost of 74% in the pooled sample for all the countries investigated.

In another study, De Miguel and Pindado (2001) investigated 133 non-financial firms in Spain and noted that firms in Spain use mostly debt sourced from the private debt market rather than the bond market. One of the reasons attributed to this is that the bond market in Spain is less developed compared to the market in the United States, the United Kingdom and Germany. They also noted that private debt mitigates the agency cost of debt in addition to lessening the effects of adverse selection and moral hazard. This is due to the benefit derived from monitoring of creditors and the possession of firm information that reduces information asymmetry among firms and creditors. De Miguel and Pindado (2001) argued that these reasons explained why Spanish firms had lower adjustment

costs (21%) than firms in countries with developed bond markets such as the United States. Other studies indicating target leverage behaviour and speed of adjustment in firms include: Hass and Peeters (2006) for transition economies in Central and Eastern Europe and Hovakimian and Li (2011) for US firms.

Empirical evidence from developing countries is sparse and reports varying speed of adjustment when compared to developed countries. For example, Getzmann, Lang, and Spremann (2014) examined the determinants of capital structure and speed of adjustment towards target leverage in a sample of 1,239 non-financial firms listed in Asian financial markets for the period 1995 to 2009.<sup>5</sup> Using the system generalized method of moments estimation, they found that non-financial firms in Asia exhibit target leverage behaviour with adjustment speed ranging from 24% to 45%. This speed of adjustment is comparable to those of US firms reported in Flannery & Rangan (2006). Haron; Ibrahim; Nor & Ibrahim (2013) also reported evidence from 590 non-financial firms in Malaysia indicating that Malaysian firms make adjustment to target leverage when deviations occur. Using a partial adjustment model and the generalized method of moments technique, they reported adjustment cost of 0.43 and adjustment speed of 0.57. Another study from a developing country on dynamic leverage ratio is Arioglu and Tuan (2014) who investigated the adjustment speed of non-financial firms in Turkey and found the speed of adjustment to be about 29%. This implies that firms in Turkey exhibit target leverage behaviour such that when deviations occur from the target due to

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<sup>5</sup> These covered stock markets in China, India, Indonesia, Japan, Malaysia, Pakistan, Philippines, Singapore, South Korea, Taiwan and Thailand

frictions, they try to rebalance the leverage ratio to close the gap created by the friction. As noted earlier, prior empirical literature on target leverage in African countries were mostly investigated within a static framework in addition to being single country studies (Akinlo, 2011; Kyereboah-Coleman, 2007; Salawu & Agboola, 2008). The problem with this type of investigation as discussed earlier, is that they do not take into consideration the existence of shocks that may push a firm away from its target leverage and costly adjustment costs that prevent the firm from readjusting. Öztekin and Flannery (2012) note that the institutional features of a country, such as the state of development of the markets, that make the issuance of debt and equity finance costly, should make firms in that country have slow speeds of adjustment. Nevertheless, few recent studies have examined target leverage within the context of non-financial firms in Africa by considering the existence of adjustment costs. One of such studies is Ramjee & Gwatidzo (2012) who investigated 178 non-financial South African firms to determine if they adjust to target leverage using firm-level variables (asset tangibility, profitability, size, age, risk, tax and growth). In the study, the speed of adjustment and adjustment cost were examined within a dynamic framework for the period of 1998 to 2008 using the generalized method of moment estimation technique. Adjustment speeds that ranged from 0.623 to 0.655 for total debt and 0.785 to 0.802 for long-term debt were reported for the firms.<sup>6</sup> They attributed the high speed of adjustment to low adjustment cost because firms in South Africa depend more on bank financing (private debt) than bonds (public debt).

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<sup>6</sup> This implies adjustment costs between 0.345 and 0.377 for total debt while that of long-term debt is between 0.198 and 0.215.

They contended that banks are able to offer lower transaction costs relative to the bond market because the bond market is underdeveloped, therefore, the reliance on bank credit. They also argued that the excess capital and inexpensive financing from bank deposits enable banks to offer lower debt financing costs. A comparable speed of adjustment is also reported in South Africa in Öztekin and Flannery (2012) in a cross-country study of 37 developing and developed countries with only South Africa representing the African region.

In another study, Ghazouani (2013) reported evidence of target leverage adjustment for a sample of 20 non-financial firms in Tunisia by using the one-step and two-step difference generalized methods of moment approach. In contrast to the findings of Ramjee & Gwatidzo (2012), they found that the firms in the study have higher adjustment costs of 0.836 for the one-step and 0.817 for the two-step methods. The study period was from 2004 to 2010 and employed firm-level determinants (size, growth, profitability, guarantees and risk). The higher adjustment costs of Tunisian firms were explained in terms of the debt market being dominated by banks due to the underdevelopment of the Tunisian bond market. The banks in the study were noted to have inefficient and cumbersome quality control measures and did not follow due process in the granting of credits. Hence, the reason why the adjustment costs was found to be high. Jooma and Gwatidzo (2013) extended the works of Ramjee and Gwatidzo (2012) and Ghazouani (2013) by examining firms in four African countries over the period of 2001 to 2011, also using firm-level determinants in the regression specification.<sup>7</sup> The study revealed that the firms in the countries investigated exhibited

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<sup>7</sup> Ghana, Kenya, Nigeria and South Africa

target leverage behaviour with adjustment cost and speed differing from country to country depending on the definition given to leverage. The speed of adjustment reported ranged from 17.9% to 60.2%. Firms in Nigeria and South Africa had lower transaction costs in adjusting to target leverage when compared to those in Ghana and Kenya. The lower transaction cost was attributed to better-developed bond markets in Nigeria and South Africa although the study excluded bond market development variable and employed only firm-level variables. They also found that the speed of adjustment was faster in short-term debt ratio as against long-term debt ratio indicating higher costs of adjustment for long-term debt. Recent works that have extended literature in adjustment costs and speed of adjustment in developing economies include Ahmad and Etudaiye-Muhtar (2017); Chipeta and Deressa (2016) and Munisi (2017).

### **Concluding Remarks**

An unresolved issue that lies at the core of corporate finance is the question of how firms determine their corporate capital structure policy due to the perceived effect it has on their value. Essentially, capital structure decisions has implications on not only the acceptance of projects with positive net present values, it also has an implication on the economic worth of the investments generated by the projects. This further buttresses the need for firms to adopt an appropriate capital structure policy. Nevertheless, findings from previous studies to determine the optimal capital structure have been inconclusive. Accordingly, this study reviewed the various theories and conceptual framework used in literature to explain the capital structure policy adopted by firms. The study concludes from the extensive review that the various theories are not mutually exclusive and that several factors come into

consideration in explaining a firm's capital structure. These factors include firm-specific, non-firm specific, adjustment costs and speed of adjustment. Two key implications drawn from the review are:

- i. There is a need for researchers to properly identify the theories applicable in view of the various factors that are important in making such an important financial decision. This will go a long way in solving the capital structure puzzle.
- ii. Firms will also benefit from adopting the policy that minimises costs while maximising firm value especially for firms that have no appropriate policy relating to capital structure.

Note that the present study is a review one, one of the limitations it has, is the lack of empirical studies from different regions of the world which may largely be attributed to space constraints. Nevertheless, further studies may extend the frontier of knowledge by providing the empirical evidences lacking in this study. Such studies may also include a discussion of various methods employed.

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