

## CHAPTER 3

### LITERATURE REVIEW

This chapter mainly focuses on literature review part of the study. It contains two sections. The section one is the theoretical review, which covers the development of capital structure theories namely the Irrelevant Theory, Trade-Off Theory, Pecking Order Theory, Agency Cost Theory, Signalling Theory and Market-timing Theory. The section two, the empirical review, summarises the empirical studies of capital structure and firm performance detailing liquidity and firm performance, asset turnover and firm performance, growth and firm performance, firm size and firm performance. It concludes by identifying the research gap and future studies and the development of hypotheses of studies and theoretical research framework.

#### **3.1. The Theoretical Review: The Development of Capital Structure Theories**

It is almost six decades, since the debate of debt-equity structure began. Most capital structure studies have emphasised the proportion of debt-equity and its effects on a firm's value. As the literature indicates, there is no a universal theory that can explain firm managers' behaviour towards its debt-equity choices (Myers, 2001). As a result, the capital structure studies have developed a number of modern theories, namely Static Trade-Off Theory, Pecking Order Theory, Agency Cost Theory, Signalling Theory, and Market-timing Theory, which are in part, derived from Irrelevant Theory's assumptions. However, the good thing is that each one of the above-mentioned modern theories explains some of a firm's debt equity decision-making process (Myers, 1984).

This section addresses the foundation and development of modern capital structure theories, namely, Static Trade-Off Theory (STOT), Pecking Order Theory

(POT), Market Timing Theory (MTT), Agency Cost Theory (ACT) and Signalling Theory (ST). However, in terms of analysis, this study focuses on TOT as one of the major capital structure theories.

### **3.1.1 Irrelevance Theory (MM Theorem)**

Irrelevance Theory (IT) is the foundation of capital structure theories. It is also the first theory that attempted to explain the effect of debt on firm value. The IT assumes that the firm's value will be independent of its debt equity combinations in a tax-free economy and perfect capital market (Breale et al., 2007). Modigliani and Miller (1958) introduced the IT with the primary goal of finding a theory that can assist firm managers reach a rational debt equity structure, which ranges from debt, equity and internally-generated cash flow to hybrid securities. This is mainly because to achieve one of two major objectives of a firm, namely, profit maximisation or market value maximisation.

In MM Theorem, firms are categorised into groups or classes, in which, the shares of different firms within the same group or class are homogeneous. In other words, the shares are considered as a perfect substitute for one another.

The MM Theory assumes the perfect capital market with the following assumptions:

- A. No taxes exist (corporate and personal);
- B. No transaction costs/no brokerage costs;
- C. No bankruptcy costs;
- D. There is an existence of symmetric market information.
- E. Investors are able to borrow at the same rate as corporations
- F. All investors have the same information that firm managers have.

Based on the above conditions, Modigliani and Miller (1958) proposed two fundamental propositions -Proposition I and Proposition II. In Proposition I, a firm's value is independent of its debt equity ratios and therefore, the capital structure does not affect the firm's value. Both leveraged and unleveraged firms are equal and both will remain in equilibrium regardless of their debt equity structure (Breale et al., 2007). By definition, the leveraged firm is a firm with mixed financing modes such as debt and equity for instance, while the unleveraged firm is a firm that is operating with zero debt ratio and thereby, it will solely be dependent on equity financing.

Hence, the following equations symbolize the leveraged and unleveraged firms' formulas demonstrating that debt has no effect on firm value:

$$v_U = E_t \quad (3.1)$$

$$v_L = E_t + D_t \quad (3.2)$$

And therefore, in Proposition I,

$$v_U = v_L \quad (3.3)$$

where:

$v_L$ : Leveraged Firm

$v_U$ : Unleveraged Firm

$E_t$ : Equity Financing

$D_t$ : Debt Financing

$D/E$ : Debt-Equity Ratio

Equation 3.1 represents the value of the firm, which is financed by only equity mode, while equation 3.2 displays the value of the firm that utilises mixed financing modes i.e., debt and equity. Therefore, this leads to the conclusion that the value of both

firms, namely leveraged and unleveraged will remain in equilibrium regardless of debt-equity choices as stated in equation 3.3.

However, if there is lack of equilibrium between the two firms ( $v_U$  and  $v_L$ ), where  $v_U \neq v_L$ , an arbitrage opportunity will occur, and it will restore the equilibrium level. In Figure 3.1, the horizontal line represents the value of leveraged and unleveraged firms, in which the value of both firms is equal, and they remain in equilibrium status regardless of debt-equity choices as the proposition I suggests.

**Figure 3.1:** Debt and the Leveraged and Unleveraged Firms' Value



Source: (Lynch, 2022)

From figure. 3.1, MM Proposition I states that the value of the leveraged firm is the same as the value of the unleveraged firm. This was one of the key findings in corporate finance, which establishes the beginning point of modern managerial finance. Pre-MM Proposition I, the impact of debt on the firm's value was considered complex and convoluted (Ross et al., 2010).

MM Proposition II (no taxes) states that as the leverage increases, the cost of equity also raises due to high financial risks associated with highly indebted firms. However, this rising equity cost will be compensated by benefits of using high debt

ratio. Therefore, the debt-equity structure has no impact on the weighted average cost of capital. Furthermore, the MM Proposition II (no taxes) ignores the effect of taxes, bankruptcy costs, transaction costs and other costs on firm value, which leads to the conclusion that the cost of capital structure is irrelevant to the value of the firm (Stiglitz, 1988).

Equation 3.4 represents the relationship between the costs of leveraged firm and its average weighted cost:

$$R_e = R_u + (D/E) (R_u - R_d) \quad (3.4)$$

where:

$R_e$ : the expected return on equity/cost of equity.

$R_d$ : the result on debt/cost of debt

$R_u$ : The return on unleveraged firm/cost of equity for equity-based firm

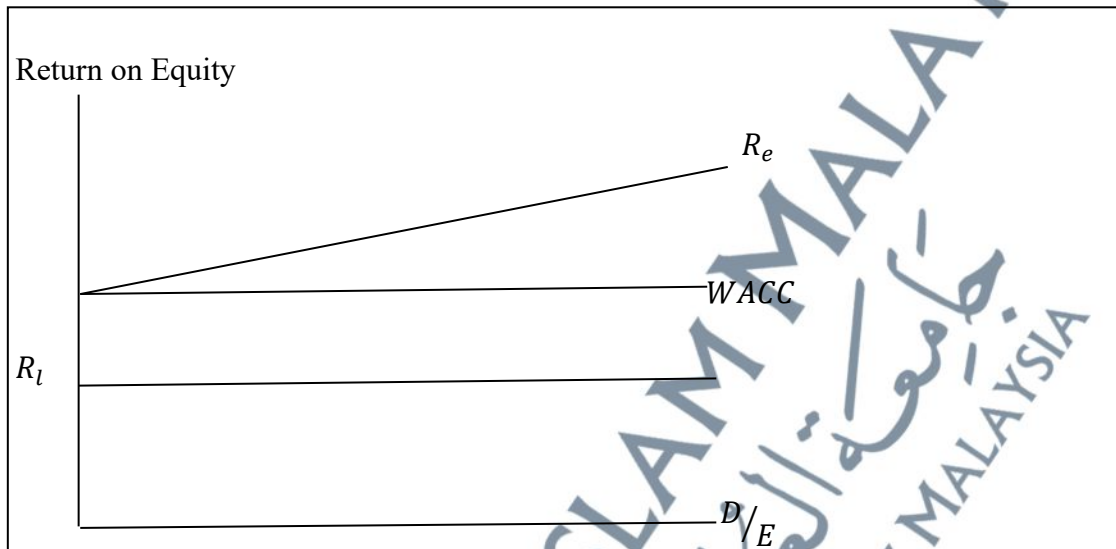
D: The market value of debt

E: The market value of equity

Figure 3.2 below displays the cost of both equity and debt financing in relation to its weighted average cost of capital or overall cost. The horizontal line represents the weighted average cost/expected return on assets. The figure also indicates that the cost of debt or equity has no effect on the average weighted cost of the capital and thus, weighted average cost remains constant, since the increased equity cost due to the increasing leverage ratio is offset by benefits of using high debt ratio.

**Figure 3.2:** The W

ighted Average Cost of Capital



Source: (Lynch, 2022)

The figure also shows that borrowing cost will remain constant all the time, no matter how much a firm borrows. This is because, highly indebted firms will have only access to the borrowing market at high rate due to increasing high risk of default, while the equity holders also demand a high rate of return. This acts as a self-adjustment/controller, which will restore the equilibrium (Brealey et al., 2007). The logic of the Irrelevance Theory is widely accepted, but the financing is still a matter due to taxes, differences in information and agency costs as will be discussed in the next sections (Myers, 2001).

To sum up, MM Theory indicates that firm managers have no role to adjust the value of the firm by restructuring its debt-equity ratio. They argue that the overall cost of capital cannot be minimised by using high debt ratio, even though the debt always acts as a cheap source of financing. The reason is that as the debt level rises, the equity

ratio becomes riskier, which in turn increases the cost of equity. Consequently, any rise in cost of remaining equity compensates the benefit of using low cost of borrowing.

### 3.1.2 Debt and Taxes (MM Trade-off Theory/MMTOT)

This theory is derived from recognition of corporate tax's effect, which was the primary force that led Modigliani and Miller (1963) to revise their view about Irrelevance Theory and admit the role of corporate tax in firm value. The theory suggests that leveraged firm enjoys tax advantages due to the interest payment in comparison its counterpart, which is the unleveraged firm. This is due to the fact that the interest paid is a tax-deductible expense, meaning the leveraged firm pays less taxes. This tax deductibility will prevent the arbitrage opportunity from occurring and it will restore the lack of equilibrium between un-leveraged and leveraged firms in a given class as shown in Equation No 3.5.

Moreover, MM TOT is the original version of TOT. It suggests that Proposition I and Proposition II must be revised. In Proposition I, firms prefer debt over equity due to corporate tax shield ignoring financial stress costs (Modigliani & Miler, 1963). Thus, the firm value increases with the leverage and thereby, the value of a leveraged firm will be equal to the value of unleveraged firm plus the corporate tax shield as shown in Equation 3.5.

$$V_l = V_U + T_C D \quad (3.5)$$

where:

$V_l$ : Leveraged Firm

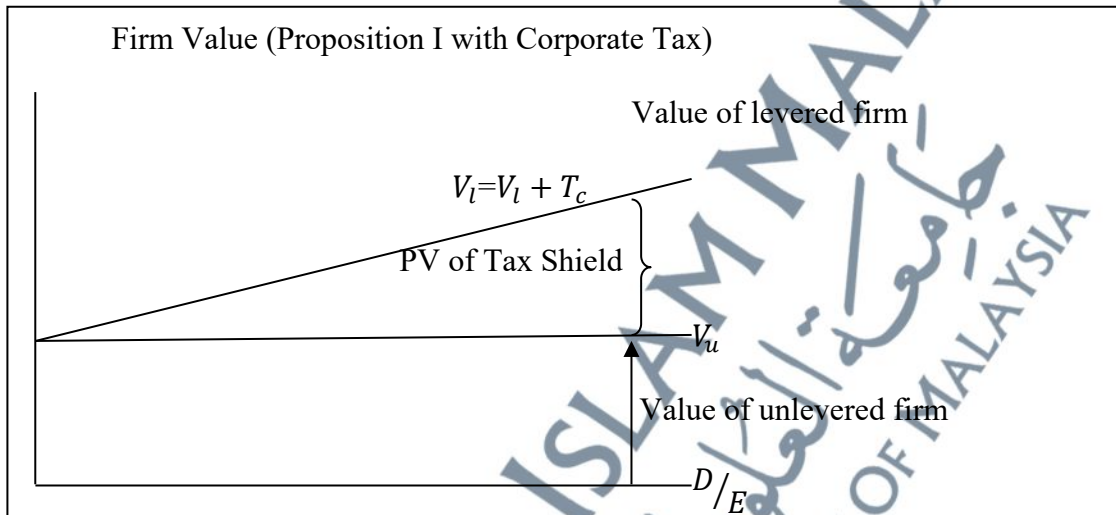
$V_U$ : Unleveraged Firm

$T_C$ : Corporate Tax

$D$ : Debt Financing

Figure 3.3 reveals the relationship between the firm value and debt financing, when the corporate tax is taken into account. In this regard, as the leverage rises, the value of a firm rises by the proportion of the tax shield.

**Figure 3.3:** Debt Effect and Firm Value



Proposition II was set to revise as MM Theorem with corporate tax recognition suggests. As the leverage rises, the amount of tax shield increases. As a result, the average weighted cost of the firm decreases and the value of a leveraged firm increases.

Equation 3.6 indicates that the interest rate as well as the return on equity/cost of equity declines.

$$R_e = R_u + (D/E) (1 - T_c) (R_u - R_d) \quad (3.6)$$

where:

$R_e$  : Return on Equity/Cost of Equity

$R_d$  : Return on Debt/Cost of Debt

$R_u$  : Return on Unleveraged Firm/Cost of Equity for Equity-based Firm

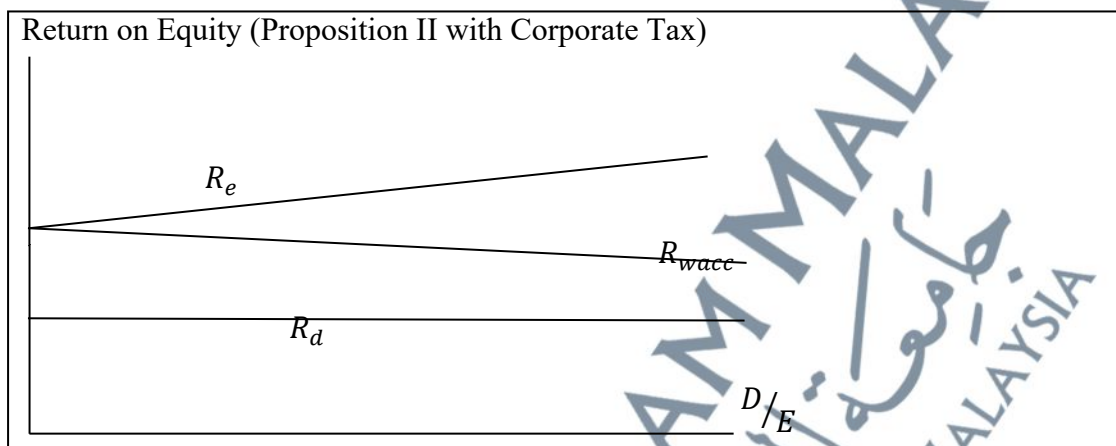
$T_c$ : Corporate Tax Rate

D: Market Value of Debt

E: Market Value of Equity

Figure 3.4 shows the costs of capital in relation to its average weighted cost

**Figure 3.4:** The Costs of Capital and the Average Weighted Cost



Source: (Lynch, 2022)

Under Proposition II with no tax assumption, the average weighted cost is the straight line. It is constant at all times, which indicates that changes in debt equity choices have no impact on its average weighted cost. On the other hand, the horizontal line of average weighted cost negatively declined, which indicates that as the firm uses more debt, the average weighted cost will be significantly decreased due to the tax gain from debt financing. This, in turn, lowers the average weighted cost and simultaneously, enhance the value of the firm.

However, one of shortcomings of the original version of TOT is that it ignores the effects of personal taxes and financial distress costs (Berens & Cuny, 1995). Therefore, the MMTOT applies an extreme assumption of going with 100% of debt financing to gain more from the tax shield, which is in contrast to what the practical work suggests (Luigi & Sorin, 2009). This leads to the Static Trade-off Theory (STOT) being developed, which will take into account the effects of financial distress in the choices of debt equity ratios, and which will be addressed in detail in the next section.

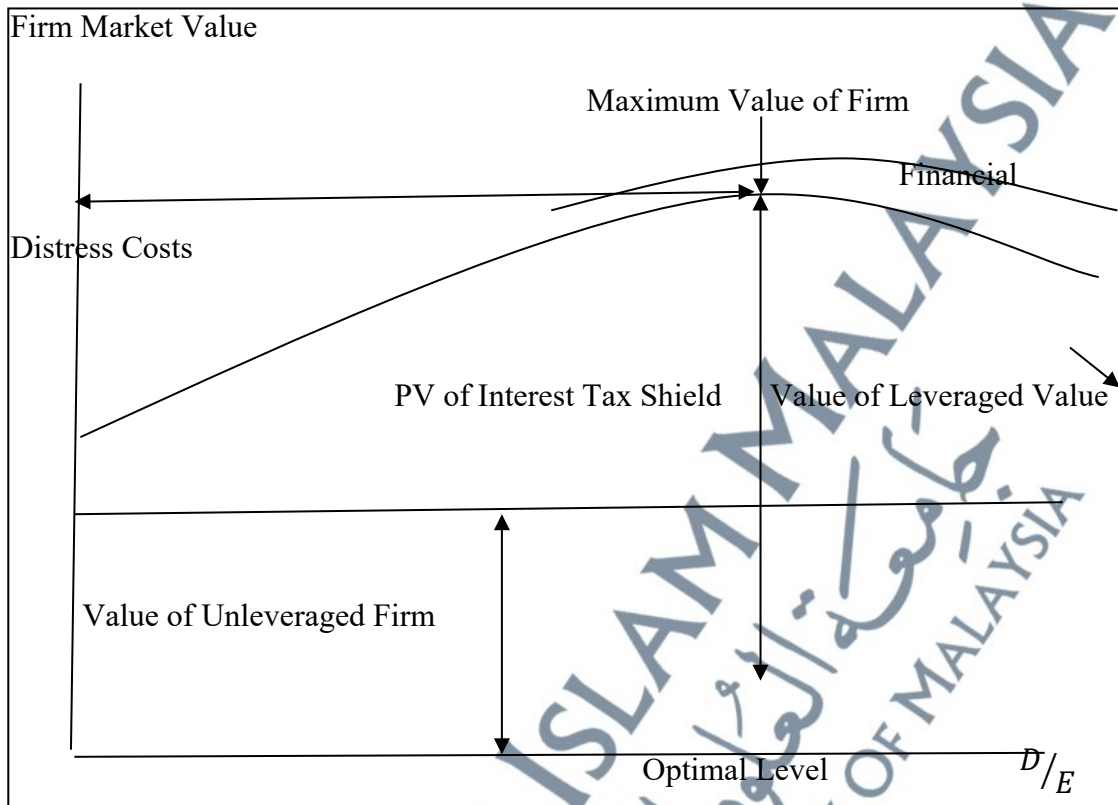
### 3.1.3 Static Trade-off Theory (STOT)

The STOT is one of the long-standing capital structure theories (Abel, 2015). It has emerged from in-depth studies and analysis of the Irrelevance Theory's assumptions. It particularly emphasises taxes. The theory suggests that "firms seek a debt level that balances the tax advantages of additional debt against the cost of possible financial distress i.e., costs of bankruptcy, reorganisation and agency costs." According to Myers (2001), "It therefore justifies moderate borrowing by a tax-paying firm at which a firm can commit to borrowing up to the point where the marginal value of the tax shield on additional debt is just offset by the increase in the present value of possible costs of financial distress."

The STOT mainly focuses on two important factors, namely tax benefits and financial distress. This is partly for the purpose of achieving the best debt equity ratio, in which the advantages of the tax shield are traded-off against the financial distress, while ensuring that the firm's assets and investment plans are undisrupted (Myers, 1984, Shyam-Sunder & Myers, 1999, (Dang et al., 2012, and Adair & Adaskou, 2015). In the context of this theory, the firm is viewed as a setting debt equity target. It gradually moves towards that target, with the firm replacing debt for equity or equity for debt, until it reaches the maximisation point/optimal debt-equity ratio (Myers, 1984).

Figure 3.5 below illustrates the STOT of capital structure for both leveraged and unleveraged firms.

**Figure 3.5:** The Static Trade-off Theory and firm value



Source: (Myres, 1984)

In Figure 3.5, the horizontal line represents the value of an unleveraged firm. The line is constant all the way. The upward line indicates the value of a leveraged firm, and as the curve shows, it increases as the firm uses more debt due to tax benefits. Therefore, the leveraged firm enjoys tax benefits, until it reaches a point at where the benefits of tax are offset by the costs of financial distress, which is the optimisation point of debt-equity ratio. However, if the leveraged firm exceeds the optimal level, the curve will suddenly begin to dip, resulting it some losses being incurred.

Myers (2001) concluded that “The static trade-off Theory implies that a value-maximising firm has to gain any interest tax shield, when the possibility of financial distress is remotely low and yet, there are a number of well-established and profitable companies operating at low debt ratio, which includes Microsoft and major

pharmaceutical companies.” Myers (2001) concludes that “these are indications that these firms can have more taxable income to shield and that they can serve more debt without risking financial distress. This is simply because that Static Trade-off Theory does not take into account the correlation between high profitability and low debt ratio.” However, in general, the theory is logically appealing, particularly because it rationalises moderate debt ratios and consistently suggests that firms possessing relatively safe and tangible assets are likely to have higher borrowings, while firms with risky and intangible assets tend to borrow less.

#### **3.1.4 Pecking Order Theory (POT)**

It is an essential capital structure theory. It came to light following the analyses of the capital structure decisions for non-financial US corporations over a decade from 1973 to 1982 from a different point of view (Myers, 2001). Initially, Myers and Majluf (1984) and Myers (1984) developed the POT from Donaldson’s study (1961) about financing practice of a selection of large corporations. They found that “Management strongly favored internal generation as a source of new funds even to the exclusion of external funds except for occasional bulges in the need for funds”.

The theory is based on differences in information, in which, firm managers know more about the true value of either the existing assets or a new opportunity than investors do, with the assumption that other things of a perfect market remain unchanged (Myers, 1984). Moreover, Myers and Majluf (1984) made the assumption that “in an efficient capital market, securities can always be sold at a fair price, the net present value of selling securities is always zero, and the cash raised exactly balances the present value of liability created”. The theory suggests that when an investment

opportunity arises, as the finance theory advises, the firm has first to evaluate the opportunity, whether it has a “positive net present value” (PNPV), for the firm to undertake the investment project. whether internally generated cash is enough to pay for the proposed project, that nothing fundamental will change. However, if the internal funds are insufficient, the asymmetric information arises, it creates a different sort of cost, which is the possibility that the firm will not issue and will therefore pass-up a positive NPV investment. This, as a result, creates a need for external funds, in which, issuing debt is better than issuing equity securities as the general rule recommends “issue safe securities before risky ones” (Myers, 1984).

Generally, issuing common stock will be welcome news for investors if it reveals a growth opportunity with a PNPV, or else, it is bad news if managers believe the assets-in-place are over-valued by investors and decide to try to issue over-valued shares (Myers, 2001). Myers and Majluf (1984) made the prediction that “managers act in the interest of the existing shareholders and refuse to issue under-valued shares unless the transfer from old to new shareholders is more than offset by the NPV of the growth opportunities”. Furthermore, the researchers maintain that share prices fall not due to the inelasticity of investors’ demand for equity securities, but due to the inferred information that the investors obtain in relation to the issuance, and invariably bad news outweighs the good. Therefore, the announcement to issue a debt should have less downward effect on stock price compared to the announcement to issue equity. Equity issue will occur only if in cases of costly debt, which is in the case when a firm is already challenged by precariously high debt ratio, where managers and investors anticipate financial distress costs.

Therefore, this resulted in the birth of POT, which posits that “firm managers prefer internally generated funds (depreciation and retained earnings) over externally-raised funds and within the external funds, they issue the safest security first, which is debt, then equity as a last resort”. The theory states that “there is no well-defined target of debt equity ratio, since there are two types of equity, namely, internal and external.” The first one is at the top of the POT, while the second one is at the bottom (Myers, 1984). The theory clarifies the reason why more profitable have lower borrowings as the profitable firms have access to more available internal financing, while less profitable firms need to be externally funded, and as a result, accumulate debt (Myers, 2001).

In the POT, the benefits of debt and the costs of bankruptcy are placed as a second order, assuming the absence of such optimal debt equity ratio (Zhang & Kanazaki, 2007). As mentioned above, POT suggests that the changes in debt-equity ratio are due to a shortage of internally-generated funds. In addition, highly-profitable firms with limited investment opportunities prefer using internal cash flow, while lowly-leveraged firms with huge growth opportunities and shortage of internally-generated funds prefer debt financing. In contrast, STOT states that achieving the ideal level of debt-equity ratio is the main reason that leads to the changes in debt equity ratios (Shyam-Sunder & Myers, 1999).

### **3.1.5 Agency Cost Theory (ACT)**

Agency Cost Theory “demonstrates the separation of ownership and the control of a firm. It assumes that the conflict of interest exists between firm’s managers and its shareholders. As it is known, corporate managers are the agencies of shareholders, and

the conflict of interest arises between the above two parties. This theory mainly analyses such a conflict between insiders and outsiders of a firm (Jensen, 1986). In particular, the Agency Cost Theory occurs in a situation where one party (firm owner) delegates the decision-making authority to another party, in this case, firm managers (Fayezi et al., 2012).

The ACT was first introduced by Jensen and Meckling in 1976. They viewed the relationship between firm managers and its shareholders as a pure agency cost relationship, which is the key factor that led to the development of the ACT. Moreover, the agency relationship creates a conflict of interest between firm managers and its shareholders. This is mainly because the firm managers in fact have full control over the resources of the firm (Fosberg, 2004). Therefore, firm managers have every incentive to let the firm grow beyond its optimal level as such growth increases the resources under the managers' control (Jensen, 1986).

Increasing leverage is seen as an effective policy to limit managers' control over firm's wealth. Shareholders often use to increase leverage for the purpose of reducing the power of firm's managers (Yu, 2012). Moreover, the creation of debt is considered as an advantage and a useful tool that limits firm managers' control. It also reduces the free cash flow problems, which may lead investing the funds at below the cost of capital or wasting them on organizational inefficiencies (Jensen, 1986). This is the core objective that the ACT intends to address.

Therefore, by issuing a debt, the recipients of debt have the right to take firm managers into bankruptcy court if they miss meeting the periodic payments: the principle plus the interest. Thus, having debt, as a source of funds reduces the free cash flow available for spending at the discretion of the managers. Failure to service the debt

payments acts as an effective monitoring force to enhance organizational efficiency. Besides, the control function of debt will become less effective in organizations that generate less cash flow with higher growth opportunities (Jensen, 1986).

### **3.1.6 Signaling Theory (ST)**

The theory is all about making certain changes in debt-equity ratio to send a reliable signal to the firm's outsiders towards its financial health and particularly its future cash flow, i.e., the principal and interest payments. The theory was introduced by Ross in 1977 who found that an increasing leverage ratio raises the firm value and also increases its market share price. The Signalling Theory argues that firm managers have better information than its potential investors do. Therefore, managers can maximise the firm's value by making certain changes in its capital structure.

Furthermore, the ST states that a good firm can distinguish itself from a bad firm through sending a credible signal about its quality to the capital market. This signal will be credible only when the bad firms are unable to mimic the good firms by sending the same signal to the capital market. This is, however, not an easy task and therefore, firm managers have to find a credible signalling instrument (Barclay & Smith, 2005).

In signalling hypothesis, the increasing leverage is considered an effective signalling tool. In this regard, firm managers prefer the debt financing mode over equity financing mode to send a positive signal to its future cash flow and its growth opportunities ((Eldomiaty et al., 2005). This is because, debt obligates firm managers to meet its periodic payments over the debt maturity period and therefore, if the firm managers miss the periodic payments, there will be serious consequences such as bankruptcy court filing. This risk will expose corporate managers to lose their positions

and hence, the firm managers will do everything to avoid such a situation (Akorsu, 2014).

### **3.1.7 Market Timing Theory (MTT)**

This theory has its basis in equity market conditions, whereby a firm issues shares at a high price and repurchases them at a low price relative to book value and past market values. The theory argues that “the capital structure evolves as a cumulative outcome of past attempts to time equity market based on analyses of actual financial decisions and long-run returns following equity issues and repurchases, analyses of realised and forecast earnings around equity issues and survey of managers” (Baker & Wurgler, 2002).

The theory suggests that capital markets are inefficient, and there is a benefit to exploit the opportunity of switching between equity and debt. This is in contrast to what Modigliani and Miller (1958) stated, that “costs of different forms of capital do not vary independently”. Therefore, according to Yang (2013), “market timing hypothesis becomes the key determinant of percentage changes in debt-equity combinations. It will have a persistent impact on the capital structure choices”. Furthermore, market timing hypothesis was and will remain a well-established theory in corporate finance. Initially, Baker and Wurgler (2002) had advanced this theory into corporate capital structure theories, hoping that it will clarify the behaviour of firm’s decision makers in respect of its debt-equity choices.

Moreover, Baker and Wurgler (2002) concluded that “MTT impacts the capital structure combination utilising historical market data to book debt-equity ratio. The variations in market value will have very long-term effects on capital structure, which

cannot be explained by the traditional theories of capital structure. Moreover, the STOT is capable of predicting short-term variations in the market to book ratio or any other variable should have temporary effects, while in POT, managers attempt to avoid issuing equity entirely. Thus, equity market timing has emerged as an important part of capital structure theories, which explains real corporate financial policy. Equity market timing has two versions, based on the assumption of rational and irrational managers and investors and both lead to similar capital structure dynamics. In addition, the Market Timing Theory suggests that firm managers are willing to issue new shares, when the share prices are high in comparison with the book values or the historical market values. In contrast, firm managers prefer to repurchase old shares, when the share prices are low (Brendea, 2012). The theory also suggests that “Low leveraged firms tend to be those that raised funds when their valuations were high, while high leveraged firms are those that raised funds when their valuations were low”. Consequently, fluctuating share prices will have persistent and significant impacts on capital structure policies. MTT has no ideal capital structure ratio and is viewed largely as an cumulative consequence of past efforts to time market equity (Baker & Wurgler, 2002).

The following Table 3.1 summarises the modern capital structure theories, assumptions, and shortcomings, which provide a brief comparison and contrast between the main features of each theory.

**Table 3.1:** Summary of Capital Structure Theories

<b>Theory</b>	<b>Assumption</b>	<b>Nature of force</b>	<b>Debt and Firm Value</b>	<b>Conclusion</b>	<b>Short Comings</b>
Irrelevance Theory (IT)	Absence of taxes, bankruptcy costs, transaction costs and asymmetric information	Perfect market assumptions	Zero effects	The value of firm is independent of its debt equity choices.	Even though the logic of irrelevance theory is widely accepted. The financing is still matter (Myers, 2001).
MM Trade-off Theory (MMTPT)	Corporate tax recognition	Tax advantages	The value of the firm increases with the leverage due to interest payment tax-deductibility.	Firms prefer debt over equity due to corporate tax shield. The value of leveraged firm is equal to the value of unleveraged plus the corporate tax shield.	It ignores financial stress costs and makes an extreme assumption of 100% of debt financing
Trade-off Theory (TPT)	Tax advantages and financial distress	Tax deduction due to interest payments	The value of the firm increases with the leverage due to interest tax shield.	It rationalises moderate debt ratios. Companies with relatively safe and tangible assets are likely to borrow more, while companies with risky and intangible assets tend to borrow less.	It fails to explain a number of well-established and profitable companies (Microsoft, for instance) operating at low debt ratio.

Pecking Order Theory (POT)	Asymmetric information	Shortage of internally-generated funds.	The announcement to issue a debt will have smaller downward impact on stock price compared to the announcement to issue new equity.	The theory clarifies why more profitable firms borrow less, because the profitable firms have more internal financing available, while less profitable firms require external financing, and accumulate debt as a result.	Firm managers do not have a target of debt-equity ratio. Internally-generated funds placed first over externally-raised funds and within the external funds, issuing debt is in the second place, then equity as a last resort.
Market Timing theory (MTT)	Asymmetric information	Equity market conditions	Share price fluctuations will have persistence and large effects on capital structure policies.	Low leveraged firms are likely to be those that raised funds, when their valuations were high, while high leveraged firms are likely to be those that raised funds when their valuations were low	There is no ideal capital structure ratio. The Market Timing Theory is viewed largely as a cumulative consequence of past efforts to time market equity
Agency Cost Theory (ACT)	Asymmetric information	The separation of ownership and the control of a firm.	Debt reduces the free cash flow problems.	Having debt as a source of funds, reduces the free cash flow available for spending at the discretion of the managers. Failure to service the debt payments acts as an effective monitoring force to make such organisations more efficient	The control function of debt will become less effective in organisations that generate less cash flow with higher growth opportunities.

Signalling Theory (ST)	Asymmetric information	Sending positive signal to the firm outsiders in respect of its future cash	Increasing leverage ratio raises firm value and its market share price.	Firm managers prefer debt financing mode over equity financing mode to send a positive signal to its future cash flow as well as to its growth opportunities	Not every firm can send a reliable signal. Therefore, firm managers have difficulty finding a credible signalling instrument.
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In summary, the section highlights the development of capital structure theories. It dates back to 1958, when Modigliani and Miller published a seminal paper with perfect market assumptions. The Irrelevance Theory represents the foundation of capital structure theories, which later led to the establishment of modern capital structure theories with the assumption of an imperfect market. It is worth noting that this section provides a wide comprehensive review of the historical development of modern capital structure theories. It addresses the basis and the assumptions of each theory, which enables us to compare and contrast the differences and the similarities between each one of the modern capital structure theories.

However, this study focuses on TOT theory, which is one the long-standing capital structure theories as a base theory for this study, which measures the effect of total Islamic leverage and assesses interest-bearing debt ratios and Islamic debt ratios on the performance of continuously listed *shari'ah*-compliant firms on the Main Market of Bursa Malaysia.

The following section addresses the empirical studies of capital structure and firm performance.

### **3.2 Empirical Review: Studies of Capital Structure and Firm Performance**

This section summarises the empirical studies of capital structure and firm performance. It addresses the effect of debt, account payable, current ratio (liquidity), asset turnover (efficiency), growth, firm size and time effects on firm performance. Generally, performance is measured either by market-based or accounting-based performance measurements. However, this study only adopts return on equity (ROE) and return on assets (ROA) as accounting performance measures, following previous empirical studies (Brooks, 2016), Brealey, Myers & Marcus, 2018), Damodaran, 1997,

Usman & Yakubu, 2019), Dalci, 2018, and (Moussa, 2019). Because the study wants to focus only on accounting informatives namely return on equity and return on assets.

### 3.2.1 Debt and Firm Performance

Debt is deemed as “an important element in a firm’s debt-equity choices. It is also one of the main drivers of the debate of capital structure theories”. Dalci (2018) found that financial leverage could have either positive or negative impact on firm performance. Moreover, the existing empirical studies utilised three proxies of debt measures, i.e., short-term debt, long-term debt, and total debt to study the effects of debt on firm performance. Here is where the importance of the current study comes out, which utilises seven debt proxies, namely, interest-bearing debt ratios, Islamic debt ratios, and total Islamic leverage. Based on Malaysian *shari’ah* screening methodology, the total interest-bearing debt is a conventional debt, which falls within the criteria of equal to or less than 33% of *shari’ah*-compliant firm’s total assets (Securities Commission Malaysia, 2017). Both types of debts are determined by debt to total assets (Chakrabarti & Chakrabarti, 2019, Ahmed & Afza, 2019; and Vieira, 2017).

The reviewed literature reveals mixed findings with regard to the effect of debt on firm performance. Moreover, most of the studies concluded that the debt would have a negative and significant impact on firm performance (Yazdanfar & Öhman, 2015, Asimakopoulos et al., 2009, Kebewar, 2013, and Dawar, 2014), while some studies reported positive and significant relationships between debt and firm’ performance in the same study due to adopting different types of performance or debt measurements (Sheikh & Wang, 2013, Ebaid, 2009, and Abor, 2005).

Therefore, this study examines the effect of total Islamic leverage, interest-bearing debt ratios and Islamic debt ratios on the performance of *shari'ah*-compliant company analysing the direction of the relationship and relating it with previous studies.

### 3.2.2 Account Payable and Firm Performance

It contains trade payables, account payables and other liabilities. It is an important source of financing, especially, when firms find it difficult to access external financing through credit institutions and hence, it is a crucial factor in firm performance (Frerando & Mulier, 2012). Trade payable is cheaper than bank financing (Fabbri & Klapper, 2009). It is short-term liabilities, which are amounts due to vendors or suppliers (Tuovila, 2019). It is measured as the ratio of account payable to total assets (Yazdanfar & Öhman, 2015). This study seeks to determine the impact of account payable separately on *shari'ah*-compliant firm's performance and to use it as a control variable. Yazdanfar and Öhman's study in 2015 was considered the most recent study of its kind, which addresses the effect of payables on firm performance. They found that account payables negatively and significantly affect a firm's performance.

The study wants to include account payable as control variable for this study. It is a very important factor, which can be used as a substitute source for short-term financing to fund the current liabilities, because it is free liability, which is payable within three months from the date it is signed or within the agreed period. Therefore, it provides the flexibility for the firm managers, which will have an impact on the performance of *shari'ah*-compliant companies.

### 3.2.3 Current Ratio (liquidity) and Firm Performance

Liquidity plays a crucial role in corporate financing (Mishra & Dasgupta, 2019). It is a financial ratio that measures firm's short-term liquidity (Eriotis et al., 2007). It measures the financial health of a company and its ability to repay its financial obligations (Ross et al., 2010). Firms with higher liquidity tend to finance their operations and business activities utilising internal funds rather than seeking external funds such as debt, implying that these firms follow the POT (Eriotis et al., 2007). The current study measures the liquidity as "the ratio of current assets to current liabilities" (Ahmed & Afza, 2019, Mishra & Dasgupta, 2019; Khasawneh & A. Dasouqi; 2017, Haron, 2016; and Dawar, 2014).

In some cases, high liquidity may indicate inefficient use of cash, which may affect the performance level of the firm (Brealey et al., 2007). This creates a conflict of interest between firm managers and its shareholders, which leads to the development of ACT. Therefore, increasing the leverage ratio in a firm's debt-equity structure limits managers' control over firm's wealth and reduce the problems of free cash flow (Jensen & Meckling, 1976). Accordingly, Ahmed and Afza (2019) revealed that liquidity positively and significantly impacts the firm's performance.

The current ratio is considered as one of control variables of this study. This is because, it measures the short-term liability, which is a critical part of liquidity management of any firm. Therefore, this study aims to examine the current ratio in order assess its effect of the performance of *shari'ah*-compliant companies.

### 3.2.4 Asset Turnover (efficiency) and Firm Performance

Asset Turnover refers to "a financial ratio that measures the turnover of a firm". It is a crucial factor, which may affect firm performance (Brealey et al., 2007). This

study uses asset turnover ratio as an efficient measure to determine the effect of efficiency in a firm's asset management on firm performance. Asset turnover ratio is positively and significantly associated with the performance of shariah-compliant firms measured by return on equity as performance indicator (Musse, Nor and Aydeh in 2021).

Asset turnover is an efficient measure, which examines the asset management level of a firm. Therefore, this study wants to figure out its effect on the performance of *shari'ah*-compliant companies.

### **3.2.5 Growth and Firm Performance**

Growth is defined as “the measurement in percentage change in sales between the observation year and the previous year (Chakrabarti & Chakrabarti, 2019; Dalci, 2018; and Moussa, 2019). They stated that less leveraged firms tend to be those with higher growth opportunities, because at this stage, it is very costly to rely on debt as a source of financing. The growth may positively affect firm performance as companies are able to increase their turnover, which results in a higher profit. It also aims to improve sales turnover, cash flow and profit-generating ability (Asimakopoulos et al., 2009). The majority of earlier studies predicted that growth would positively and significantly affect firm performance (Abor, 2005; Asimakopoulos et al., 2009; Kebewar, 2012; Sheikh & Wang, 2013; Salim & Yadav, 2012; Jiahui, 2015; and Nguyen & Nguyen, 2015), while others suggested that growth had a nonlinear relationship with a firm's performance (Dawar, 2014).

The existing literature adopted growth as control variable in debt-equity structure of firm, which highlights its crucial role in measuring the effect of debt on the

performance of a firm and hence, the study includes the growth variable in its list of control variables.

### **3.2.6 Firm Size and Firm Performance**

Firm size is known to affect leverage (Haron, 2016). Such size is also a significant factor that influences the cost of borrowing and thus, it will have an impact on a firm's performance (Stulz & Johnson, 1985). The large firms are well-established and with more diversified business activities and they can obtain large amounts of debt at low interest rate (Ferri & Jones, 1979). This in turn will reduce the cost of borrowing, which enhances the performance of the large firms (Graham, 2000). Eriotis et al. (2007) concluded that the "large firms employ more debt than smaller firms," while Serrasqueiro and Rogaño (2009) maintained that "firms with low tangible assets will face relatively high cost of borrowing and find it difficult to expand their business activities". Measurement of firm size is by natural logarithm of total assets (Vieira, 2017; Tarus & Ayabei, 2016; and Haron, 2016).

As can be seen from the above, the previous empirical studies have produced mixed results regarding the impact of firm size on firm performance. Nonetheless, most of these studies did conclude that firm size had a positive and significant relationship with firm performance (Abor, 2005; Yazdanfar & Öhman, 2015; Asimakopulos et al., 2009, Sheikh & Wang, 2013; Dawar, 2014), and (Nguyen & Nguyen, 2015). This is in line with the assumptions of STOT, while on the other hand, Abu-Tapanjeh (2006) found that firm size had a negative relationship with firm performance but this negative relationship is inconsistent with the POT assumption.

There is a clear indication that the firm size plays a significant role in firm's borrowing ability and its status in capital market. Therefore, this study aims to have the size in its list of control variables in order to measure the effect of Islamic leverage of the performance of *shari'ah*-compliant companies in Malaysia.

The following section addresses the gap in the literature for the benefit of future researchers, based on analysing the existing studies of capital structure and *shari'ah*-compliant Malaysian firms.

### 3.2.7 The Gap in the Literature and Future Studies

Capital structure is a major field in corporate finance. It has become a growing field with both theoretical and empirical studies since Modigliani and Miller's work in 1958. However, the puzzle of capital structure is still unanswered. This is mainly because, based on the existing literature, it seems impossible to draw a fair conclusion and come out with a single universal capital structure theory that can clearly explain debt-equity choices (Myers, 2001).

On the other hand, the existing empirical studies have ended up with mixed results with regard to the effect of capital structure and firm performance (Asimakopoulos et al., 2009). This is because, the existing empirical studies have adopted a diverse set of methodologies and various leverage and performance measurements, leaving the debate of capital structure choices a subject for future studies (Haron, Ibrahim, Nor & Ibrahim, 2012).

Despite the growing body of capital structure and firm performance knowledge, limited papers have been done in the specific context of capital structure and *shari'ah*-compliant companies in Malaysia (Sadeghi, 2008), (Thabet & Hanefah, 2014, Yildirim

et al., 2017, and Ramli & Haron, 2017). Moreover, these studies applied the common standard of debt as reported in Datastream and Bloomberg databases, which use a combined debt data without defining/separating the proportion of Islamic debt from interest-bearing debt (Ramli, 2018). This is because these global databases do not follow *shari'ah*-screening methodology in producing Islamic leverage data and instead reported both interest-bearing debt and Islamic debt under one category, namely debt (long- and short-term). Applying this combined debt data may lead to biased results and produce inaccurate and misleading outcomes, this is because the ratio of both types of Islamic leverage is not equal in size meaning that one of them may enjoy sizeable proportion over the other one, which may cause to produce inaccurate results.

To shed more light, on the subject, Table 3.2 provides a summary of the capital structure studies and *shari'ah*-compliant Malaysian firms to determine the gap in the literature and identify the limitations of the studies.

**Table 3.2** summaries the empirical literature review: purposes of study, sample sizes, variables, data sources and the literature gap

S. No	Year	Purpose	Sample size	Variables	Data sources	Study limitation and the literature gap
1	2017	To examine the impact of capital structure on construction firms' performance	36 listed construction firms in Malaysia	Dependent Variable (DV): Return on equity (ROE), Return on assets (ROA) and Net Profit Margin. Independent Variable (IV): Total debt to total assets and total debt to total equity.	Bursa Malaysia websites	It is sector-base and without giving particular attention to the <i>shari'ah</i> firms.
2	2017	To investigate the factors affecting the capital structure of the <i>shari'ah</i> -approved firms.	239 Malaysian <i>shari'ah</i> -approved firms.	DV: Total debt to total assets. IV: Net Profit Margin, Tangibility, Growth, Size, Z-Score (Bankruptcy Risk). Control Variable (CV): Inflation, GDP Growth and Economic Crisis	Bursa Malaysia and IMF and DataStream	Yes, the sample size is large, but its focus is on the determinants of capital structure of <i>shari'ah</i> firms, which is not in line with the current study.
3	2017	To investigate debt determinants of <i>shari'ah</i> -approved firms in Bursa Malaysia.	239 consistently-approved firms.	DV: Total debt to total assets. IV: Profitability, Tangibility, size, growth, Bankruptcy risk, Non-debt tax shield, Industry concentration. CV: Inflation, GDP and Economic crisis.	Bursa Malaysia and Securities Commission Malaysia.	It studies debt determinant of <i>shari'ah</i> -approved firms, which is not in line with the current study's objectives. It applies the consistently reported <i>shari'ah</i> firms and

						employs common standard debt.
4	2015	To examine the relationship between capital structure and corporate performance	12 listed Malaysian oil and gas companies.	DV: ROE, ROA and Gross Margin (GM). IV: Short-term debt to total assets, Long-term debt to total assets and total debt to total assets	Bursa Malaysia websites	It is based on one sector and without giving particular attention to the <i>shari'ah</i> firms.
5	2015	To examine the influence of capital structure on profitability.	46 Malaysian family firms and 46 non-family firms	DV: Return on equity. IV: Short-term debt to total assets, long-term-debt to total assets and total debt. CV: Growth and Size	Bursa Malaysia and DataStream	It is based on two categories, namely, family and non-family firms and without giving particular attention to the <i>shari'ah</i> firms.
6	2014	To investigate the relationship between leverage and its determinates	263 Malaysian <i>shari'ah</i> -complaint firms	DV: TD. IV: Tangibility, return on assets, Liquidity, Risk, Size, Age, Tax, <i>Zakat</i> and Ownership	Bursa Malaysia and DataStream	Yes, the sample size is large, but it focuses on the determinants of capital structure of <i>shari'ah</i> firms, which is not in line with the current study.
7	2013	To Investigate the effect of leverage on Malaysian listed firms 'value and ...	467 Malaysian listed firms	DV: Return on equity. IV: Total liabilities to total assets. CV: Growth and potential risk	Bursa Malaysia and DataStream	Yes, the sample is large and inclusive of all non-financial sectors and it is also in

						line with the current study, but it fails to give particular attention to the listed <i>shari'ah</i> firms.
8	2012	To Investigate the relationship between capital structure and firm performance	237 Malaysian listed companies	DV: Return on equity, return on asset, Tobin's Q and earning per share. IV: Long-term debt, short-term debt, total debt, growth and size.	DataStream	Yes, the sample is large and inclusive of all non-financial sectors and it is also in line with the current study, but it fails to give particular attention to the listed <i>shari'ah</i> firms.
9	2012	To investigate the impact of capital structure on firm performance	58 Malaysian firms of consumer and industrial sectors	DV: Return on assets and return on equity. IV: Short-term debt, long-term debt and Total debt to total assets. CV: size, asset grow, sales growth and efficiency.	Bursa Malaysia	Yes, it is in line with the current study, but it focuses on two sectors without paying particular attention to the <i>shari'ah</i> firms.
10	2011	To investigate the cross-sectional variation in leverage	22 Government Linked and non-GL Firms in Malaysia	DV: Total debt, Short-term debt and Long-term debt. IV: Size, Tangibility, Return on assets, Growth and Cash Flow	DataStream	It focuses on the determinants of capital structure of <i>shari'ah</i> firms, which is not in line with the current study.

The table highlights some shortcomings of the selected papers on capital structure studies in Malaysia. The shortcomings are summarised in four categories. First, the reported studies are mainly sector- or category-based i.e., construction and family and non-family companies, which implies that the sample size will be smaller. Second, the selected studies used mixed companies, namely, *shari'ah* and *non-shari'ah* companies applying the listed securities on Bursa Malaysia without specifying whether they are *shari'ah* status companies or *non-shari'ah*-status companies. Third, the selected studies applied combined debt data as reported in DataStream without separating Islamic debt data from interest-bearing debt according to the respective *shari'ah*-screening methodology. Finally, the existing studies do not address the optimal level of Islamic leverage for the listed *shari'ah* companies on the Main Market of Bursa Malaysia.

Having said that, this study addresses the highlighted concerns. It examines the impact of interest-bearing debt ratios and Islamic debt ratios on firm performance employing separated data and a large number of listed *shari'ah*-compliant companies in Malaysia as a sample. It investigates further the optimal debt level of Islamic leverage of continuously listed *shari'ah* companies on the Main Market of Bursa Malaysia.

### **3.2.8 Hypotheses Development and Theoretical Research Framework**

This study examines the impact of interest-bearing debt ratios and Islamic debt ratios on the performance of continuously listed *shari'ah*-compliant firms on the Main Market of Bursa Malaysia. As it was discussed earlier, there are five modern capital structure theories i.e., Static Trade-Off Theory, Pecking Order Theory, Agency Cost Theory, Signalling Theory, and Market-timing Theory, which are in attempt to explain the relationship between debt financing and firm performance. However, this study

mainly emphasis the Trade-Off Theory as major adopted capital structure theory for the current study assuming that the *shari'ah*-compliant firms will be attracted by tax incentive due to applying Islamic leverage financing being part of their capital structure portfolio. Therefore, the study applies the Trade-Off Theory as base in developing the study hypotheses and the theoretical research framework the study.

### **3.2.8.1. Hypotheses Development**

The study has formulated eight research hypotheses, which are listed below.

#### **3.2.8.1.1 Debt and Firm Performance**

Debt is deemed as “an important element in a firm’s debt-equity choices. It is also one of the main drivers of the debate of capital structure theories”. The reviewed literature reveals mixed findings with regard to the effect of debt on firm performance. Moreover, most of the studies concluded that the debt would have a negative and significant impact on firm performance (Yazdanfar & Öhman, 2015, Asimakopoulos et al., 2009, Kebewar, 2013, and Dawar, 2014), while some studies reported positive and negative relationships between debt and firm’ performance in the same study due to adopting different types of performance or debt measurements (Sheikh & Wang, 2013, Ebaid, 2009, and Abor, 2005). Based on the TOT theory which suggests that the firms go with debt financing due to tax benefits by paying interest payments. they seek a balance level, where they can maximise the tax-shield and avoid bankruptcy which will positively have an impact on the firm’s performance.

Therefore, this study develops the following seven hypotheses:

H1. Total Islamic leverage ratio is positively related to *shari'ah*-compliant companies’ performance.

H2. Total interest-bearing debt ratio is positively related to *shari'ah*-compliant companies' performance

H3. Total Islamic debt ratio is positively related to *shari'ah*-compliant companies' performance

H4. Long-term interest-bearing debt ratio is positively related to *shari'ah*-compliant companies' performance

H5. Long-term Islamic debt ratio is positively related to *shari'ah*-compliant companies' performance

H6. Short-term interest-bearing debt ratio is positively related to *shari'ah*-compliant companies' performance

H7. Short-term Islamic debt ratio is positively related to *shari'ah*-compliant companies' performance

#### **3.2.8.1.2. Account Payable and Firm Performance**

It contains trade payables, account payables and other liabilities. It is an important source of financing, especially, when firms find it difficult to access external financing through credit institutions and hence, it is a crucial factor in firm performance (Frerando & Mulier, 2012). The theory of TOT might be used here to explain the role of the account payable on the performance.

Hence, the following fourth hypothesis is formulated:

H8. Account payable is positively related to a *shari'ah*-compliant companies' performance.

#### **3.2.8.1.3. Current Ratio (liquidity) and Firm Performance**

Liquidity plays a crucial role in corporate financing (Mishra & Dasgupta, 2019). It is a financial ratio that measures firm's short-term liquidity (Eriotis et al., 2007). It

measures the financial health of a company and its ability to repay its financial obligations (Ross et al., 2010). Firms with higher liquidity tend to finance their operations and business activities utilising internal funds rather than seeking external funds such as debt, implying that these firms follow the POT (Eriotis et al., 2007). The current study measures the liquidity as “the ratio of current assets to current liabilities” (Ahmed & Afza, 2019, Mishra & Dasgupta, 2019; Khasawneh & A. Dasouqi; 2017, Haron, 2016; and Dawar, 2014). Therefore, this study formulates the following hypothesis:

H9. Current ratio is positively related to a *shari'ah*-compliant companies' performance.

#### **3.2.8.1.4. Asset Turnover (efficiency) and Firm Performance**

It is a crucial factor, which may affect firm performance (Brealey et al., 2007). This study uses asset turnover ratio as an efficient measure to determine the effect of efficiency in a firm's asset management on firm performance. Therefore, this study develops the following hypothesis:

H10. Asset turnover is positively related to a *shari'ah*-compliant companies' performance.

#### **3.2.8.1.5. Growth and Firm Performance**

Growth is defined as “the measurement in percentage change in sales between the observation year and the previous year (Chakrabarti & Chakrabarti, 2019; Dalci, 2018; and Moussa, 2019). The growth may positively affect firm performance as companies are able to increase their turnover, which results in a higher profit. It also

aims to improve sales turnover, cash flow and profit-generating ability (Asimakopoulos et al., 2009). As a base of Trade-Off Theory, this study formulates the following hypotheses:

H11. Firm growth is positively related to a *shari'ah*-compliant companies' performance.

### 3.2.8.1.6. Firm Size and Firm Performance

Firm size is known to affect leverage (Haron, 2016). Such size is also a significant factor that influences the cost of borrowing and thus, it will have an impact on a firm's performance (Stulz & Johnson, 1985). The large firms are well-established and with more diversified business activities and they can obtain large amounts of debt at low interest rate (Ferri & Jones, 1979). This in turn will reduce the cost of borrowing, which enhances the performance of the large firms (Graham, 2000).

In line of Trade-Off Theory, the following hypothesis was developed:

H12. Firm size has a positive relationship with a *shari'ah*-compliant companies' performance.

Table 3.3 summaries the list of developed hypotheses of this study containing eight hypotheses.

**Table 3.3: Hypotheses of the study**

	Hypotheses
H1	Total Islamic leverage ratio is positively related to <i>shari'ah</i> -compliant companies' performance
H2	Total interest-bearing debt ratio is positively related to <i>shari'ah</i> -compliant companies' performance

H3	Total Islamic debt ratio is positively related to <i>shari'ah</i> -compliant companies' performance
H4	Long-term interest-bearing debt ratio is positively related to <i>shari'ah</i> -compliant companies' performance
H5	Long-term Islamic debt ratio is positively related to <i>shari'ah</i> -compliant companies' performance
H6	Short-term interest-bearing debt ratio is positively related to <i>shari'ah</i> -compliant companies' performance
H7	Short-term Islamic debt ratio is positively related to <i>shari'ah</i> -compliant companies' performance
H8	Account payable is positively related to a <i>shari'ah</i> -compliant companies' performance
H9	Current ratio is positively related to a <i>shari'ah</i> -compliant companies' performance
H10	Asset turnover is positively related to a <i>shari'ah</i> -compliant companies' performance
H11	Firm growth is positively related to a <i>shari'ah</i> -compliant companies' performance
H12	Firm size has a positive relationship with a <i>shari'ah</i> -compliant companies' performance

### 3.2.8.2. Theoretical Research Framework

The study formulated the following theoretical framework, which is presented in Figure 3.6. It in part measures the relationship between independent variables/Islamic leverage measures and dependent variables namely return on equity and return on assets in accordance with the assumptions of Trade-Off Theory. It is highly crucial for this study to adopt a separated debt data in order to measure the effect of both types of Islamic leverage i.e., interest-bearing debt and Islamic debt in order to achieve the listed objectives of the current study. The figure also presents the association between the control variables and the dependent variables, which include account payable, current

ratio, asset turnover, growth and firm size. As the reviewed literature indicate the selected list of control variables are highly crucial in determining the effect of debt on the performance of firm.

As the figure suggests the study applies cross sectional data of eight years of *shari'ah*-compliant companies' historical data in order to determine the effect of interest-bearing debt ratios before and after the adoption of financial ratio benchmarks in 2013 and Islamic debt ratios on the performance of *shari'ah*-compliant companies and to investigate the optimal debt level of Islamic leverage. It employs panel data analysis and threshold regression model in respect to reach out the expected findings.

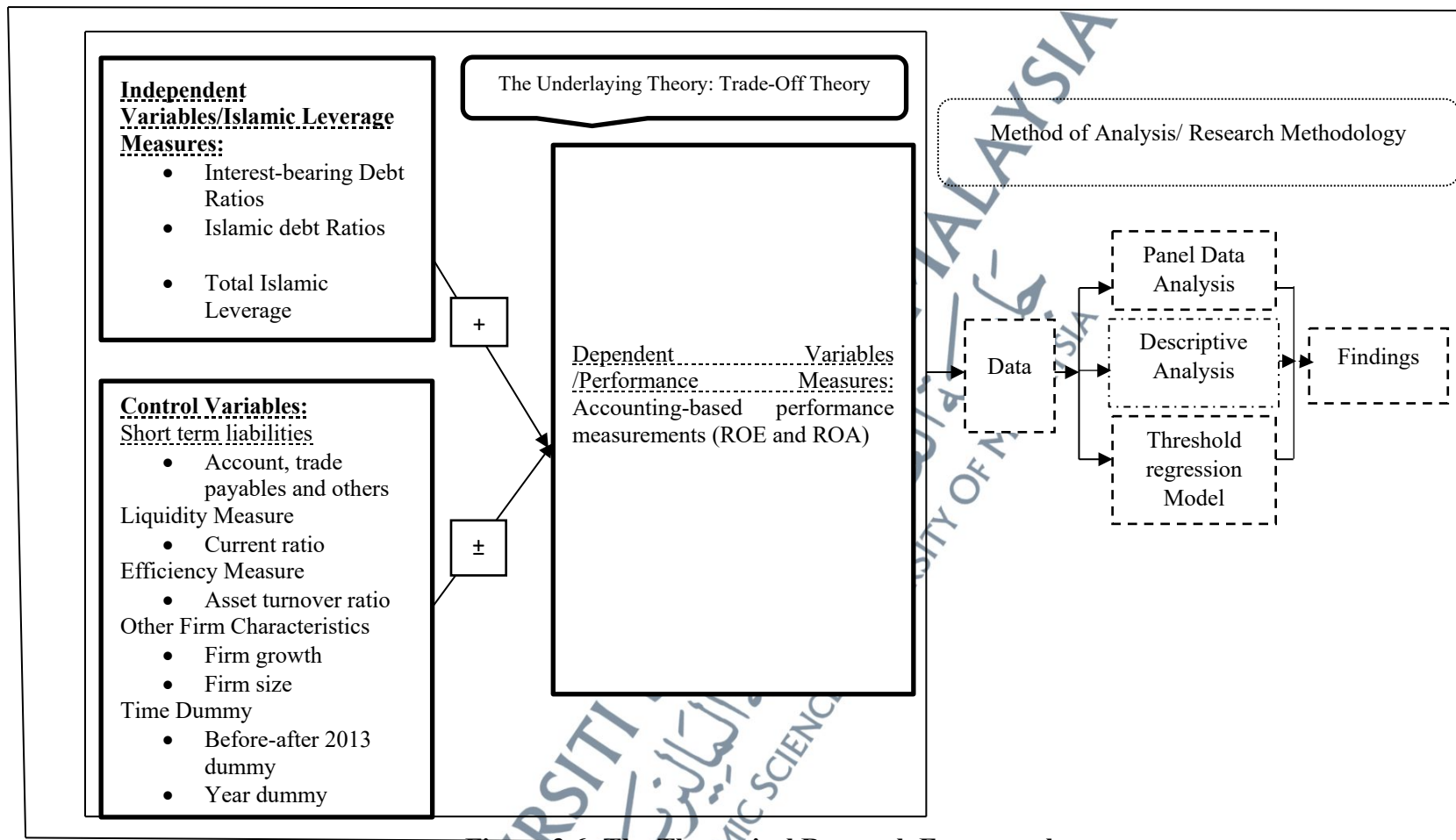


Figure 3.6: The Theoretical Research Framework

### 3.2.9 Conclusion

The first section of this chapter discusses the development of capital structure theories. It particularly emphasises the modern capital structure theories namely Trade-Off Theory, Pecking Order Theory, Agency Cost Theory, Signalling Theory, and Market-timing Theory concluding Trade-Off Theory being as the base of the current study. Section two analyses the empirical studies of capital structure and firm performance, while it identifies the research gap and future studies. Finally, it presents the hypotheses development and the theoretical research framework.