

# TARGET CAPITAL STRUCTURE AND SPEED OF ADJUSTMENT: A DYNAMIC EVIDENCE FROM SHARIAH APPROVED FIRMS IN MALAYSIA

NURSHAMIMITUL EZZA RAMLI  
*Universiti Sains Islam Malaysia*

RAZALI HARON  
*International Islamic University Malaysia*

## ABSTRACT

The purpose of this paper is to identify the target capital structure and the speed of adjustment of Shariah approved firms listed on the Bursa Malaysia. The paper also examines the influence of firm, industry and macroeconomic determinants affecting the target capital structure. Shariah approved firms which consistently maintain their Shariah status as per the Securities Commission (SC) of Malaysia requirement, from year 2000 to 2014 are chosen as the sample of analysis. The paper employs a dynamic panel data technique specifically the Generalized Method of Moments (GMM) that is robust to the heterogeneity and endogeneity issue. The study found the existence of target capital structure of Shariah approved firms in Malaysia and in terms of speed of adjustment, Shariah approved firms are under-adjusted. Several factors seemed to have significant impact on the target capital structure ranging from the firm, industry and macroeconomic determinants. The study contributes largely in the sampling selection that focuses only on the Shariah approved firms which consistently maintain their Shariah status from the year 2000 to 2014.

**Keywords:** Capital structure, Shariah approved firms, Islamic finance, GMM

## INTRODUCTION

Malaysia has a unique stock market where it provides a platform for investors to invest either in the non-Shariah approved listed firms or Shariah approved listed firms. A very careful assessment has been developed by the Securities Commission (SC) of Malaysia, under the responsibility of the Shariah Advisory Council (SAC), to determine that the firms are Shariah compliant, conforming to certain Shariah principles. The Shariah periodical screening process is essential as to reaffirm a constant Shariah status of the firms especially for the *Muslim* investors who are seeking *halal* and permissible stocks for trading. Several qualitative and quantitative screening guidelines have been developed to assess the Shariah status of the firms. Any firms with core activities involving non-permissible

activities specified by the SC will straight away be considered as non-Shariah approved firms. However, for mixed income firms with permissible core activities but having a subsidiary involving in the non-permissible activities need to be assessed qualitatively and quantitatively.

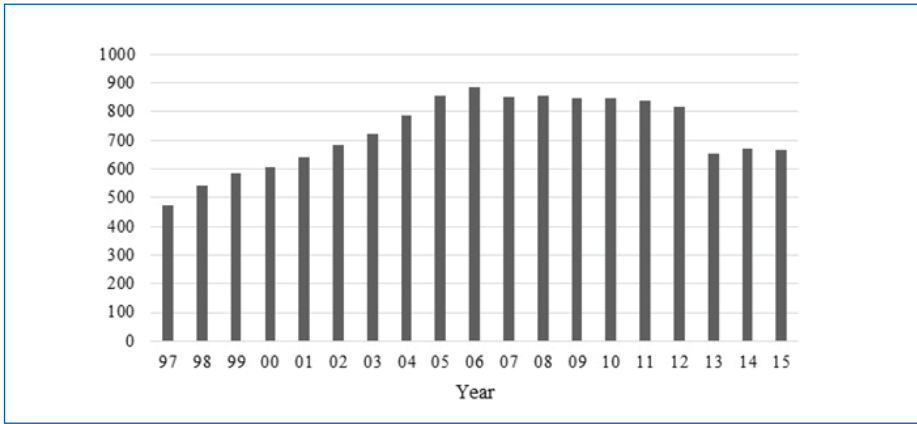
Qualitative screening only requires firms to have good public perception and image (Securities Commission Malaysia, 2013). On the other hand, quantitative screening requires a thorough examination and assessment. Firms need to satisfy two benchmarks before being approved as Shariah approved firms which are the activity benchmark and the financial ratio benchmark. The activity benchmark measures the firm's income from the non-permissible activities. The income needs to be examined and compared with the group revenue and the group profit before tax. Here, two suitable benchmarks have been developed which are the 5% and the 20% benchmark given different types of business activities. The non-permissible income must be below the benchmarks to satisfy the Shariah approved status. Meanwhile, as for financial ratio benchmark, firms need to comply with the 33% benchmark of cash ratio and debt ratio. In this quantitative assessment, firms are required to fulfill both conditions of activity ratio and financial ratio. Even if the firm fails to satisfy either one of the benchmarks, the firms will be considered as non-Shariah approved firms.

The current financial ratio benchmark is the revised version of the screening process which took effect in November 2013 (Securities Commission Malaysia, 2013). Previously, there were four levels of activity benchmark and currently being reduced to only two activity benchmarks. With the introduction of the financial ratio benchmark, the revised screening method practiced now is consistent with other Islamic indices such as the Dow Jones Islamic market index, the S&P Shariah index and the FTSE Shariah global equity index series (Zandi et al., 2014).

**Figure 1** tabulates the number of Shariah approved firms traded on the Bursa Malaysia from the year 1997 to 2015. The year 1997 is marked as the official year when the SC firstly announced the list of Shariah approved firms traded on the Bursa Malaysia. As at November 2015, 73.9% out of the 903 listed firms on the Bursa Malaysia have been classified as Shariah approved firms. It holds about 64.10% of total market capitalization of Bursa Malaysia.

**Figure 1:**

**Number of Shariah approved firms (1997-2015)**



Source: Various list of Shariah-compliant Securities by SC's Shariah Advisory Council

From **Figure 1**, we can see a downward trend in the number of Shariah approved firms in the year 2013. This is mainly due to the revised screening method implemented by the SC then. Several justifications can be made to explain the trend. Firstly, it may be due to the firm's condition itself which needs some extra times to anticipate and make necessary adjustment to their financial structure in order to comply with the SC revised screening method. Secondly, some of the firms are by nature required to operate with high leverage which may be beyond the 33% benchmark and by making some adjustment just to meet the SC screening method worsens their daily operational activity.

The reduction in the number of Shariah approved firms may possibly limit the investment opportunity of investors who are looking for Shariah compliant firms. The fact is supported by Zandi et al. (2014) with evidence that the SC has not taken financial ratio as part of its screening process as it will affect the number of the Shariah compliant firms traded on the Bursa Malaysia. On the other hand, we cannot deny that the introduction of the financial ratio as one of the Shariah benchmarks will provide a better assessment of the firm's financial ratio especially. The introduction of the financial ratio especially on the debt ratio provides an interesting case to study and has motivated us to explore this issue further. Coupled with the importance of wise capital structure decisions and the limited study on the Shariah approved firms, this study is motivated to explore further on the target capital structure of Shariah approved firms listed on the Bursa Malaysia thus aims to fill the gap in the literature of Shariah compliant firms.

This study is structured as follows. The next section provides an overview on the governing theories of the capital structure. Capital structure issues from the Islamic perspective are also discussed accordingly. This then follows by an outline of the capital structure determinants to be examined as well as the hypotheses development in the third section. The methodology and data analysis will be discussed in the fourth section and the final section concludes the study.

## LITERATURE REVIEW

### **Governing Theories of Capital Structure**

The modern capital structure theory began with the seminal works of Modigliani and Miller (1958) on the cost of capital, corporate finance and the theory of investment. Their study led to the massive development in the modern capital structure theory and contributed hugely to a well-known capital structure irrelevance theory of MM I and MM II. Unfortunately, the MM theorem is only workable in a perfect capital market.

In real life, the economy operates in an imperfect capital market where the value of the levered firms are determined not only by looking at the debt and equity levels but also by other factors such as taxes, transaction costs, bankruptcy costs, agency conflicts, adverse selection, lack of separation between financing and operations, time-varying financial market opportunities, and investor clientele effect (Frank & Goyal, 2008).

Although controversial, the enormous contribution of the Modigliani & Miller cannot be denied which has led to the development of other capital structure theories such as the Trade-Off Theory (TOT), the Pecking Order Theory (POT) and the agency theory. The following subsection will explain further the related theories.

#### *The Trade-Off Theory (TOT)*

The original TOT grew out of the MM theorem of Modigliani & Miller (1958) and Modigliani & Miller (1963). The TOT is basically looking at the cost and benefit aspect of debt. By opting for debt, the interest incurred from debt borrowing can be deducted from the firms' corporate profit and is regarded as a cost. Firms are expecting lower tax liability and thus increase the after-tax cash flow or profit. In other words, firms prefer high debt financing to enjoy the tax advantage.

Tax shields are undeniably regarded as valuable assets but it is not necessarily suggested that firms should seek to maximise their debt in order to maximise their value (Modigliani & Miller, 1963). Opting for debt as a mode of financing increases the cost, mostly due to the costs of bankruptcy, as evidenced by Kraus & Litzenberger (1973) and Myers (1984). Debt requires long-term commitments from firms to pay back their lenders. At some point, the benefits of the debt tax

shield cannot absorb the cost of debt. Thus, to achieve an optimal debt level, firms must ensure that their marginal benefits of debts (the debt tax shield) are equal to the marginal cost of debt (the cost of bankruptcy). Firms should also consider financing resources other than debt, such as retained earnings. In some circumstances, other types of financing may provide a greater benefit.

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

The early development of the POT starts with the study of Donaldson (1961) on the financing practices of a sample of large corporations in which has then influenced the research done by Myers & Majluf (1984) and Myers (1984). It arises from the asymmetric information problem where the managers of a firm are assumed to have more information and access to the actual value of the firms' asset and growth opportunity as compared to the shareholder.

POT is basically based on the financing preferences ranking where the firms prefer internal financing (retained earnings) as compared to the external financing (debt and equity as the last resort). However, POT ranking does not always hold true to explain the firm's preferences in choosing their financing mode. A previous study by Leary & Roberts (2010) showed that firms often violate the hierarchy of either by issuing external securities when internal resources are insufficient or issuing equity in place of debt.

On the other hand, Vasiliou et al. (2009) suggested that even if there were a significant difference between the number of firms that preferred retained earnings and firms that preferred long-term debt or issuance of new stock, POT is not always held as the ordering of debt and equity is not determined. The methodological weaknesses during the analysis may also lead to the inappropriate and inconclusive conclusions.

### *The Agency Theory*

The origins of the agency cost and capital structure initiated by Jensen & Meckling (1976) is an extension of the earlier work of Fama & Miller (1972). Agency relationship occurs when one person or more (the principal(s)) engage another person (the agent) to perform some services on their behalf. This involves delegating some decision-making authorities to the agent (Jensen & Meckling, 1976). In a firm structure, the debt holders and the shareholders are regarded as the principal, while the managers are the agent in the agency contract. As the agent in the firm, the managers hold a large and huge responsibility of realising the principal's objective, which is to maximise their investment. Both debt holders and shareholders share the same objective-to maximise their investment value. Given the market imperfection, however, their mutual goals may lead to conflicting interests (Miglo, 2016) or agency problems.

Agency conflict may occur in two conditions which are, between the stockholders and the managers and between the stockholders and the debt holders. It occurs

when the firm has to decide whether to opt for debt or equity in its capital structure combination. The agency costs are at the maximum level when the manager's equity holding in the firm is zero and the outside shareholders own 100% equity in the firm. The agency costs can also be at the maximum level if a firm decides on 100% debt to finance its operations. In order to reduce agency costs, a firm may opt to limit outside shareholders' equity holdings or to reduce its debt. It may also imply that the lower the outside shareholders' equity holdings, or the lower the debt level, the lower the agency costs incurred by the firm. Some factors were proposed by other literature that may support the linkages between the agency conflict and the capital structure choice, among others are due to the high bargaining power of debt holders (Yu, 2012), the protection of human capital (Fama, 1980) and to avoid pressure from interest payment (Jensen, 1986).

### **The Islamic perspective on a firm's capital structure**

Before we proceed to the Islamic perspective of the capital structure study, it is worth for the study to provide some overview and comparison of debt from both conventional and Islamic perspectives. Conventionally, debt is a highly complex contract (Davis, 1995) where it entails a promise to repay principal and interest on a loan or an advance. It is consistent with the time value of money concept where all deferred payment transactions include interest, either explicitly or impliedly (Lokken, 1986). It is a concept where money is viewed as having greater benefits if it is received today rather than later. In debt contract, interest is charged to the borrower to compensate the lender's risk. This is how interest in the conventional contract works and only protects the interest of the lender and transfers the pressure to the borrower. In contrast, in Islam, debt is indispensable, but it should not be promoted for non-essential and wasteful consumption and unproductive speculation (Ahmed, 2010) Further, in Islam, debt must be asset backed. Debt must be created from the sale or lease of real assets that firms have by means of *murabahah*, *ijarah*, *salam*, *istisna'* and *sukuk* modes of financing.

It is beneficial for us to discuss the concepts of time value of money and opportunity cost in relation to debt from the Islam perspective. Islam prohibits interest (*riba'*), but this does not mean that the concept of time value of money has no relevance in Islamic finance (Bacha & Mirakhor, 2013). The prohibition of interest is not a *sine qua non* to the denial of recognition of time value of money. Rather, it is an objection to an unfair and unjust approach to its evaluation (Kahf, 1994). Time value of money is useful in evaluating cash flows, investment appraisals and financial decision-making-not only in conventional finance, but in Islamic finance as well. In Islam, opportunity cost is incurred only when the available option is an equally good choice (Suharto, 2014). If a person faces both a good choice and a bad choice, discarding the bad choice is not regarded as opportunity cost. Thus, the bad choice is not even considered a choice in Islam. The Islamic notion of the opportunity cost of capital and the time value of money

can be clearly understood by reviewing the distinctions between investment and lending (Iqbal & Mirakhor, 2011).

Money can be used both for investment purposes and to be loaned to needy parties. A party to an investment contract, such as in *mudarabah* or *musharakah*, will be compensated accordingly with the specific profit and loss set forth in the contract. In this case, money acts as a medium of exchange to facilitate an economic activity over a certain time. Islam does recognise return from this investment activity, and so the investors are compensated accordingly. Even though the concept of time value of money is allowable in Islamic finance, it is not permissible in the context of debt (Obaidullah, 2005) due to *riba'* that results when a higher debt replaces a lower debt.

Islam considers the lending of money a benevolent act aimed at helping people in need. Lending money in Islam is always referred to as a charitable act based on the *qardul hassan*, or charitable contract. Based on a view that perceives interest on a loan as a reward to the lender (and as the recipient's opportunity cost), Islamic scholars regard this practice as unlawful. Lending in Islam is based solely on the concept of a charitable act with no monetary reward in return. Since the aim of this contract is to help needy people, the act of lending money without expecting anything in return is done for the sake of receiving Allah's blessing (*barakah*) and to uphold the spirit of helping each other (*ta'awun*).

It is clearly seen that debt is allowable in Islam. In fact, it does not say either in the conventional or the Islamic perspective, that people can rely 100% on debt for life survival although it is permitted. It is generally understood that too much reliance on debt triggers bankruptcy risk and creates a lot more problems thereafter. The impact of having a high debt level not only affects the individual but also the firm level and even worst to the whole economic system. Since, debt creates more problems than solving the problems, we need to have a certain guideline on how to determine how much debt firms is advisable to engage to. In lieu of that, the Islamic teaching feeds that need. In Islam, the level of debt is benchmarking by following the Prophet Muhammad (PBUH) words that 33% or 1/3 is enough. This is evidenced by the hadith narrated by Imam Muslim in his book, *The Book of Wasaya* (Khan, 1997).

In existence, literature relating to the Islamic capital structure is scarce. Despite that, certain literature is worth referring to when studying Islamic finance. For examples, Ahmed (2007) and Haron (2017) suggest that being Shariah approved firms, the debt must be asset-backed thus, the level of debt for Shariah approved firms must not exceed its tangible assets. In addition to that, Obaidullah (2006) advocates that TOT is irrelevant for the Shariah approved firms due to the element of interest tax shield that is non-existence in Islam. Ahmed also adds if the firms' objective is to minimize the cost of financing, the Shariah approved

firm shall choose internal equity, debt, *mudarabah*-based equity and *musharakah*-based equity in such order of preference which replicates the POT. However, the preference of the financial instruments will not always hold true as it will also depend on the objective function of the firms as well as the constraints faced by the firm given different size and status (Ahmed, 2007).

## Capital Structure Determinants and Hypotheses Development

### *Profitability*

The relationship between debt and profitability remains ambiguous. A positive relationship between the variables is pro TOT while the negative relationship is in support of the POT.

The TOT hypothesis is based on the traditional argument where the financial institutions refuse to provide debt financing for the less profitable firms. Therefore, less profitable firms tend to have lower debt level and vice versa. Another argument also posits that low-profit firms indicate poor shareholders' return and by increasing the leverage, firms will have heavy gearing and this will make the equity evaluation less attractive (Prasad et al., 2001). High-profit firms also prefer to have more debt to enjoy the benefit from the corporate debt tax shield (Frank & Goyal, 2003). Meanwhile, the POT suggests that profitable firms prefer internal funds as their sources of financing compared to external funds (debt and equity). This is mainly due to the high transaction costs of issuing equity (Myers & Majluf, 1984). Besides, high profitable firms have higher retained earnings that can be used to finance the firms' operation. Opting for debt financing will only expose them to bankruptcy risk in case of default.

In the case of Malaysian context, there are a number of studies with indications that Malaysian firms follow the POT hypotheses such as Ting & Lean (2011), Md-Rus & Samiran (2012) and Ahmad & Rahim (2013). Hassan et al. (2012) in their study on the listed Shariah approved firms on Bursa Malaysia share similar proposition that profitability impacts debt negatively. Therefore, the study hypothesizes that:

*H<sub>1</sub>: There is a significant negative relationship between debt and profitability.*

### *Asset Tangibility*

Asset tangibility is a crucial determinant of capital structure as it explains why firms leverage changes substantially and it explains the issue of low leverage puzzle as well (Rampini & Viswanathan, 2013). Tangibility has a mixed effect towards the choice of the capital structure of the firms based on past review of the literature.

The positive relationship between tangibility and leverage is consistent with the TOT hypothesis. As the firms have higher asset tangibility, in the case of borrowing, the financial institutions will happily lend them thus increases their debt level. As the debt level increases, the bankruptcy risk will also rise accordingly. Hall (2012)



for example, in his study on Central and Eastern Europe, found that there is a positive significant relationship between asset tangibility (the study focuses on land) and the level of debt. However, the magnitude of the relationship between asset tangibility and debt level varied substantially among countries. Mustapha et al. (2011) and Baharuddin et al. (2011) also concluded similar result in the Malaysian context. On the other hand, Hassan et al. (2012) in their comparison analysis between listed Shariah and non-Shariah approved firms in Malaysia, concluded that tangibility did play positive significant roles in influencing debt for Shariah approved firms only.

Meanwhile, the negative relationships can be traced in the study done by Al-Najjar & Hussainey (2011), Psillaki & Daskalakis (2008) and Haron (2017). A study by Joeveer (2013) in the nine Eastern European countries of transition economies concluded the same outcome. The negative relationship between asset tangibility and leverage level supports the agency theory. Therefore, this study hypothesizes that: -

*H<sub>2</sub>: There is a significant positive relationship between debt and tangibility.*

#### *Growth Opportunity*

The evidence on the relationship between the growth of the firms and the leverage also remains inconclusive. The mix positive and negative relationship that exists between growth opportunities of the firms and the level of leverage is mainly due to the different measurement of growth opportunities used by researchers to capture the effect of growth (Chipeta et al., 2012).

Growth is postulated to have a positive relationship with leverage and this is consistent with the POT theory. As firms are growing, large funds are needed and thus the investment level will increase. Holding to the assumptions that the profitability level of the firms is static over time, it will create more debt to the firms. In addition to that, the effect of growth on debt may also be due to the tendency of the firms to utilize its financial flexibility to fund their future growth (Byoun, 2011). The positive relationship between growth opportunity and the level of debt are supported by Al-Najjar & Taylor (2008), Al-Najjar & Hussainey (2011) and Tongkong (2012).

In contrast, the TOT proposes an inverse relationship between growth and leverage. As the growing level is increasing, the costs of financial distress of the firms are also increasing. Bankruptcy cost will increase thus reducing the level of debt of the firms. This is also consistent with the findings by Myers & Majluf (1984), Deesomsak et al. (2004) and Eriotis et al. (2007).

In the context of Malaysia, previous studies come to an agreement that growth significantly affects debt in a positive manner (Md-Rus & Samiran, 2012 and Ahmad & Rahim, 2013). Due to that, this study hypothesizes:

*H<sub>3</sub>: There is a significant positive relationship between debt and growth.*

#### *Size*

Previous studies on the relationship between the size of the firms and leverage recorded mixed results. Some researchers found positive relationship between both elements while some documented negative relationship.

The positive relationship between size and leverage is consistent with the TOT theory. Large firms are usually more diversified than small firms. Their earnings are more stable thus more keen to use debt financing to finance the business. Other than that, by opting for debt financing, large firms are able to enjoy greater tax shield benefits as compared to small firms. The positive relationship between firms' size and leverage can be seen from studies by Psillaki & Daskalakis (2008) and Tongkong (2012).

On the other hand, studies by Ting & Lean (2011) and Ahmad & Rahim (2013) on the listed government-linked companies (GLCs) in Malaysia supported the POT hypothesis which suggests the size and level of leverage have an inverse relationship. The rationale behind this negative relationship is that large firms usually have low information asymmetry problem as compared to smaller firms. Thus, large firms can afford to opt for equity financing rather than debt financing.

While, from the perspective of Shariah approved firms, Hassan et al. (2012) confirmed that size affects debt level of the firms in a positive way, at least for the listed Shariah approved firms in Malaysia. However, Ahmad & Azhar (2015) did not find significant relationship between size and debt for Shariah approved firms in Malaysia from the consumer sector. Therefore, this study hypothesizes that:

*H<sub>4</sub>: There is a significant positive relationship between debt and size.*

#### *Bankruptcy Risk*

The likelihood of firms facing bankruptcy has arisen the research's attention due to the Enron's collapse case in 2002 (Swanson et al., 2003). It can be measured by calculating the Z-score to measure the financial standing of the firms quantitatively as initially proposed by Altman (1968). A score below 1.81 points is an indicator of bankruptcy to the firms. Firms are in a gray area if the scores are between 1.81 and 2.99 whereas if the Z-score is more than 2.99 it signals a non-bankrupt firm. A low Z-score indicates high bankruptcy risk to the firms and in contrast, a high Z-score implies that the firms are in good financial standing and far from bankruptcy risk.

The TOT proposes that there is a negative relationship between bankruptcy risk and leverage where high bankruptcy risk firms (firms with low Z-score) tend to have low leverage and vice versa. Byoun (2008) provided evidence that supports the TOT hypothesis by adopting the modified Z-score by Mackie-Mason (1990). Mitani (2014) on the other hand, found a significant negative relationship between

debt and Z-score depending upon the nature of the competitive interaction which is either Cournot (quantity) or Bertrand (price) competition for the listed firms on Tokyo Stock Exchange. The study, however only found that the significant relationship only exists for the Cournot firms. At a larger scale, latest evidence by Belkhir et al. (2016) demonstrated a significant negative relationship between the Z-score and debt. Following literature, this study hypothesizes the following:

*H<sub>5</sub>: There is a significant negative relationship between debt and bankruptcy risk.*

#### *Non-Debt Tax Shield (NDTS)*

In a world with tax, firms opt for debt financing to enjoy tax shield benefit (Modigliani & Miller, 1963). However, when firms increase its debt level, all cost related to debt financing such as bankruptcy risk and agency cost increases thus offsets the benefits from the tax shield. Deangelo & Masulis (1980) asserts that NDTS such as depreciation deduction and investment tax credit provide an alternative to tax shield benefit like the ones offered by debt financing. It means that firms may utilize their NDTS as their tax saving strategy instead of opting for debt financing.

Most previous studies recorded a negative relationship between NDTS and leverage (González & González, 2012; Chang et al., 2014) supporting the TOT. A recent study by Nejad & Wasiuzzaman (2015) also recorded a negative relationship, at the firm level, between NDTS and debt. In contrast Chakraborty (2010) found a positive relationship between debt and NDTS and suggested that firms can benefit from the tax shield due to interest deductibility. Given different leverage definition, Uddin (2015) on the other hand found that NDTS positively significantly affected the long-term debt of the firms. Following the most recorded finding, we then hypothesize the relationship between debt and NDTS as below:

*H<sub>6</sub>: There is a significant negative relationship between debt and NDTS.*

#### *Industry Concentration*

The Herfindahl-Hirschman Index (HHI) is a measurement of an industry concentration and in this study, HHI is regarded as an industry determinant. It is an economic concept introduced by Herfindahl and Hirschman and is widely used in the competition law and antitrust discipline. Mitani (2014) used the HHI to study the effect of industry concentration on the interaction between capital structure and market structure. In their simultaneous equation, they hypothesized that firm's capital structure influences its market share and that competition intensity among firms influences its capital structure. He employed the HHI as one of the market share determinants. The recent study on the influence of industry concentration on debt is by Smith et al. (2015).

Prior literature documented that industries with high HHI (highly concentrated industry) will have higher level of leverage and lower intra-industry dispersion (Mackay & Phillipis, 2005). The positive relationship is in favour of the POT. While

negative relationship supports the TOT (Kayo & Kimura, 2011). Following POT, we hypothesize:

*H<sub>7</sub>: There is a significant positive relationship between debt and industry concentration.*

#### *Controlled Variable*

Despite the mentioned explanatory variables, the study also includes three economic determinants namely inflation, GDP and dummy economic crisis to assess the determinants that affect debt level of the Shariah approved firms in Malaysia.

We hypothesize that inflation will have a negative relationship with debt due to inflationary environment creating uncertainties to the business causing firms to avoid debt (Huizinga et al., 2008; Shah & Jam-e-Kausarb, 2012).

As for the GDP that measures the growth in the country, this study hypothesizes that GDP will have a positive relationship with debt. Growth in GDP signifies active economy and thus provides better investment opportunities. This is consistent with the TOT while negative relationship in support of the POT.

In addition to the above, this study also employs a dummy variable to represent 2008 global economic crisis. We would expect that the global economic crisis will affect debt in a positive way.

## METHODOLOGY

### *Sample*

The study covered a period of 15 years from 2000 until 2014. The sample of the study included consistent designated Shariah approved non-financial firms from the various sectors listed on the main market of Bursa Malaysia during the period.

### *Sampling Procedure*

Some criteria had been imposed during the selection of the firms. However, the main criteria that needed to be fulfilled by the firms were that the firms must be Shariah approved firms traded in the main market of Bursa Malaysia. There were also other criteria as explained below:

- a) The firms must consistently be Shariah approved firms from 2000 until 2014 according to the SC of Malaysia;
- b) The firms which are involved in the merger and acquisition (M&A) and take over (TO) exercises during the period of analysis, as long as the firms, prior or after the M&A and TO, remain traded in Bursa Malaysia and consistently Shariah approved, the firms are included into the sample;

- c) The financial institution has been excluded because financial institutions pose different set of rules and guidelines that have been set by the relevant authorities such as the Bank Negara Malaysia.

One distinctive feature of this study comparative to others is that this study focuses only on firms which are consistently classified as Shariah compliance after going through the screening processes discussed earlier. The study relies heavily on the November 2014 Shariah approved firms list as announced by the SC to generate the list of the Shariah approved firms. The next step involved a backward process whereby the status of Shariah approved firms were identified starting from the year 2014 and to the year 2000. This was a very crucial and tedious yet information rich task as we needed to assess the Shariah status of the firms, individually, for the period of 15 years. Since the study focuses only on the consistently Shariah approved firms from 2000 to 2014, only 239 firms remained at the end of the screening procedure as compared to the initial number of 586 Shariah approved firms as at November 2014. The study chooses to focus only on firms with a consistent Shariah status as we believe that consistent Shariah approved firms would provide a more comprehensive and reliable outcome in understanding the target capital structure determinants of the Shariah approved firms. The inclusion of inconsistent Shariah approved firms may provide a misleading and biased result.

It is also important to note that since our firms listing was generated from the SC November 2014 Shariah approved firms listing, our study acknowledges that some of the Shariah approved firms may possess more than 33% debt ratio prior to the revised Shariah screening methodology that only come into enforcement in the year 2013. Our further investigation revealed that if we focus solely on the Shariah approved firms having debt ratio of less than 33% consistently from the year 2000 to 2014, our firm's sampling would be reduced to only 106 firms from 239 firms as tabulated in **Table 1**.

Furthermore, our study focuses on the year 2014 Shariah listing to ensure the most recent financial data be utilized during the study. Nevertheless, for future research, further examination can be conducted against the Shariah approved firms which are consistently having less than 33% debt ratio using the most suitable method of analysis. Regardless of any sampling period, it is also important that the consistency of the Shariah approved status of the firms be fulfilled every year.

**Table 1:****The selection of Shariah-approved firms**

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
No. of traded stocks on Bursa Malaysia	791	811	860	889	947	1011	1029	991	980	959	961	946	923	914	905
No. of Shariah-approved firms	606	642	684	722	787	857	886	853	855	846	846	839	817	653	673
No. of selected Shariah-approved firms	586	586	586	586	586	586	586	586	586	586	586	586	586	586	586
No. of consistently Shariah-approved firms from 2000 to 2014	239	239	239	239	239	239	239	239	239	239	239	239	239	239	239
No. of consistent Shariah-approved firms from 2000 to 2014 with Debt ratio consistently less than 33%	106	106	106	106	106	106	106	106	106	106	106	106	106	106	106

*Empirical Model*

This study employed the Generalized Method of Moments (GMM). Studies on the capital structure should control for endogeneity and GMM can be used to control for this issue (see for examples, Lemma & Negash, 2014; Haron, 2016).

To test the hypotheses, the following regression model was employed:

$$Y_{it} = \beta_1 Y_{it(-1)} + \sum_{i=1}^6 \beta_2 \text{firm}_{it} + \beta_3 \text{firmHHI}_{it} + \sum_{t=1}^3 \beta_4 \text{economy} + E_{it}$$

$i = 1, \dots, N$   
 $t = 1, \dots, T$

where:

$Y_{it}$  is the debt ratio of the firms  $i$  in the year  $t$

$\beta_1$  denotes column vector of debt ratio (-1) for firms  $i$  in year  $t$

$\beta_2$  denotes column vector of firm determinants for firms  $i$  in year  $t$  (profitability, asset tangibility, growth opportunity, bankruptcy risk, size and NDTs)

$\beta_3$  denotes column vector of firm industry determinant for firms  $i$  in year  $t$  (HHI)

$\beta_4$  denotes column vector of economic determinants in year  $t$  (GDP, inflation and dummy variable of 2008 economic crisis)

$E_{it}$  denotes random error

This study took the first difference of equation (1) to eliminate the firm's fixed effects and thereby avoiding any correlation between unobserved firm specific effects and the explanatory variables.

$$\Delta Y_{it} = \beta_0 \Delta Y_{it(-1)} + \sum_{n=1}^N \beta_k \Delta X_{kit} + \Delta \epsilon_{it}$$

Equation (2) denotes the model estimated based on the GMM (First Difference). One of the advantages of GMM is that, it can handle important modeling concerns, namely the fixed effects and endogeneity of regressors, whilst avoiding dynamic panel bias (Haron, 2016). It is important to note that the flexible GMM framework accommodates unbalanced panels, a characteristic of micro panel data set in this study, as well as endogenous variables (Daher et al., 2015). Hence, this study used GMM for the purpose of estimation.

To ensure the efficiency of the GMM estimator, this study performed three diagnostic tests which were the Wald test to assess the joint significance of the determinants of leverage (null: all coefficients on the determinants of leverage are jointly equal zero); the AR(2) or second order autocorrelation test (null: no second order autocorrelation in the residuals) and the *J*-test, a test for the validity of the instrumental variables representing  $Y_{it(-1)}$  (null: instrumental variables are valid). Estimates derived from the GMM are only consistent if there is no second order autocorrelation in the residuals and instrumental variables representing  $Y_{it(-1)}$  are valid.

#### *Variable Measurement*

**Table 2** summarizes the variable measurement under study. Details on how to measure the variables and what are the variables measuring of are also provided. Data on the firms and industry determinants were sourced from Datastream database. While, for the controlled variable, the information was sourced from the World Development Indicator of the World Bank.

**Table 2:****Variable measurement**

	<b>What to Measure</b>	<b>How to Measure</b>	<b>Expected Result</b>
<b><u>Dependent Variables (Y)</u></b>			
Debt ratio	Firm's total debt	$\frac{\text{Firm's total debt}}{\text{Firm's total asset}}$	
<b><u>Firms Determinants (X)</u></b>			
Profitability	Firm's net profit margin	$\frac{\text{Firm's operating income}}{\text{Firm's total asset}}$	-
Tangibility	Firm's asset structure	$\frac{\text{Firm's fixed asset}}{\text{Firm's total asset}}$	+
Growth	Firm's growth opportunities	Annual percentage change in total assets	+
Size	Firm's size	Log of sales	+
Z-score	Bankruptcy risk	$3.3(\text{EBIT}/\text{total assets}) + 1.0(\text{sales}/\text{total assets}) + 1.4(\text{retained earnings}/\text{total assets}) + 1.2(\text{working capital}/\text{total assets}) + 0.6(\text{MV of equity}/\text{total liabilities})$	-
Non-debt tax shield (NDTS)	Alternatives to tax shields as provided by debt financing	$\frac{\text{Annual depreciation expenses}}{\text{Firm's total asset}}$	-
<b><u>Industry Determinant (X)</u></b>			
Herfindahl-Hirschman Index (HH Index)	Industry concentration	Sum of the squares of the market shares of firms within a given industry	+
<b><u>Controlled Variables (X)</u></b>			
Inflation	Annual inflation		-
GDP	GDP growth		+
Economic crisis	2008 economic crisis	Dummy 1= 2008 economic crisis 0= Other than the year 2008	+



## RESULTS

### *Descriptive analysis*

**Table 3** presents the descriptive statistics of the variables used in the analysis. Noted from the table, on average, Shariah approved firms are levered at 19.02% indicating that, on average, 19.02% of the assets of the Shariah approved firms are financed by debt. Similar to our finding, Haron (2017) records that Shariah approved firms consume debt on average of 20.04% in their capital structure for the period between 2000 and 2015 on 556 sample firms. Debt level ranges from the minimum value of 0.0000 to 0.7184 of maximum value implying that some of the Shariah approved firms are highly levered, as high as 71.84% and there are some firms having as low as 0.00% debt level. When the study extended the analysis of the zero-leverage firms, we found that over the period of analysis, 59 Shariah approved firms have zero debt in their capital structure. Surprisingly, well-known firms such as Ajinomoto Berhad, Apollo Food Holdings Berhad, Negeri Sembilan Oil Palms Berhad and Amway Holdings Berhad are consistently unlevered since 2001 until 2014. However, future analysis needs to be conducted separately in order to address the issue of zero leverage Shariah approved firms in Malaysia. Shariah approved firms in Malaysia have an average profitability level of 4.21% and an average growth opportunity of 8.43%. In terms of tangibility, the proportion of fixed assets to total assets of Shariah approved firms in Malaysia ranges between the lowest points of 0.00% up to the highest of 98.75% with average tangibility level of 40.70%. Shariah approved firms in Malaysia are also, on average, categorized as having high bankruptcy risk given lower average Z-score of 1.2926. In terms of the industry characteristics, Shariah approved firms in Malaysia are considered to operate in a non-concentrated industry based on the HHI.

**Table 3:**

### **Descriptive statistics**

	<b>Mean</b>	<b>Standard deviation</b>	<b>Min</b>	<b>Max</b>	<b>Observations</b>
DEBT	0.1902	0.1437	0.0000	0.7184	3277
PROF	0.0421	0.0749	-0.4216	0.4474	3277
GROW	0.0843	0.3946	-0.7462	12.2007	3277
TANG	0.4070	0.2000	0.0000	0.9875	3277
SIZE	5.3034	0.6232	3.0539	7.6776	3277
ZSCORE	1.2926	0.9905	-3.1806	4.8737	3277
NDTS	0.0283	0.0212	0.0000	0.1558	3277
HHI	0.0794	0.0393	0.0350	0.2700	3277

Notes: DEBT = Debt Ratio, PROF = Profitability, GROW = Growth, TANG = Tangibility, SIZE = Size, ZSCORE = Z-score, NDTS = Non-Debt Tax Shield, HHI = Herfindahl Hirschman index.

### Existence of target capital structure and speed of adjustment

The examination of the dynamic model in the capital structure study will always involve a discussion on the existence of firm's target capital structure and its speed of adjustment (Haron et al., 2013). Each firm does pursue their own target capital structure level. However, firms may deviate from their own target capital structure due to some uncontrolled events and other random factors. Nonetheless firms may adjust to its target accordingly from time to time. The speed of adjustment will determine how fast firms converge to their target capital structure. These speeds of adjustment vary across firms and time depending on several factors as proposed by previous researchers in this area (like Mukherjee & Mahakud, 2010). The adoption of the GMM model in the analysis will provide ample evidence on the above-said issue from the perspective of Shariah approved firms in Malaysia.

The results from the GMM estimation are presented in **Table 4**. The coefficient of lagged total debt ( $\beta_0$ ) is significant ( $p=0.01$ ) indicating the existence of the target capital structure of Shariah approved firms in Malaysia. The Shariah approved firms in Malaysia rebalance to its capital structure target at the speed of 0.3609 ( $\delta_{it} = 1 - \beta_0$ ) within a year or took about 1.5721 years ( $1/\delta_{it}$ ) to be at the target. The speed of adjustment result indicates that Shariah approved firms in Malaysia close by 36.09% the gap between the current and target debt level within a year. The results also imply that Shariah approved firms in Malaysia, is adjusting towards its target capital structure. The following section will discuss further the factors affecting the target capital structure of the Shariah approved firms in Malaysia.

**Table 4:**

#### GMM'S result on target capital structure determinants

Explanatory variables	Coefficient	t-Statistic	VIF
DEBT(-1)	0.6391***	25.4377	
PROF	0.0756*	1.9021	2.01
TANG	0.1081***	3.4909	1.5
SIZE	0.0991***	9.4031	1.04
GROW	0.0171***	3.6350	1.42
Z	-0.0630***	-11.0003	2.55
NDS	0.7643**	2.2784	1.31
HHI	0.1287*	1.6706	1.07
INF	-0.0011	-1.1463	2.2
GDP	0.0008**	2.4879	1.17
ECO	0.0113***	2.5800	2.35
AR(1)	-8.3024***		
AR(2)	1.0628		

Explanatory variables	Coefficient	t-Statistic	VIF
Wald (Joint) $\chi^2$	2119.8900***		
J-statistic	93.1998		

**Notes:** DEBT = Debt Ratio, PROF = Profitability, GROW = Growth, TANG = Tangibility, SIZE = Size, ZSCORE = Z-score, NDTs = Non-Debt Tax Shield, HHI = Herfindahl Hirschman index, INF = Inflation, GDP = Gross Domestic Product, ECO = 2008 Economic Crisis (Dummy). \*\*\*, \*\*, \* denotes significance at 1%, 5% and 10% level respectively. The t-statistics are the t-values adjusted for White's heteroscedasticity consistent standard errors. The Wald test statistic refers to the null hypothesis that all coefficients on the determinants of leverage are jointly equal zero; AR(2) refers to the null of no second order correlation in the residuals; The J-test statistic for the null that the over identifying restrictions are valid. The VIF test of less than 10 confirms that there is no multicollinearity problem.

### *Factors affecting target capital structure*

Overall, the study found that all explanatory variables inclusive of profitability, tangibility, growth opportunity, size, bankruptcy risk, non-debt tax shield (NDTS), HHI, economic crisis and GDP significantly affect the target capital structure of the Shariah approved firms in Malaysia.

A positive significant relationship is observed between profitability and debt ratio ( $p=0.10$ ). The result is contradicting with our earlier expectation thus  $H_1$  is not supported. The positive result confirms that high profitable Shariah approved firms choose to use external financing (debt) as opposed to their own internal financing to finance their firms which are in support of the TOT. The result does not seem to confirm what has been commonly recorded in the literature. Nevertheless, the rapid development of the Malaysian capital market and the variety of the financial products such as banking facilities and capital market products justifies the results. Given higher profit and more stable firms, the variety of the capital market products will surely attract them to opt for external financing rather than using their own internal financing. It can be seen from the business demand for funding from the bond market which increases from RM66 billion in 2014 to RM79.9 billion in 2015 and the business loan disbursement which increases from monthly average of RM65.6 billion in 2014 to RM67.1 billion in 2015 (Central Bank of Malaysia, 2015). The result, however, contradicts Hassan et al. (2012) and Haron (2017) who are also focusing on the Shariah approved firms in Malaysia. Perhaps, examining firms which are consistently Shariah compliant within 15 years study may have resulted in the contradicting findings between the current study and the studies of Hassan et al. (2012) and Haron (2017).

The statistical tests show that asset tangibility is positively and significantly related with the level of debt ( $p=0.01$ ). It implies that firms that have a low level of asset will have a low level of debt and vice versa and it is consistent with the Islamic perspective where debt must be asset-backed and the level of the debt cannot exceed the value of the tangible asset (Ahmed, 2007). The positive signs are in favour of the TOT and thus, the  $H_2$  is supported. The same finding is also documented by Haron & Ibrahim (2012) and Matemilola & Ahmad (2015).

While, growth shows a positive significant relationship with debt ( $p=0.01$ ) in line with the POT. The result suggests that as the Shariah approved firms grow, they will increase their debt. This is mainly in response to the variety of the financial products that being offered in the Malaysian Islamic capital market attracting firms to opt for debt financing. It may also be the result from the financial flexibility that allows firms to maintain low debt level and exploit it when they decide to grow (Byoun, 2011). The result is consistent with other literatures that focus on Malaysian firms such as Md-Rus & Samiran (2012) and Ahmad & Rahim (2013), thus,  $H_3$  is supported.

The GMM result reveals that there is a positive significant relationship between the size of the firms and debt ( $p=0.01$ ). The result is in tandem with our earlier expectation and thus  $H_4$  is supported. The positive relationship concludes that bigger Shariah approved firms tend to have more debt and vice versa. As large firms are more stable and generate more income, given a variety of financial instruments available in the market, debt instruments look more attractive. The findings are similar to Hassan et al. (2012) and the latest evidence by Balios et al. (2016).

Furthermore, as expected, the Z-score that measures the bankruptcy risk of the firms shows a negative significant relationship with debt level. The result is consistent with the TOT as the Z-score is low, the probability to bankrupt is high and it implies low bankruptcy risk, thus makes debt financing more attractive. Like common findings from conventional firms, the Shariah approved firms demonstrate similar financing behaviour as the bankruptcy risk reacts in the same motion to debt. This indicates that there are no differences in the effect of bankruptcy risk to the target capital structure of Shariah approved firms, especially in Malaysia. Thus,  $H_5$  is supported and consistent with prior literature such as Mitani (2014) and Belkhir et al. (2016).

Meanwhile, for NDTs, the result contradicts the early expectation of the study. NDTs recorded a significant positive relationship with debt ( $p=0.05$ ). This is due to the firms with high NDTs having high collateral-able fixed assets (Uddin, 2015). Looking at the asset structure of the Shariah approved firms as evidenced by the positive relationship between asset tangibility and debt, there is a consistency in both relationships. Thus,  $H_6$  is not supported but it is consistent with a recent study of Köksal & Orman (2015) and Chadha & Sharma (2015). In addition to that, Obaidullah (2006) advocates that TOT is irrelevant for the Shariah approved firms due to the interest tax shield that is non-existence in Islam.

The HHI records a positive significant relationship with debt level ( $p=0.10$ ). The positive significant relationship is, however, inconsistent with Mackay & Phillips (2005) which suggests that firms operating in a highly concentrated industry (high HHI) tend to have a high debt while firm in a less concentrated industry (low HHI) prefers low debt level. Shariah approved firms in Malaysia, on average,

operate in a non-concentrated industry (average HHI of 0.0794) and due to that, this study concludes that, given the industry characteristic, the Shariah approved firms in Malaysia tend to have a low level of debt. The HHI result is consistent with the finding on profitability and size as highly concentrated industries usually have high profit and relatively bigger in size (Mackay & Phillips, 2005). Here,  $H_i$  is supported.

Meanwhile, as for the controlled variable, the study found that only economic crisis and GDP play significant roles in determining target capital structure of Shariah approved firms in Malaysia.

## CONCLUSION

The study investigates target capital structure and speed of adjustments of Shariah approved firms listed on Bursa Malaysia and factors affecting target capital structure for the period of 2000 until 2014. The GMM results confirm that target capital structure exists in the Shariah approved firms in Malaysia and is adjusting towards its target capital structure. Certain firm-specific variables like profitability, tangibility, size, growth opportunity, bankruptcy risk and NDTs are contributing to the phenomenon. The target capital structure is also influenced by the industry determinant that is measured by the HHI and the macro variables that include GDP and economic crisis. The influence of firms, industry and economic determinants in the target capital structure of Shariah approved in Malaysia is similar to Lemma & Negash (2013) findings in the context of the African country.

Furthermore, the study on the capital structure of the Shariah approved firms has started to gain attention from researchers for the past few years especially in Malaysia. However, most of the studies focused on the financial figures only and thus limits the researchers' ability to understand in depth how Shariah approved firms determine their capital structure decisions. This is because, being Shariah approved firms, the aspect of Shariah compliant covers the whole aspects of the financing and operations determined by the screening processes as discussed earlier. This is consistent with one of the Islamic legal maxims that postulate 'averting harm takes precedence over achieving benefit'. Doing business is an honorable job as the flourish of the business contributes to the growth of the country in terms of job opportunity, tax collections and zakat. Even the Prophet Muhammad (PBUH) was also once a trader. However, given the current economic condition that is uncertain, it is undeniable that there are businesses that stress only on high profit and involve in the harmful acts that are spoiled, impaired and corrupted as long as the firms achieve their target profits. Therefore, in future, the study recommends exploring further on the roles of the management team such as Muslim board of directors in determining Shariah approved firms' capital structure decision. It is believed that it will provide more valuable information on the financing behavior of the Shariah approved firms. Being important position in

the firms, their significant roles at least will play a part in observing the way the firms is operated.

This study has policy implication. Since this study focuses on firms which are consistently Shariah compliant throughout the study period, the findings definitely offer a clear comprehensive insight of a Shariah compliant firm in deciding their capital structure and the sort of financing they prefer the best. Therefore, policy makers as well as regulators and also those who are responsible in developing Islamic finance in Malaysia can benefit from this study in formulating and crafting ideas to promote, develop and enhance the competitiveness of Malaysia Islamic finance particularly the Islamic capital market. This is indeed in line with the national agenda to position Malaysia as the global hub for Islamic finance.

In addition to that, our empirical evidence also found that economic determinants including the GDP and the 2008 global financial crisis are robust to determine the level of debt of Shariah-approved firms in Malaysia. This indicates that the country's development and stability affect the tendency of Shariah approved firms to increase or decrease their debt level. Not only that, the stability of the country will attract more local and foreign investors to invest in our capital market, which will help to stimulate our economy. Policymakers should thus realise and be aware that introducing new rules, policies and laws will indirectly affect the tendency of Shariah approved firms to opt for debt for both their capital structure and their performance level. Not only that, the introduction of new rules, policies and laws should be implemented wisely and carefully in order to benefit the entire economic system.

Furthermore, the significant evidence of HH Index strongly suggests that the industry does matter in determining the level of debt of Shariah-approved firms in Malaysia. The outcome further indicates the importance for the financial institutions to design and strategise their lending activities to match the specific needs of the industries. This may also reduce the credit risk to the financial institutions, as all key aspects of the firms, including profitability, tangibility, bankruptcy risk and others, will have been evaluated.

## REFERENCES

- Ahmad, N. & Azhar, N.N. (2015). Investigating of Shariah compliant companies capital structure determinants. *Advanced Science Letters*, 21(6), 1986–1989.
- Ahmad, N. & Rahim, F.A. (2013). Theoretical investigation on determinants of government-linked companies capital structure. *Proceedings of 3rd Asia-Pacific Business Research Conference*, 1–14.
- Ahmed, A. (2010). Global financial crisis: An Islamic finance perspective. *International Journal of Islamic and Middle Eastern Finance and Management*, 3 (4), 306–320.
- Ahmed, H. (2007). *Issues in Islamic corporate finance: Capital structure in firms*. Jeddah, Saudi Arabia: Islamic Research and Training Institutes (IRTI).
- Al-Najjar, B. & Hussainey, K. (2011). Revisiting the capital-structure puzzle: UK evidence. *The Journal of Risk Finance*, 12(4), 329–338.
- Al-Najjar, B. & Taylor, P. (2008). The relationship between capital structure and ownership structure: New evidence from Jordanian panel data. *Managerial Finance*, 34(12), 919–933.
- Altman, E.I. (1968). The prediction of corporate bankruptcy: A discriminant analysis. *The Journal of Finance*, 23(4), 193–194.
- Bacha, O.I. & Mirakhor, A. (2013). *Islamic capital markets: A comparative approach*. John Wiley and Sons Singapore Pte. Ltd.
- Baharuddin, N.S., Khamis, Z., Mahmood, W.M.W. & Dollah, H. (2011). Determinants of capital structure for listed construction companies in Malaysia. *Journal of Applied Finance & Banking*, 1(2), 115–132.
- Balios, D., Daskalakis, N., Eriotis, N. & Vasiliou, D. (2016). SMEs capital structure determinants during severe economic crisis: The case of Greece. *Cogent Economics and Finance*, 4(1), 1–11.
- Belkhir, M., Maghyreh, A. & Awartani, B. (2016). Institutions and corporate capital structure in the MENA region. *Emerging Markets Review*, 26(1), 99–129.
- Byoun, S. (2008). How and when do firms adjust their capital structures toward targets?. *The Journal of Finance*, 63(6), 3069–3096.
- Byoun, S. (2011). *Financial Flexibility and Capital Structure Decision*. Retrieved from <https://doi.org/10.2139/ssrn.1108850>.
- Central Bank of Malaysia. (2015). *Annual Report 2015*. Retrieved from [http://www.bnm.gov.my/files/publication/ar/en/2015/ar2015\\_book.pdf](http://www.bnm.gov.my/files/publication/ar/en/2015/ar2015_book.pdf).
- Chadha, S. and Sharma, A. (2015). Determinants of capital structure: An empirical evaluation from India. *Journal of Advances in Management Research*, 12(1), 3–14.
- Chakraborty, I. (2010). Capital structure in an emerging stock market: The case of India. *Research in International Business and Finance*, 24(3), 295–314.
- Chang, C., Chen, X. & Liao, G. (2014). What are the reliably important determinants of capital structure in China?. *Pacific-Basin Finance Journal*, 30(1), 87–113.

- Chipeta, C., Wolmarans, & H.P.Vermaak, F.N. (2012). Financial liberalisation and the dynamics of firm leverage in a transitional economy. *South African Journal of Economic and Management Sciences*, 15(2).
- Davis, E.P. (1995). *Debt, financial fragility and systemic risk*. Oxford University Press Inc., Oxford.
- Deangelo, H. & Masulis, R.W. (1980). Optimal capital structure under corporate and personal taxation. *Journal of Financial Economics*, 8(1), 3-29.
- Deesomsak, R., Paudyal, K. & Pescetto, G. (2004). The determinants of capital structure: Evidence from the Asia Pacific region. *Journal of Multinational Financial Management*, 14(1), 387-405.
- Donaldson, C. (1961). *Corporate debt capacity: A study of corporate debt policy and the determination of corporate debt capacity*. Harvard University.
- Eriotis, N., Vasiliou, D. & Ventoura-Neokosmidi, Z. (2007). How firm characteristics affect capital structure: An empirical study. *Managerial Finance*, 33(5), 321-331.
- Fama, E.F. (1980). Agency problem and the theory of firm. *The Journal of Political Economy*, 88(2), 288-307.
- Fama, E.F. & Miller, M.H. (1972), *The Theory of Finance*, Dryden Press.
- Frank, M.Z. & Goyal, V.K. (2003). Testing the pecking order theory of capital structure. *Journal of Financial Economics*, 67(2), 217-248.
- Frank, M.Z. & Goyal, V.K. (2008). Trade-off and pecking order theories of debt. in Eckbo, B.E. (Ed.), *Handbook of Corporate Finance: Empirical Corporate Finance*, (2), Elsevier, Amsterdam, The Netherlands, 136-202.
- González, V.M. & González, F. (2012). Firm size and capital structure: Evidence using dynamic panel data. *Applied Economics*, 44(36), 4745-4754.
- Hall, T.W. (2012). The collateral channel : Evidence on leverage and asset tangibility. *Journal of Corporate Finance*, 18(3), 570-583.
- Haron, R. & Ibrahim, K. (2012). Target capital structure and speed of adjustment : Panel data evidence on Malaysia Shariah compliant securities. *International Journal of Economics, Management and Accounting*, 2(2), 87-107.
- Haron, R., Ibrahim, K., Nor, F.M. & Ibrahim, I. (2013). Factors affecting speed of adjustment to target leverage: Malaysia evidence. *Global Business Review*, 14(2), 243-262.
- Haron, R. (2017). Ownership structure of family-owned firms and debt financing. Evidence on Shari'ah compliant firms in Malaysia. *Al-Shajarah, Special Issue: Islamic Banking and Finance*, 139-163.
- Hassan, N.N.N.M., Shafi, R.M. & Mohamed, S. (2012). *The determinants of capital structure: Evaluation between Shariah-compliant and conventional companies*. Paper presented in the 2012 International Conference on Innovation Management and Technology Research.
- Huizinga, H., Laeven, L. & Nicodeime, G. (2008). Capital structure and international debt shifting. *Journal of Financial Economics*, 88(1), 80-118.
- Iqbal, Z. and Mirakhor, A. (2011). *An introduction to Islamic finance: Theory and practice* (2nd Edition). John Wiley & Sons (Asia) Pte. Ltd.



- Jensen, M.C. (1986). Agency costs of free cash flow, corporate finance and takeovers. *American Economic Review*, 76(1), 323-329.
- Jensen, M.C. & Meckling, W.H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Joeveer, K. (2013). Firm, country and macroeconomic determinants of capital structure: Evidence from transition economies. *Journal of Comparative Economics*, 41(1), 294-308.
- Kahf, M. (1994). Time value of money and discounting in Islamic perspective: Re-visited. *Review of Islamic Economics*, 3(2), 31-38.
- Kayo, E.K. & Kimura, H. (2011). Hierarchical determinants of capital structure. *Journal of Banking and Finance*, 35(2), 358-371.
- Khan, M.M. (1997). The Book of Wasaya. *The Translation of the Meanings of Sahih Al-Bukhari*, Darussalam Publishers and Distributers.
- Köksal, B. & Orman, C. (2015). Determinants of capital structure: Evidence from a major developing economy. *Small Business Economics*, 44(2), 255-282.
- Kraus, A. & Litzenberger, R.H. (1973). A state-preference model of optimal financial leverage. *The Journal of Finance*, 28(4), 911-922.
- Leary, M.T. & Roberts, M.R. (2010). The pecking order, debt capacity and information asymmetry. *Journal of Financial Economics*, 95(3), 332-355.
- Lemma, T.T. & Negash, M. (2013). Institutional, macroeconomic and firm-specific determinants of capital structure: The African evidence. *Management Research Review*, 36(11), 1081-1122.
- Lokken, L. (1986). Time value of money rules. *Tax Law Review*, 42(1), 10-80.
- Mackay, P. & Phillipis, G.M. (2005). How does industry affect firm financial structure?. *Review of Financial Studies*, 18(4), 1433-1466.
- Mackie-Mason, J.K. (1990). Do taxes affect corporate financing decisions?. *The Journal of Finance*, 45(5), 1471-1493.
- Matemilola, B.T. & Ahmad, R. (2015). Debt financing and importance of fixed assets and goodwill assets as collateral: Dynamic panel evidence. *Journal of Business Economics and Management*, 16(2), 407-421.
- Md-Rus, R. & Samiran, M. (2012). The determinants of capital structure for Malaysian construction firms. *3rd International Conference on Business and Economic Research (3rd ICBER 2012) Proceeding*, Vol. 1997, pp. 992-1008.
- Mitani, H. (2014). Capital structure and competitive position in product market. *International Review of Economics and Finance*, 29, 358-371.
- Modigliani, F. & Miller, M.H. (1958). The cost of capital, corporation finance and the theory of investment. *The American Economic Review*, 48(3), 261-297.
- Modigliani, F. & Miller, M.H. (1963). Corporate income taxes and the cost of capital : A correction. *The American Economic Review*, 53(3), 433-443.

- Mukherjee, S. & Mahakud, J. (2010). Dynamic adjustment towards target capital structure: Evidence from Indian companies. *Journal of Advances in Management Research*, 7(2), 250-266.
- Mustapha, M., Ismail, H. & Minai, B. (2011). Determinants of debt structure: Empirical evidence from Malaysia. *2nd International Conference on Business and Economic Research*, 2523-2540.
- Myers, S.C. (1984). The capital structure puzzle. *The Journal of Finance*, 39(3), 575-592.
- Myers, S.C. & Majluf, N.S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13(1), 187-221.
- Nejad, N.R. & Wasiuzzaman, S. (2015). Multilevel determinants of capital structure: Evidence from Malaysia. *Global Business Review*, 16(2), 199-212.
- Obaidullah, M. (2005). *Islamic financial services*, King Abdulaziz University Press.
- Obaidullah, M. (2006). *Teaching Corporate Finance from an Islamic Perspective*, Islamic Economics Research Centre, King Abdulaziz University Jeddah, Kingdom of Saudi Arabia.
- Prasad, S., Green, C.J. & Murinde, V. (2001). *Company Financing, Capital Structure and Ownership: A Survey and Implications for Developing Economies*, Société Universitaire Européenne de Recherches Financières, Vienna.
- Psillaki, M. & Daskalakis, N. (2008). Are the determinants of capital structure country or firm specific?. *Small Business Economics*, 33(3), 319-333.
- Rampini, A.A. & Viswanathan, S. (2013). Collateral and capital structure. *Journal of Financial Economics*, 109(1), 466-492.
- Securities Commission Malaysia. (2013). *List of Shariah-compliant securities by the Shariah Advisory Council of the Securities Commission Malaysia*. Retrieved from [https://www.sc.com.my/wpcontent/uploads/eng/html/icm/sas/sc\\_syariahcompliant\\_291113.pdf.pdf](https://www.sc.com.my/wpcontent/uploads/eng/html/icm/sas/sc_syariahcompliant_291113.pdf.pdf).
- Shah, S.Z.A. & Jam-e-Kausar. (2012). Determinants of capital structure of leasing companies in Pakistan. *Applied Financial Economics*, 22(22), 1841-1853.
- Smith, D.J., Chen, J. & Anderson, H.D. (2015). The influence of firm financial position and industry characteristics on capital structure adjustment. *Accounting and Finance*, 55(4), 1135-1169.
- Suharto, U. (2014). Analysis of the concept of Islamic choice (ikhtiyór) on opportunity cost and time value of money in Islamic economics and finance. *International Journal of Economics, Management and Accounting*, 22(2), 1-20.
- Swanson, Z., Srinidhi, B. & Seetharaman, A. (2003). *The Capital Structure Paradigm: Evolution of Debt/Equity Choices*, Praeger Publishers, Westport, Connecticut.
- Ting, I.W.K. and Lean, H.H. (2011). Capital structure of government-linked companies in Malaysia. *Asian Academy of Management Journal of Accounting and Finance*, 7(2), 137-156.
- Tongkong, S. (2012). Key factors influencing capital structure decision and its speed of adjustment of Thai listed real estate companies. *Procedia-Social and Behavioral Sciences*, 40(1), 716-720.

- Uddin, N. (2015). Determinants of corporate capital structure: A theoretical integration and some empirical evidences. *International Journal of Economics and Finance*, 7(7), 254–277.
- Vasiliou, D., Eriotis, N. & Daskalakis, N. (2009). Testing the pecking order theory: The importance of methodology. *Qualitative Research in Financial Markets*, 1(2), 85–96.
- Yu, B. (2012). Agency costs of stakeholders and capital structure: International evidence. *Managerial Finance*, 38(3), 303-324.
- Zandi, G., Razak, D.A. & Hussin, N.H. (2014). Stock market screening: An analogical study on conventional and Shariah compliant stock markets. *Asian Social Science*, 10(22), 270–279.

Received Date: 12<sup>th</sup> September 2017  
Acceptance Date: 22<sup>nd</sup> December 2017