

# **Firms' Financing Behavior: A Look into Shariah-Compliant Construction Firms in Malaysia**

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#### ABSTRACT

This paper examines the financing patterns of 30 Malaysian Shariah-compliant construction firms listed on Bursa Malaysia for a period from 2007 to 2014. It retraces the financing patterns of the firms during the sample period to identify whether some patterns can be linked to the economic cycles. Our observation on the firms' financing behavior supports the mixed evidence on the consistency of capital structure theory. Nonetheless, this study claims an association between financing behavior and economic sentiments. Albeit not being able to explain the capital structure decision during economic downturn, the study did reveal that firms do prefer debt to equity in the economic revival phase, and prefer to use combination financing in a cautious unpredictable economy. There is apparent evidence that firms' financing behavior and economic sentiments are very much related. This action corresponds with investors' preference that generally chooses less risky investments during period of high economic uncertainties.

Keywords: Capital Structure, Financing Behavior, Malaysian Construction Firms JEL Classifications: G390, M200

### **1. INTRODUCTION**

A wrong financing decision could have a detrimental effect on a firm's survival. This is the reason why firms engage in tremendous effort in their capital structure decisions. Therefore, the role of financial resources cannot be treated hastily as it serves as one of the key drivers in the firms' operation. Essentially, firms' financing decision plays an integral part of sustaining a firm's value maximization objective. The purpose of this study is to examine the relevance of different capital structure theories in explaining the financing behavior of construction firms in Malaysia.

This paper is inspired by the fundamental claim that most capital structure issues are similar across industries, as many studies have found variations in capital structure across various industries (Abor, 2007; Johsen and McMahon, 2005; Mackay and Phillips, 2003). This industry effect is associated with an expected linkage between the existence of tangible assets and the level of debt.

Correspondingly, those industries with similar capital intensive utilization (Bradley et al., 1984) and exposure to technology (Mackay and Phillips, 2003) engage in comparable leverage ratios. These views are shared by many who set industry mean as the optimal debt ratio in their target adjustment capital structure studies (Faulkender et al., 2012; Flannery and Rangan, 2006).

The choice of selecting construction firms as our sample is motivated by the study of Myers (2013) who submits to the fact that among the major economic sectors, the construction sector accounted for a sizeable proportion in the gross domestic product (GDP) for many developed and developing countries. The construction sector generates revenue, capital and creates employment for sustainable economic development. Hence, capital structure for construction firms is important because the major components of the outputs from construction sector are from investment (Ive and Gruneberg, 2000). The investments in construction sector provide major expansion in the economy due to the investment in infrastructure, which in turn leads to a more sustainable economic growth. Therefore, many studies have recognized construction sector as an engine of economic growth for a country due to the effect it has on various other economic sectors (Abu Bakar et al., 2011).

As an emerging market, Malaysia's construction sector represents 3-5% of the country's GDP in 2015 (Department of Statistics Malaysia, 2016). This sector has become part of the 11th Malaysia Plan, with a 5 year-plan for the country to achieve High Income Nation by the year 2020. With an allocation of RM260 billion, the construction sector will benefit through many mega project developments such as the MRT2, LRT3, KL-Singapore HSR, Pan Borneo Highway, new hospitals and affordable housing projects. These projects will accelerate the country's economic growth.

According to the Department of Statistics Malaysia (2016), the GDP from construction sector had increased to RM12,555 millions in Q12016 from only RM11,992 millions in Q42015 (Figure 1). As indicated in Figure 1, the construction sector started with a moderate contribution to the Malaysia GDP in July 2013. However, the trend seemed to be moving upward with slight decreased reported in July 2014, July 2015 and January 2016.

Due to the vital role of this sector, this paper attempts to descriptively document the broad financing patterns of the Shariahcompliant construction firms for a period spanning of 8 years. The process involves exploring the data for possible distinct financing trends, and relating the observed patterns to the movement in the economy from 2007 to 2014. Specifically, we seek to find whether, (1) The economic cycles have any influence in describing the observed firms' financing patterns and (2) the capital structure theories of static trade off and the pecking order could explain the firms' financing patterns. In a nutshell, this study plans to retrace the financing patterns of these construction firms during the sample period to identify whether there exist some significant patterns that can be linked to the economic cycles.

This paper is organized as follows: The first section presents the background of the study, followed by section two that provides an overview of the past studies on capital structure. Then, section three describes the current development of Malaysian capital market. The methodology used for this study is presented in section four. Finally, sections five and six discuss the results and conclusion of the study respectively.

#### 2. LITERATURE REVIEW

The literature on firms' capital structure has focused around two main fundamental theories, which are the static trade-off and the pecking order theories. Perusing through more than 50 years since the initial paper by Modigliani and Miller (1958), many financial scholars have cited capital structure issues in depth, both empirically and theoretically. The documented capital structure literatures have the underlying aim towards maximizing the value of firm. The earlier models that emerge from this original paper of Modigliani and Miller (1958), which capture issues such as financial distress costs model (Stiglitz, 1969; Chen and Kim, 1979), agency costs model (Jensen and Meckling, 1976; Fama and Miller, 1972), transaction costs model (Myers, 1984), managerial operating decision model (Harris and Raviv, 1990; Stulz, 1990), and information asymmetry model (Ross, 1977; Leland and Pyle, 1977; Myers and Majluf, 1984) have narrowed the views on capital structure down to the optimality view which adhere the static trade-off theory, and the financing hierarchy view which submit to the pecking order model of capital structure.

The assumption of optimal debt ratio has implicitly guided most empirical literature in capital structure. Early studies have indicated that although debt ratios seem to converge to the target ratios, which represented by the industry means (Faulkender et al., 2012; Flannery and Rangan, 2006; Ghosh and Cai, 1999; Claggett, 1991), there may be financing constraints that induce pecking order behavior (Shyam-Sunder and Myers, 1999; Vogt, 1994). Most capital structure literature has proposed separate motives that induce the firms' financing behavior and there is no conclusive evidence as to which theories do firms endure most. Evidently, theories of capital structure underpinning the debtequity choice of firms in developed economies are also applicable to other economic counterparts (Danso and Adomako, 2014), but the issue remains incomplete and inconclusive on the theoretical explanation (Haron, 2014; Al-Najjar and Taylor, 2008).

Stirred by the study of Shyam-Sunder and Myers (1999), Zhang and Kanazaki (2007) seek to find which of the two models of static trade-off and pecking order can better explain the capital

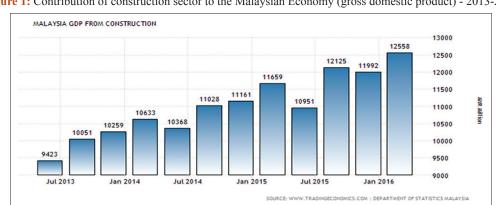


Figure 1: Contribution of construction sector to the Malaysian Economy (gross domestic product) - 2013-2016

structure of Japanese firms for the period of 2002-2006. Their results indicate that the static trade-off does predict that the capital structure as being affected by several factors. Meanwhile, the pecking order seems not to offer satisfactory explanation although being able to track the variation of capital structure. These findings however contradict the findings of the earlier Shyam-Sunder and Myers (1999) who find that the pecking order model dominates in terms of explanatory power compared to the static trade-off model. These opposing findings reaffirm Haron's (2014) inconclusiveness assertion. The issue of inconclusiveness has long been debated in countless theoretical studies on capital structure. Haron himself employs a panel data for a period spanning from 2000 to 2009 comprising of a sample of firms from Malaysia, Thailand and Singapore. Using six measures of leverage and employing two models, static and dynamic, he attempts to test the robustness of the findings compared to previous studies conducted by other researchers. His findings conclude that the results are sensitive to various definition of leverage despite employing the same model. The findings also confirm the notion that despite having the same leverage definition, using different model also can lead to inconclusive results regardless of the market. The question of how much debt is optimal for a firm to maximize its value still remains unanswered, hence, no conclusive guidance for corporate managers in their financing decisions.

A firm capital's structure choice depends on many explanatory variables, which are firm specific and country specific (De Jong et al., 2008). To quote some recent studies are such as those conducted by Bancel and Mittoo (2004), Antoniou et al. (2008) and Psillaki and Daskalakis (2009). Bancel and Mittoo (2004), in their survey, find that financial flexibility and earnings per share dilution are two main issues which managers give great consideration in deciding whether to issue debt or common stock, respectively. In addition to that, the survey which involved managers in 16 European countries also indicates that manager value hedging considerations and use "windows of opportunity" in making capital structure decision. A country's legal environment is found to have a significant impact in determining the debt policy but have minimal impact in determining the common stock policy. The findings of their study reveal that firms' financing policies are significantly influenced by both the institutional environment and international operations. In brief, the optimal capital structure is determined by trading off costs and benefits of financing.

Related study by Antoniou et al. (2008) finds that a firm's capital structure is heavily influenced by the economic environment and its institutions, corporate governance practices, tax systems, the borrower-lender relation, exposure to capital markets, and the level of investor protection in the country in which the firm operates. Adopting panel data and a two-step system - generalized method of moments procedure on firms in the UK, US, France, Germany and Japan, the study specifically finds that the leverage ratio is positively affected by the tangibility of assets and the size of the firm. However, it declines with an increase in firm profitability, growth opportunities, and share price performance. The finding of the study also reveals that the leverage ratio is affected by the market conditions in which the firm operates.

Instead of using public listed companies as sample, Psillaki and Daskalakis (2009) investigate the capital structure determinants of Greek, French, Italian, and Portuguese small and mediumsized enterprises (SMEs). Specifically, they examine the capital structures of SMEs across these countries and differences in country characteristics, asset structure, size, profitability, risk, and growth and how these characteristics may affect the capital structure choices. The results of the study show that there are similarities in how the SMEs in different countries determine their capital structure. Three common factors which are found to have an impact on the SMEs capital structure decision are the country institutional and financial characteristics and the commonality of their civil law systems. Nevertheless, the findings of the study provide evidence that firm-specific factors rather than country characteristics that explain the differences in capital structure choices of SMEs. They find that size has positive relationship with leverage while asset structure, profitability and risk have negative relationships with leverage.

The most recent capital structure theory that emerges in the finance literature is the market timing theory proposed by Baker and Wurgler (2002). The underlying argument of this theory lies on the claim that current capital structure is the cumulative outcome of past attempts to time the equity market. They claim that market valuation is economically significant and has persistent impact on capital structure; hence the notion of optimal capital structure is not applicable. To prove this claim, they provide a range of evidence that indicate market timing is an important aspect of real financing decision and they believe that these results are most naturally explained. Perhaps, this market timing theory, which closely relates to the fluctuations in the market and the economy, would possibly fill the gap on the inconclusiveness issue on the theoretical explanations of both the traditional capital structure theories of the static trade-off and the pecking order.

### 3. CURRENT DEVELOPMENT OF MALAYSIAN CAPITAL MARKET

Malaysian capital market has undergone a robust development and witnessed several major transformations in line with the proliferation of private sector that requires an enormous amount of financing. As the important source of financing, Malaysian capital market has contributed significantly to the country's economic growth, thus making it one of the fastest growing markets in the region. A capital market refers to a market in which the raising of long-term funds takes place. It constitutes two major markets which are the stock market and the bond market. In order to protect the interests of the parties involved, especially the investors, Securities Commission (SC) Malaysia has been set up to oversee and ensure its operations are conducted in accordance to the designated jurisdictions. Besides that, the SC is also responsible to support the continuous development of the market.

For more than 20 years, the Malaysian capital market has grown drastically to contribute significantly in meeting the firms' financing needs. With the increase of privatized projects, the volumes of funds raised through this market grow tremendously. The economic liberalization as well as changes in economic scenario

also contributes to the success of this market as the main place for fundraising. Despite domestic and global uncertainties, both the Malaysian stock and bond markets remain resilient and continue to expand. Specifically, Malaysian capital market grew from RM2.04 trillion in 2010 to RM2.76 trillion in 2014 (Figure 2). Out of the total capital market capitalization reported in 2014, 59.8% or RM1.65 trillion came from the stock market while the balance of 40.2% or RM1.11 trillion was from the bond market. The increase of 32.7% in the overall size of the capital market reflects its important role in meeting Malaysia's financing needs. The total funds raised in 2014 was equivalent to 2.6 times of the country's economy, in which RM91.9 billion was raised through initial public offerings and private debt securities. The growth is expected to continue in line with the prediction that Malaysian economy is expected to grow between 4.5% and 5.5% in 2015 (SC, 2015).

### 4. METHODOLOGY

Our sample comprises of construction firms obtained from the list of Shariah-compliant securities listed on the main market of Bursa Malaysia. The selection of Shariah-compliant securities is based on the fact that Malaysia is renowned for its leading global hub in Islamic finance. As of November 2015, there were 39 Shariah-compliant construction firms. However, due to continuous data availability for our sample period from 2007 to 2014, only 30 firms are selected.

The initial step in exploring the financing behavior of firms is to transform the accounting data into a simplified fund flow statement concentrating on the external financing. As a framework, we classify the firms' pattern by examining the movement of financing behavior throughout the whole 8-year time span. We observe the characteristic of financing of two states: (1) State of Issue/Repurchase of Share Capital, and (2) State of Issue/Repayment of Loans.

Based on the Figure 3, we assume that when there is a net fund flow deficit, firms will raise capital externally by either issuing equity-only (i.e., add issuance of share capital), debt-only (i.e., add issuance of loans), or combination of both means of financing. Meanwhile, when there is an excess in fund flow, firms will normally repay debt, although we also observe firms repurchase equity in a few rare cases. Seven unambiguous financing patterns could emerge from firms' patterns ranging from all-equity (no leverage) to all-debt (all leverage). The suggested classifications of the financing patterns are as follows.

No leverage	I. All equity-only issues (no debt issues)		
	II. Simultaneous debt and equity issues and/or		
<b></b>	equity-only issues (no year with debt-only issues)		
	III. Sometimes equity-only issues and sometimes		
	debt-only issues (no year with simultaneous debt		
	and equity issues		
	IV. No debt or equity issues (i.e. no external		
	financing)		
	V. All types of financing (debt-only, equity-only,		
	and debt-equity simultaneous issues) at different		
	times		
	VI. Simultaneous debt and equity issues and/		
¥	or debt-only issues (no year with equity-only		
	issues)		
All-leverage	VII. All debt-only issues (no equity issues)		

Based on this observation, we plan to build preliminary inferences on the relation between the financing behavior detected and the descriptions of the capital structure theories.

## **5. THE FINANCING PATTERNS**

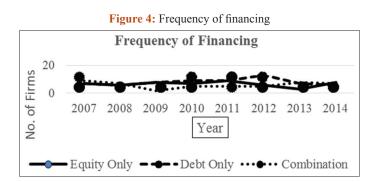
We initially do a count on firm's financing behavior for each year and observe the frequency of specific financing manner of all 30 firms in the sample. We divide the firms' financing into three broad categories of (1) Equity financing, (2) debt financing, and (3) combination financing. The Figure 4 illustrates the frequency of financing in the above categories during the period of 2007 to 2014.





Figure 3: Framework of external financing characteristics

Add: Issuance of share capital (Deduct: Repurchase of share capital) Add: Issuance of loans (Deduct: Repayment of loans) EXTERNALLY GENERATED FUND



From the time-temporal Figure 4, we assess the frequency of each financing category utilized by all 30 firms in the sample throughout the period. As seen, there is a huge drop in firms utilizing combination mean of financing from 2007 to 2009, before it starts to pick up and stabilize. Firms seem to gradually utilize single financing mean either debt or equity financing after 2008. Most firms in our sample seem to favor debt financing from 2009 to 2012, in which debt financing reaches its peak in 2012 before its utilization begin to drop after 2012 onward. Equity financing also witnesses a drop in its utilization from 2011 to 2013, but beginning to pick up after 2013. The most obvious change of financing trend that is observed from the graph is the period between 2011 and 2013. During this period, we see an inclination of firms to prefer debt to equity financing.

In sum, based on our observed patterns, we manage to document three apparent economic cycles with noticeable financing behavior;

- i. The period from 2007 to 2009 witnessed a drop in firms utilizing all three types of financing.
- ii. The period between 2009 and 2012 beheld the tendency of firms to utilize debt financing compared to other types of financing
- iii. The period after 2012 watched a huge drop in firms utilizing debt financing while firms started to gradually embrace combination and equity financing.

Given the fact that Malaysian capital market is quite integrated with the world market, the global economic uncertainties and slowdowns are the plausible explanations for the observed trend. Specifically, during 2007-2008 the world was shocked by the financial crisis which was triggered by the overvaluation of subprime mortgages in the US. Being recognized as the global financial crisis and the 2008 financial crisis, it threatened the collapse of large financial institutions and resulted in severe economic consequences such as failure of business and prolonged unemployment. Firms were reluctant to venture into new investments as this financial sentiment persists. The slowdown of US economy recovery after the crisis had affected the investment sentiments worldwide. That explains why our observation indicated a decline in firms' financing utilization. After this turmoil ended, the subsequent years were the recovery period in which economic momentum starting to set in motion. This scenario is in parallel with our observation when most firms in our sample prefer debt compared to equity as a mean of securing financing for investment activities during this revival phase. In other words, investors prefer to invest in debt compared to stocks as they were uncertain and insecure with the world's development. Investors chose to invest in debt as they wanted less risky investment.

In 2012, the world was once again shocked by the financial turmoil that threatened the European countries. The European debt crisis, such as what happened in Greece and Cyprus, was the next major concern for global economies. The Euro zone crisis threatened to impact economies of developed and developing countries. Investors were cautious to invest especially in the unpredictable stock markets worldwide. For that reason, this is why the finding of this study reveals decline utilization in both types of financing. As an attentive decision, combination financing is apparent during this period.

To further reaffirm our observation, we provide a snapshot on the average percentage of firms engaging in the three aforementioned financing categories (Table 1).

From these averages, although debt-only financing average is the highest amongst all three means of financing, the difference is only slightly compared to equity-only financing (the average difference of only 2.33%). Combination financing has positioned itself slightly lower than both equity-only and debt-only financing. It can be concluded that, on average, firms in the construction sector utilize all three types of financing moderately.

Table 2 allocates the firms' financing characteristics according to the suggested seven financing types as discussed above. In addition, we attempt to match the financing types with the relevant theoretical description. To reinforce this assertion further, we present the following histogram (Figure 5) of the firms' distribution according to financing types.

It is seen from the Figure 5 that all firms belong to either one of the financing types. However, most firms stack around Type II, Type III and Type V firms. The assertions of Type II and Type V firms fit both theory descriptions, while Type III firms fit the target adjustment description. These could be possibly the explanation why some earlier studies offer mixed evidence on the consistency of capital structure theory.

#### 6. SUMMARY AND CONCLUSIONS

This paper descriptively documented the broad financing patterns of the selected construction firms during differing economic cycles and assessed whether the two contending capital structure theories of static trade-off and pecking order could very much explain these patterns. The issue of inconclusive empirical findings keeps recurring in most of the capital structure literature. Between the two theories above, not one theory has stood up well to explain

Table 1: Average frequency of financing\* (100%=30 firms)

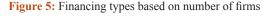
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Years	Equity (%)	Debt (%)	Combination (%)
2007	23.33	23.33	30.00
2008	20.00	20.00	23.33
2009	26.67	26.67	6.67
2010	23.33	30.00	16.67
2011	30.00	30.00	16.67
2012	20.00	43.33	16.67
2013	10.00	23.33	26.67
2014	26.67	20.00	23.33
Average	22.5	24.83	20.00

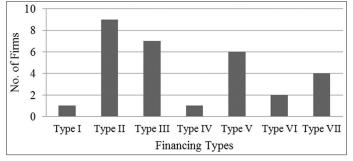
\*This frequency averages do not add to 100% as not all firms raise financing in a given year

 Table 2: Distribution of firms according to financing types

 and theoretical description

Financing	Number	Adjusting	Financing
types	of firms	towards target	hierarchy behavior
Type I firms	1	×	$\checkmark$
Type II firms	9	$\checkmark$	$\checkmark$
Type III firms	7	$\checkmark$	×
Type IV firms	1	×	$\checkmark$
Type V firms	6	$\checkmark$	$\checkmark$
Type VI firms	2	$\checkmark$	$\checkmark$
Type VII firm	4	×	$\checkmark$





firms' actual financing behavior. There are quite a number of overlapping explanatory variables that are able to describe both theories. Since there is no logical explanation to the issue of inconsistencies, and most evidence were directed to the different models and different leverage definition used, this study has backtracked the issue by observing the financing behavior of 30 Shariah-compliant construction firms throughout several economic cycles. Unsurprisingly, when attempting to match the financing behavior to the theoretical descriptions of the static trade-off or the pecking order model, the results indicated that some of the financing behavior did fit both theories' descriptions, hence similar mixed evidence were observed.

Nonetheless, this study indicates a significant link between financing behavior and economic sentiments. Regardless of not being able to explain the capital structure decision in an economic downturn, our observation reveals that firms do prefer debt to equity in the economic revival phase, and prefer to use combination financing in a cautious unpredictable economy. This description in some way adheres to the market timing model by Baker and Wurgler (2002). Nevertheless, further empirical tests need to be performed to endorse this assertion. This study contributes to the extant literature by enriching the body of knowledge on capital structure by descriptively providing reasonable explanation on the issue of inconclusiveness and inconsistent empirical evidence.

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