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The impact of Islamic debt on company value

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Abstract - This study uses micro-econometric analysis to examine the impact of Islamic debt on firm value and firm financial performance by observing Malaysian firms. A number of significant contributions to corporate finance arise from this research in relation to Islamic debt instruments and firm financial performance. First, it provides evidence of the Islamic debt impact on firm value and firm financial performance. Second, and very importantly it provides new insights, adding substantially to the very few studies that have been conducted on these types of instruments.

The choice of model employed is specified according to its diagnostic testing results for non-normality, heteroskedasticity, multicollinearity, endogeneity and linearity in. A test is conducted to confirm that there are no outliers in the data set prior to the diagnostic testing. Poolability and co-integration testing are also included. Based on the diagnostic results, data are analysed using the dynamic panel generalised method of moment (GMM using a quarterly balanced panel of 80 Malaysian firms issuing Islamic debt which spans from 2000 to 2009. This method is employed to investigate the impact of Islamic debt issues on firm value and/or firm financial performance.

The result reveals that Islamic debt has a significant positive impact on company value and firm financial performance. It also confirms that trade-off theory holds well in the Malaysian context for Islamic debt financing. Furthermore, the coefficient for Islamic debt is higher than the coefficient for non-Islamic debt, suggesting that the Islamic debt provides a higher contribution to firm value and to the improvement of firms' financial performance compared to non-Islamic debt.

Keywords: Islamic debt, firm value

1. Introduction

Modes of financing are a part of capital structure, and the relationship between capital structure and firm value is important and continues to be debated in the literature. An unleveraged firm can be seen as an all equity firm, whereas a leveraged firm is made up of ownership equity and debt. A firm's debt to equity ratio provides a measure of the leverage or gearing. The influence of debt to equity on the value of a firm is the subject of multiple articles, including the seminal work of Modigliani and Miller (M&M). Modigliani and Miller achieved notoriety with their proof that capital structure made no difference to firm value. Subsequent relaxation of the M&M assumptions suggested that debt to equity choice does impact on firm value. More recent research considering bankruptcy costs has contributed to empirical estimates of optimal leverage. The M&M argument is that, in a perfect market, how a firm is financed is irrelevant to its value. However, even though

it is widely accepted that the world is not made up of perfect markets, the issue of optimal D/E ratio remains contentious and unresolved.

Moreover, there are considerable studies that have investigated the impact of conventional debt on firm value, and those studies have generated few theories which are implemented up to now. However, so far there is no investigation of the financial performance and value consequences of using Islamic debt as opposed to non-Islamic debt (conventional debt). The lack of prior research into the financial aspect of Islamic debt does not reflect a lack of concern for such matters, but rather is a reflection of the newness of the topic. Therefore, the extent to which prior research is applicable to Islamic debt, particularly in emerging market, requires analysis, and this study is useful to supplement existing studies in this field and serves as a reference for studies in the future.

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The literature relating to Islamic debts has predominantly focused on the legal aspects of Islamic law, concept, basic requirements and the validity of how the debts are conducted in Islamic finance as general Islamic debt (Cakir, 2007; Mirakhor, 1996; Ashhari, 2009; Somolo, 2009; Tariq, 2007; Wilson, 2008). So far, researchers have been unable to find research that looks at the effects of Islamic debts on the value of the company in international contexts. Haneef (2009) discusses the history of Sukuk, explaining how it has evolved from an asset backed structure, where Sukuk holders have ownership rights over the underlying asset, to an asset based structure, where Sukuk holders rank paripassu with unsecured creditors. Other scholars (Abd.Sukor, 2008; Al-Amine, 2001; Juan, 2008; Kamali, 2007; Mohd Yatim, 2009; Mokhtar, 2009; Al-Amine, n.d.; Al Amine, 2008; Usmani, 1999, n.d.; Vishwanath, 2009; Wilson, 2008, n.d.; Yean, n.d.) also discuss the structure and the regulation of the Sukuk market in relation to Shariah perspective and Shariah compliancy. Therefore, this study attempts to examine the impact of Islamic debt on company value.

The rest of this paper is organised as follows. Section two presents the significance emergence of Islamic debt in the fast growing form of financing in emerging and mature markets. Section three provides literature review followed by section four, five and six which present the methodology, analysis and conclusion.

2. Significant emergence of Islamic debt

The Islamic financial and economic system has existed since the time of the prophet Muhammad SAW. During that time, buying and selling, and savings and loans activities were not as extensive as they are now. However, the principle remains the same; no interest charged and no non halal products and activities permitted. The interest system is not used at all because it is forbidden by Allah SWT. The banning was declared in the Quran and the Hadith.

Islamic debt, known as Sukuk, has evolved to become a significant part of corporate capital trading in the secondary market. The Accounting and Auditing Organization of Islamic Financial Institutions (AAOIFI) has also defined Islamic debt as certificates of equal value representing undivided shares in the ownership of tangible assets, usufruct and services or (in the ownership of) assets of the particular projects or any specified investment activity. Investment of Sukuk should be distinguished from common shares and bonds. While shares represent the ownership of a company as a whole and are for an indefinite period, Sukuk represent specified assets and are for a given period of time. Sukuk, unlike bonds, carry returns based on cash flow originating from the assets on the basis of which they are issued (Ayub, 2007; p. 392).

Islamic debt includes no periodic interest payments and provides a different cash flow profile when compared with non-Islamic debt instruments for borrowing companies and lenders. There is a socio-religious dimension relating to major principles that underlie all business transactions under Islamic law. All business transactions must adhere the teaching of the Islamic foundation, which is the Quran and Sunnah. There are at least four major prohibitions in Islamic business transactions. The first is the prohibition of

riba, known as adding any interest payments to a loan or other financing contract. The second is the prohibition from gharar and maisir, known as uncertainty and gambling; so transactions embodying these attributes will be considered invalid. The third is the prohibition of non-halal business transactions, such as alcohol, gambling and any other things that are prohibited and considered as non-halal. The fourth is the general prohibition of contracts that fail to meet the highest Shariah standards (Ayub, 2007).

The development of Sukuk is supported by many factors, including the development of Islamic banking (takaful) and an increasing demand for Islamic products in the debt market. The development of Sukuk with its associated types of structure has given rise to much discussion and debate among scholars of Islamic law. The uniqueness of Islamic debt compared to non-Islamic debt is that Islamic debt offers a secure investment based on the principle of rent and profit sharing without legalised interest system. It is constituted by pure motive of cooperation based on Islamic law. How the market prices this security in term of the yield curve and how risk pricing is embedded in the value and performance of the firms.

Recent innovations in Islamic finance have changed the dynamics of the Islamic finance industry, especially in the debt markets. Sukuk became increasingly popular as companies sought to raise funds by offering corporate Sukuk. It has become significant for raising funds in the international capital markets through Islamic Shariah. Increases in this market have been strong all over the world, especially in Malaysia, UAE and Saudi Arabia. In 1996 total Sukuk issued was USD 0.05b rising to USD 15.5b by the end of 2008. The most significant increase occurred in 2007 with more than 130 issues valued at USD 34.3b. The trend is apparent in Table 1 which shows a rapid expansion by value through to the financial crisis in 2008. Malaysia accounts for 43.7% of Sukuk issues followed by UAE with 30.1% and Saudi Arabia representing 10.4%. The size of offering by country for 2009 is shown in Table 2.

In the early years of Sukuk's emergence as a financial instrument, murabahah and istisna were the most significant forms of issuance, accounting for 62.5% and 19.5% respectively. This changed between 2002 and 2007 when musyarakah and ijarah become the largest type of issue, accounting for 36.3% and 28.3% of the total market. In 2008 to 2009 the ranking reversed with ijarah and musyarakah accounting for 43.4% and 20.8% respectively as reflected in Table 3.

The increase in the issue size from year to year indicates that this market was gradually developing. It became lucrative for both the Sukuk issuer and the Sukuk holder, receiving increased support in the form of market surveillance and regulation, and from market participants.

The evolution of Sukuk structure is presented in Figure 1. The evolving of the original structure is due to the needs of this market for its product development. At the beginning of the emergence of Sukuk is debt based Sukuk. Murabahah Sukuk is one of the debt-based forms. The second stage of the evolution is asset-based Sukuk. One of the forms of this structure is Ijarah Sukuk. The last stage

Table 1. Global Sukuk issuance by year.

Year	Value USD billion	Number
1996	0.05	1
1997	0.9	1
1998	-	-
1999	0.2	4
2001	1.6	16
2002	2.9	23
2003	4.2	32
2004	3.5	50
2005	7.8	96
2006	19.5	99
2007	34.3	130
2008	15.5	174

Source: ZawyaSukuk Monitor, 2009

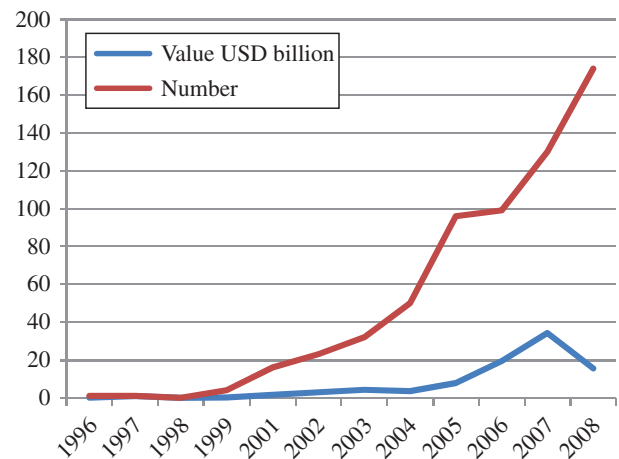
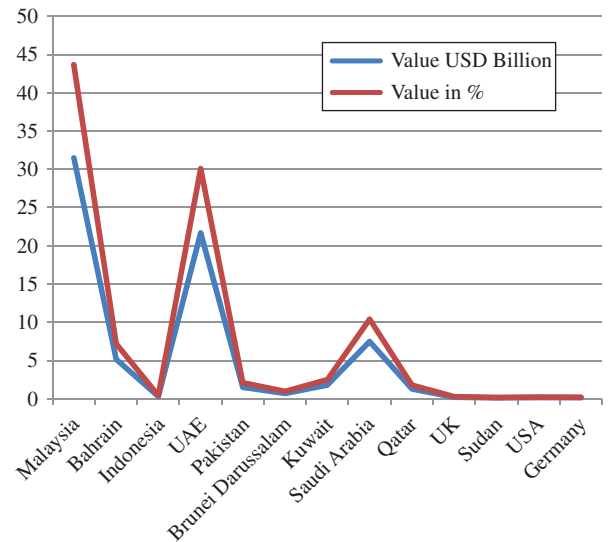


Table 2. Global Sukuk issuance by country in 2009.

Country	Value USD Billion	Value in%
Malaysia	31.5	43.67
Bahrain	5.2	7.21
Indonesia	0.3	0.42
UAE	21.7	30.08
Pakistan	1.5	2.08
Brunei Darussalam	0.7	0.97
Kuwait	1.8	2.50
Saudi Arabia	7.5	10.40
Qatar	1.3	1.80
UK	0.2	0.28
Sudan	0.13	0.18
USA	0.16	0.22
Germany	0.14	0.19
Total	72.13	100

Source: ZawyaSukuk Monitor, 2009



of the evolution is equity-based Sukuk or partnership-based Sukuk. The forms of this structure are musyarakah and istisna'.

3. Literature review

Capital structure is widely discussed in the finance literature. The mixture of debt to equity in the financial structure of companies and whether it will impact upon financial performance risk and valuation is the subject of theoretical and empirical studies. In general, capital structure theories are classified into three categories; first, the zero impact hypotheses or the Modigliani and Miller theory; second, the positive impact hypotheses or trade-off theory; third, the negative impact hypotheses or pecking order theory.

Modigliani and Miller theory

Modigliani and Miller (1958) argue that capital structure is irrelevant, thus the total cash flows a company makes for all investors (debt holders and shareholders) are the same

regardless of capital structure. On the other hand Jensen and Meckling (1976) states that the amount of leverage in a firm's capital structure is associated with its performance.

Furthermore, several researchers have conducted numerous studies which aim to examine the relationship between capital structure and firm performance. However, until now the evidence regarding this study is contradictory and mixed. (Ebaid, 2009; Ni & Yu, 2008; Phillips, 2004) find consistent results with Modigliani and Miller (M&M) theorem. On the other hand, (Abor, 2007; Bhabra, Liu & Tirtiroglu., 2008) find inconsistent results with M&M theorem. The focus on country effect, for example, developed and emerging markets has been done in some of the studies (Bhabra et al., 2008; Ebaid, 2009). Other studies document a focus on firm size, such as large, medium or small companies (Abor, 2007).

The Modigliani and Miller theory (1958) assumes that a capital market is perfect (no transaction or bankruptcy costs, perfect information), individuals and corporations can borrow at the same rate, and no taxes. It does not

Table 3. Global Sukuk issuance by structure type.

Year	Type of structures	Value USD billion	Value in%
Phase I (1996–2001)	Murabahah	1.6	62.5
	Al Salaam	0.16	6.3
	Istisna	0.5	19.5
	Ijarah	0.25	9.8
	Mudarahah	0.05	2.0
	Musarakah	–	–
	Al Istithmar	–	–
	Hybrid	–	–
	Other	–	–
	Total		2.56
Phase II (2002–2007)	Murabahah	4.9	6.8
	Al Salaam	1.9	2.6
	Istisnaa	4.1	5.7
	Ijarah	20.5	28.3
	Mudarahah	8	11.0
	Musarakah	26.3	36.3
	Al Istithmar	2.9	4.0
	Hybrid	2.8	3.9
	Other	1	1.4
	Total		72.4
Phase III (2008–2009)	Murabahah	4	12.8
	Al Salaam	0.05	0.2
	Istisnaa	0.08	0.3
	Ijarah	13.6	43.4
	Mudarahah	2.5	8.0
	Musarakah	6.5	20.8
	Al Istithmar	3.5	11.2
	Hybrid	0.075	0.2
	Al Wakalah	1	3.2
	Total		31.305

Source: ZawyaSukuk Monitor, 2009.

matter if the firm's capital is raised by issuing stock or debt, or what the firm's dividend policy is. Therefore, the M&M theory concludes that capital structure is irrelevant.

Modigliani and Miller made two propositions under these conditions. Their first proposition was that the value of a leveraged firm is the same as the value of an unleveraged firm. Their second proposition was that the expected return on equity is positively related to leverage because the risk to equity holders increases with leverage. These two propositions stand on the assumption that taxes are ignored, and bankruptcy cost and other agency costs were not considered.

When taxes were taken into account, they had two propositions as well. First, they state that the value of the firm is positively related to leverage. It means that corporate leverage lowers tax payments because corporations can deduct interest payments but not dividend payments. Secondly, they state that the cost of equity rises with leverage because the risk to equity rises with leverage. These propositions assume that firms have a capital

structure almost entirely composed of debt. But in the real world, firms cannot stand only with debt or a hundred percent leverage because an increase in debt will increase bankruptcy cost and agency cost. Consequently, it means that no optimal capital structure exists.

Trade-off theory

After the seminal work of M&M, little research has been done to explore capital structure in which some assumptions were proposed; trade off theory and pecking order theory. The trade-off theory derived from the models based on taxes and agency cost. Modigliani and Miller (1963), DeAngelo and Masulis (1980) and Jensen and Meckling (1976) suggest the firm has an optimal capital structure by offsetting the advantages of debt and the cost of debt. Therefore, trade off theory refers to the idea that a company chooses how much debt finance and how much equity finance to use by balancing the costs and benefits. It states that there is an advantage to financing with debt, the tax benefits of debt, and tax benefits to be had, but there is also a cost to financing with debt, the costs of financial distress including bankruptcy costs, and agency costs. This theory suggests that there is a positive relationship between debt level and firm performance. Moreover, the implication of this trade off theory is that firms have target leverage and they adjust their leverage toward the target over time. In addition, Harris and Raviv (1990) imply that higher leverage can be expected to be associated with larger firm value, higher debt level relative to expected income, and lower probability of reorganization following default.

The empirical relevance of the trade-off theory has often been questioned. Some research has been conducted to investigate this theory and the results from various contexts are mixed and inconclusive. The evidence does indicate there are likely to be differences attributable to firm size, country and the maturity of the respective capital market.

Pecking order theory

Pecking order theory was developed by Myers and Majluf (1984). Myers and Majluf (1984) consider firms must issue common stock to raise cash to undertake a valuable investment opportunity. Management is assumed to know more about the firm's value than potential investors. Investors interpret the firm's actions rationally.

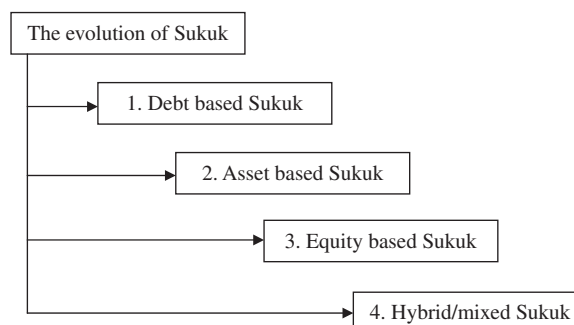


Figure 1. The evolution of Sukuk structure.

An equilibrium model of the issue-investment decision is developed under these assumptions. The model shows that firms may refuse to issue stock, and therefore may pass up valuable investment opportunities. The model suggests explanations for several aspects of corporate financing behaviour, including the tendency to rely on internal sources of funds, and to prefer debt to equity if external financing is required.

In addition, Frank and Goyal (2003) state that capital structure is acquired in accordance with the priority of the firm in which internal funding is preferable and external funding is less preferable. If it is needed, firms could use external funding from the lowest risk debt. Therefore, pecking order theory refers to the idea that companies prefer to use their sources of financing from internal financing to equity. If external financing is required, firms issue the safest security first. That is, they start with secure debt, then perhaps equity as a last choice. In addition, issue costs are least for internal funds, low for debt and highest for equity. There is also the negative signaling to the stock market associated with issuing equity, positive signaling associated with debt, and asymmetric information between managers and investors. This theory suggests that there is a negative relationship between debt level and firm performance. Therefore, the implication of this pecking order theory is that firms prefer to depend on internal sources of funds and prefer debt to equity if external financing is required. Thus, a firm's leverage is not driven by the trade-off theory, but rather by results of the firm's attempts to mitigate signalling effect and information asymmetry.

The majority of studies have been conducted in mature markets with some based on developing markets including Asia, Africa and the Middle East. Previous studies also consider firm size, investigating whether large corporations and small and medium sized corporations behave differently. The results are mixed and inconclusive. In addition, previous studies examined different institutional structure (Booth, Aivazian, Demircug-Kunt & Maksimovic., 2001); different governance mechanisms (Wiwattanakantang, 1999); different market power and firms investment (Eriotis, Frangouli & Neokosmides., 2002); different regional risk (Zeitun & Tian, 2007); different firm characteristics, ownership structure and industry membership (Bhabra et al., 2008). In comparison with the abundance of studies on the relationship between capital structure and firm performance and the determinant factors of capital structure in conventional debt, only a few studies focus on Islamic debt. This study will provide evidence about how Sukuk impacts upon financial performance and corporate value in markets.

Furthermore, the study of leverage impact on firm value has become an important aspect of capital structure theory. Myers (1984) claims that the firm value depends on the debt ratio, similarly, many studies have focused on the impact of the debt level and the debt type on a firm's financial performance (Ebaid, 2009; Ghosh & Cai, 1999; Hatfield, Cheng & Davidson, 1994; Coleman, 2007; Talberg, Winge, Frydenberg & Westgaard, 2008). However, few recent studies investigate the impact of the Islamic debt type on a firm's value and financial performance. This study attempts to investigate the impact of Islamic debt on company value and a firm's financial performance.

4. Methodology

Data

The data for this study were obtained from the Islamic Finance Information Service (IFIS) database. The sampling period is 2000 to 2009, which is ten years and, this study used quarterly data. This quarterly data is important since the issuance of Islamic debt for every firm is in different quarters. Initially, this study proposed to investigate the debt choice impact on a company value and firm's financial performance using Malaysian firms as a sample. Further, this study notes that 227 companies from Malaysia issued Islamic debt from 2000 to 2009. From those 227 Malaysian companies, 106 companies are public companies, and 121 companies are limited companies. From the 106 public companies, 31 companies have been excluded from the data list because of the unavailability of their financial statement data. In addition, the sample of Islamic debt offering must have data availability on the size of the offering, the maturity length, the history of the issuance, and other accounting data information.

For panel data analysis, the availability of ten years' worth of data is required, particularly quarterly data. To mitigate the problem of missing values, this study uses multiple imputations by including the weighted value to compensate the missing value excluded in the model (Raghunathan, 2004).

Variables

Firm value and firm financial performance are dependent variables. Each of the performance indicators measures a different aspect of performance. Tobin's Q is used as a firm value indicator, and it is considered as a market reflection of the firm's activities and performances. Return on Asset (ROA) and Return on Equity (ROE) metrics are used as a firm financial performance indicator. ROE measures the performance from the perspective of the equity holders; meanwhile ROA measures the asset productivity and operating profit margin. It is important to note that none of these measures truly reflect the complete picture by themselves but have to be seen in conjunction with other metrics.

The proportion of the Islamic debt to non-Islamic debt, the proportion of Islamic debt, the frequency of Islamic debt issuance and the type of Islamic debt issued are used as independent variables. The proportion of Islamic debt is calculated as the total Islamic debt divided by the total assets/or total Islamic debt divided by the total Islamic debt plus total equity. The proportion of non-Islamic debt is calculated as the total of non-Islamic debt divided by the total assets/or total non-Islamic debt divided by the total non-Islamic debt plus total equity.

For the proportion of Islamic debt, the frequency of Islamic debt issued and the type of Islamic debt, dummy variables are employed. To avoid too many parameters and to find the unique least square estimates for the model, this study uses only n-1 dummy; therefore, the baseline is chosen for every set of the specifications. In addition, n-1 dummy may mitigate the problem of multicollinearity among the regressors (Baltagi, 2005). The choice of a baseline category

is essentially arbitrary, for this study fits precisely with all regression models regardless of which category is selected for this role. The value and meaning of the individual dummy-variable coefficients $\delta_1, \delta_2, \zeta_1, \zeta_2, \eta_1$ and η_2 depend, however, on which category is chosen as the baseline.

The first group dummy is aimed at examining the effect of the Islamic debt proportion on each company, and three categories are set: first, a company having an Islamic debt proportion below the average of the Islamic debt proportion; second, a company having an average Islamic debt proportion; and third, a company having an Islamic debt proportion higher than the average of the Islamic debt proportion. The first category will be set as "1" if companies have a below average Islamic debt proportion; otherwise it is set equal to "0". The second category will be set as "1" if companies have an average Islamic debt proportion; otherwise it is set equal to "0". The third category will be set as "0" if companies have a higher than average Islamic debt proportion. The baseline category is used for this dummy if the company has a higher than average proportion Islamic debt. The average of the Islamic debt proportion is 8.06%, which is calculated by the total of the Islamic debt proportion over the total number of companies.

The second group dummy is aimed at examining the effect of the Islamic debt issuance frequency on each company, and three categories are set: first, a company issuing an Islamic debt only once; second, a company issuing an Islamic debt for the second time; and third, a company issuing an Islamic debt more than twice. The first category will be set as "1" if companies issue an Islamic debt only once; otherwise it is set equal to "0". The second category will be set as "1" if companies issue an Islamic debt for the second time; otherwise it is set equal to "0". The third category will be set as "0" if companies issue an Islamic debt more than twice. The baseline category is used for this dummy if the company has more than twice of the Islamic debt issuance.

The third group dummy is aimed at examining the effect of the Islamic debt type on each company, and three categories are set: first, a company issuing a debt-based type of Islamic debt; second, a company issuing an asset-based type of Islamic debt; and third, a company issuing an equity-based type of Islamic debt. The first category will be set as "1" if companies issue a debt-based type; otherwise it is set equal to "0". The second category will be set as "1" if companies issue an asset-based type; otherwise it is set equal to "0". The third category will be set as "0" if companies issue an equity-based type. The baseline category is used for this dummy if the company issues an equity-based type of the Islamic debt.

Prior research suggests that the performance of each firm may differ according to their size, because larger firms have greater economies of scale in the transaction costs associated with long term debt, which may influence the results and inferences (Ramaswamy, 2001; Frank & Goyal, 2003; Coleman, 2007; Jermias, 2008; Ebaid, 2009). In addition, larger firms have less potential of bankruptcy cost; therefore, firm size should be positively related to the borrowing capacity (Krishnan & Moyer, 1997). This study uses a natural logarithm of the total assets as a proxy for firm size as the control variable (Naceur & Goaid, 2002;

Akhtar, 2005; Zeitun & Tian, 2007; Talberg et al., 2008). The natural logarithm is applied for the firm size variable owing to the skewness and kurtosis problem. Further, natural logarithm ensures that the actual regressor has less statistical noise in the regression model, and moderates the effects of the large size of the firm.

Model specification

This study uses the panel data method which allows the unobservable heterogeneity for each observation in the sample to be eliminated and multicollinearity among variables to be alleviated. Unobservable heterogeneity might result in spurious correlations with the dependent variables, which would bias the coefficient obtained (Baltagi, 2005). Before proceeding to the model specification, diagnostic testing of normality, heteroskedasticity, multicollinearity, and autocorrelation, was conducted to determine the appropriate method used in this study. The specification testing results are provided in Tables 4 and 5.

The heteroskedasticity result is 462.99 with *p-value* 0.0000, suggesting that there is a heteroskedasticity problem. Therefore, this problem needs to be catered to obtain efficient and unbiased results. The skewness and kurtosis results are 45.72 with *p-value* 0.000 and 4.25 with *p-value* 0.0392, suggesting that non-normal distribution, thus this non-normal distribution has to be treated. Therefore, outliers' checking is conducted prior to data analysing.

The multicollinearity result is 10.9100 with *p-value* 0.000, suggesting no multicollinearity problem among the explanatory variables. Before proceeding to the endogeneity test and linearity test results, a brief conclusion made is that heteroskedasticity and non-normality problems have to be

Table 4. Summary of the specification testing results.

Tests		p-value
Heteroskedasticity	462.99*	0.0000
Skewness	45.72*	0.0000
Kurtosis	4.25*	0.0392
Multicollinearity	10.91*	0.0000
Linearity	2.9055*	0.0000
Endogeneity	Endogeneity exist	

*Sig. at 1% significance level.

Table 5. The DWH test for endogeneity of regressors.

Variables	Tobin's Q	ROA	ROE
Islamic Debt	0.0820	6.9848*	0.0035
Proportion	(0.7745)	(0.0083)	(0.9526)
Non-Islamic	37.4723*	0.0036	14.2038*
Debt Proportion	(0.0000)	(0.9523)	(0.0002)

*Sig. at 1% significance level.

treated. The linearity test result for group 1 is 2.905506 with *p-value* 0.0000, which rejects the null hypothesis of nonlinearity. Similar to the result for group 1, the linearity test result for group 2 is -4.659 with *p-value* 0.000, which supports the linear model. The endogeneity test result reveals that the regressors in the model present endogeneity.

Supported by numerous previous studies, by the assumptions above, by the endogeneity tests and by the linearity tests, the Generalised Method of Moments is appropriate as it corrects for heteroskedasticity, the endogeneity problems and reduces multicollinearity, hence improving the efficiency of the estimates. In conclusion, according to specification testing results, a linear dynamic panel GMM is employed.

Before constructing the dynamic panel GMM model, the equation below is a starting point for this study to establish if the debt choice has an impact on a firm's value and firm's financial performance. A model for the regression of Islamic debt, non-Islamic debt, the proportion of Islamic debt, the frequency of Islamic debt issuance, and the type of the Islamic debt issued is then:

$$y_{it} = \alpha + \beta_{i1}X_{i1} + \beta_{i2}X_{i2} + \delta_1K_{i1} + \delta_2K_{i2} + \zeta_1N_{i1} + \zeta_2N_{i2} + \eta_1Z_{i1} + \eta_2Z_{i2} + u_{it} \quad (1)$$

$$u_{it} = \mu_i + \lambda_t + v_{it} \quad (2)$$

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

where y_i is firm's value and/or firm's financial performance. X_{i1} is Islamic debt, X_{i2} is non-Islamic debt and, X_{i3} is firm size. K is the dummy proportion for Islamic debt, N is the dummy frequency for Islamic debt and Z is the dummy Islamic debt type. μ_i denotes the unobservable individual effect, λ_t denotes the unobservable time effect, and v_{it} is the remainder stochastic disturbance term. This model describes three parallel regression planes, which can differ in their intercepts. Hereafter, the X, K, N, Z will be referred as X_{it} (set of regressors):

$$y_{it} = \alpha_i + \beta'x_{it} + u_{it}, \quad i = 1, \dots, N \quad \text{and} \quad t = 1, \dots, T, \quad (3)$$

where x_{it} is a $K \times 1$ vector of regressors, β is a $K \times 1$ vector of parameters to be estimated, and α_i represents time-invariant individual nuisance parameters. Under the null hypothesis, u_{it} is assumed to be independent and identically distributed (i.i.d.) over periods and across cross-sectional units.

The GMM equation model (Blundell & Bond, 1998) is specified as follows (Cameron & Trivedi, 2010):

$$y_{it} - y_{it-1} = (\alpha - 1)y_{it-1} + \beta'X_{it} + \eta_i + \varepsilon_{it} \quad (4)$$

where y_{it} is the Tobin's Q at time t for firm i , X_{it} is a set of regressors, η_i is an unobserved firm-specific effect and ε_{it} is a stochastic error. Moving to the right y_{it-1} , it is to obtain:

$$y_{it} = \alpha y_{it-1} + \beta'X_{it} + \eta_i + \varepsilon_{it}. \quad (5)$$

Taking into account the first difference, one can elide the unobserved firm-specific effect:

$$y_{it} - y_{it-1} = \alpha(y_{it-1} - y_{it-2}) + \beta'(X_{it} - X_{it-1}) + (\varepsilon_{it} - \varepsilon_{it-1}) \quad (6)$$

where X includes lag performance for explanatory variables, y_{it-1} as well as dependent variables. The first-differencing eliminates potential bias that arises from unobservable heterogeneity. After first-differencing, GMM estimation uses lagged values as instruments for $X_{it} - X_{it-1}$:

Supposing that the regressors are predetermined, it is possible to obtain consistent estimates of coefficients performing a GMM estimator that exploits the following orthogonality conditions;

$$E[y_{it-s}(\varepsilon_{it} - \varepsilon_{it-1})] = 0 \quad \text{for } s \geq 2 \quad \text{and} \quad t = 3, \dots, T \quad (7)$$

$$E[X_{it-s}(\varepsilon_{it} - \varepsilon_{it-1})] = 0 \quad \text{for } s \geq 2 \quad \text{and} \quad t = 3, \dots, T \quad (8)$$

Then, the instrumental variable estimation in the first difference model is:

$$\Delta y_{it} = \gamma_1 \Delta y_{it-1} + \dots + \gamma_p \Delta y_{it-p} + \Delta X_{it}' \beta + \Delta \varepsilon_{it}, \quad t = p+1, \dots, T \quad (9)$$

where Δ is the first difference operator. The first difference in equations and levels using their past levels/first differences are used for the instrumented variables. Further, a test of overidentifying restrictions is necessary to test the validity of overidentifying instruments in an overidentified model to identify that the parameters of the model are estimated using optimal GMM. This test is called Hansen's test, and the null hypothesis is that all instruments are valid. At last, weak instruments testing is done to identify whether the instrument is weak, and the overidentified model is used because the model has only one endogenous regressor that is overidentified (Cameron & Trivedi, 2010; p. 191-199).

5. Analysis

The sample used consists of 80 listed firms issuing Islamic debt for the period of 2000 to 2009. Therefore, there are approximately 3,200 observations used. Table 6 provides the descriptive statistics used in this study. The table depicts the number of observations, mean, standard deviation, minimum and maximum value of each variable. The dependent variables are Tobin's Q, ROA and ROE, and each of these dependent variables is regressed toward its explanatory variables. This study divides all explanatory variables into four categories. The first category is the debt structure used by the firm. The second category is the frequency of Islamic debt issuance. The third category is the Islamic debt proportion issued. The fourth category is the Islamic debt type issued. Firm size and year of Islamic debt issued are used as control variables.

The mean value for Tobin's Q is 0.1679 with a range of -1.6600 to 1.9938, suggesting that most of the firms experienced low firm performance based on the market measure. A low Tobin's Q may indicate that the stock is

Table 6. Descriptive statistics.

Variables	Obs.	Mean	Std. Dev.	Min	Max
Dependent variables					
Tobin's Q	80	0.1679	0.2129	-1.6600	1.9938
ROA	80	0.0925	0.0004	0.0100	0.1526
ROE	80	0.0156	0.0352	0.0021	0.2292
Explanatory variables the debt structure of the firm					
Islamic Debt Proportion	80	0.0806	0.0847	0.0102	0.4576
Non-Islamic Debt Proportion	80	0.2174	0.1725	0.0598	0.8732
The frequency of Islamic debt issuance					
First Issuance	80	0.0000	0.0000	0.0000	0.0000
Second Issuance	80	0.1316	0.3381	0.0000	1.0000
More Than two Issuance	80	0.4211	0.4938	0.0000	1.0000
The proportion of Islamic debt issued					
Islamic Debt Below Average	80	0.8813	0.3235	0.0000	1.0000
Islamic Debt Average	80	0.0000	0.0000	0.0000	0.0000
Islamic Debt Above Average	80	0.1164	0.3208	0.0000	1.0000
The type of Islamic debt issued					
Debt Type of Islamic Debt	80	0.0000	0.0000	0.0000	0.0000
Asset Type of Islamic Debt	80	0.1053	0.3069	0.0000	1.0000
Equity Type of Islamic Debt	80	0.1316	0.3381	0.0000	1.0000
Control Variables Size effect					
Firm Size	80	6.0388	0.7254	4.6032	8.4924
Year effect					
Year 2001	80	0.0119	0.1081	0.0000	1.0000
Year 2003	80	0.0625	0.2440	0.0000	1.0000
Year 2004	80	0.1563	0.3660	0.0000	1.0000
Year 2005	80	0.3438	0.4787	0.0000	1.0000
Year 2006	80	0.1719	0.3803	0.0000	1.0000
Year 2007	80	0.1406	0.3504	0.0000	1.0000
Year 2008	80	0.0938	0.2938	0.0000	1.0000
Year 2009	80	0.0313	0.1754	0.0000	1.0000

undervalued. Theoretically, stock being undervalued is likely to happen in a firm which has a stable earning history, a historically consistent return on equity and a higher earnings growth rate compared to the market average. Apparently, this seems to be consistent with the sample used for this group, in which the majority of firms are large firms (see the mean value of firm size, which suggests that most of the firms are big firms).

The mean value for ROA is 0.0925 with a range of 0.0100 to 0.1526. Though the mean value of ROA is considerably small, this positive value indicates that the firms in the sample create shareholder value over the sampling period. This positive value also indicates an effective utilisation of firm assets in generating an operating surplus in the business. This lower value of ROA may indicate that the firms are asset-intensive firms. If so, they thus require more money to be invested into the business to continue generating earnings. According to a common rule, ROA below 5% indicates asset-heavy firms (for example; manufacturing, railroads, telecommunication providers, car manufacturers, etc); meanwhile ROA above 20%

indicates asset-light firms (for example, agency firms, software firms, advertising firms, etc). The ROA is approximately 9% which may indicate that the majority of the firms used in the sample are asset-heavy firms, and represent a variety of sectors. These are a few examples of the firms used in the sample: Esso Malaysia is one of the biggest fuel providers in Malaysia, Hubline is one of the biggest shipping service providers, Kinsteel is one of the largest steel millers, Kuala Kepong is the largest rubber plantation and manufacturer, and Zecon is a construction, infrastructure, toll concession and property development company.

The mean value for ROE is 0.0156 with a range of 0.0021 to 0.2292, suggesting that most of the firms experienced low firm performance based on accounting measures. However, the positive value indicates that the firms in the sample create shareholder value and operating efficiency is positively translated into benefits to the owners. Furthermore, the lower value of ROE may indicate that the majority of the firms require more capital invested as discussed in point two, where it is noted that the majority

of the firms are asset-heavy. Therefore, the lower value of ROE does not mean that they have lower performance. Moreover, those asset-heavy firms have less competition as the entry barrier is high. This can be said to be one of the competitive advantages of these firms.

The mean value for Islamic debt proportion is 0.0806 with a range of 0.0102 to 0.4576, indicating that most of the firms issued small amounts of Islamic debt. This may be due to the fact that this Islamic debt is traded in the thin trading, moreover, some of the Islamic debt type certificates cannot be traded in the stock exchange due to its Islamic law issue. The mean value for non-Islamic debt proportion is 0.2174 with a range of 0.0598 to 0.8732, indicating that most of the firms are not highly leveraged. This also suggests that the majority of the firms are less risky since excessive debt can lead to greater interest payments and principal repayment burden.

First issuance is used as a baseline category for the frequency of Islamic debt issuance, and it takes the value of zero. The mean value for the second issuance of Islamic debt is 0.1316 with a range of 0.0000 to 1.0000, suggesting that only 13.16% of the firms issued Islamic debt for the second time. The mean value for more than two issuance is 0.4211 with a range of 0.0000 to 1.0000, suggesting that most of the firms issued Islamic debt more than twice.

The average of the Islamic debt proportion is 8.06%, which is calculated by the total of the Islamic debt proportion over the total firms in the sample, and thus, this 8.06% average value is used as the average category. The mean value for Islamic debt below average is 0.8831 with a range of 0.0000 to 1.000, suggesting that most of the firms issued Islamic debt no greater than 10% (below the average). Islamic debt average is used as a baseline category for the proportion of Islamic debt issued, and it takes the value of zero. The mean value of Islamic debt above average is 0.1164 with a range of 0.0000 to 1.0000, suggesting that only a few firms issued Islamic debt greater than the average. This may be due to the fact that excessive debt issued might increase the probability of default. Therefore, the issuers have to assess the trade-off between the Islamic debt and any other potential risks arising as a result of this debt.

Debt type is used as a baseline category for the Islamic debt type and it takes the value of zero. The mean value for asset type of Islamic debt is 0.1053 with a range of 0.0000 to 1.0000, suggesting that only 10.53% of the firms in the sample issued this type of Islamic debt. The mean value for the equity type of Islamic debt is 0.1316 with a range of 0.0000 to 1.0000, suggesting that only 13.16% of the firms in the sample issued this type of Islamic debt.

The mean value for firm size is 6.0388 with a range of 4.6032 to 8.4924, suggesting that most of the firms are big firms (see explanation on point two). During the sampling period 2000 to 2009, Islamic debt is only issued during these eight years – 2001, 2003 to 2009. Islamic debt is mostly issued in 2005 which accounted for 34.38%. The mean value for 2001, 2003, 2004, 2005, 2006, 2007, 2008 and 2009 are 1.19%, 6.25%, 15.63%, 34.38%, 17.19%, 14.06%, 9.38% and 3.13% respectively from the total sample.

Table 7 provides a pairwise correlation matrix of the explanatory variables. The highest correlation is between the Islamic debt proportion and Tobin's Q, which counts for 0.4379 (*p-value* 0.0000) and this value is significant. The second highest correlation is between the proportion of Islamic debt and the Islamic debt above average, which counts for 0.5979 (*p-value* 0.0000). The third highest correlation is between the proportion of Islamic debt and the Islamic debt below average, which counts for -0.5965 (*p-value* 0.0000). The rest of the correlation coefficient is less than 0.5, and it is considered as a low correlation between the explanatory variables, thus, giving less cause for concern about the multicollinearity problem.

Table 8 presents the dynamic GMM panel regression results. There are three regression equations, and there are four explanatory variable categories.

The debt structure of the firm and Tobin's Q, ROA and ROE

The coefficient of Islamic debt and non-Islamic debt are a positive and significant, indicating that these two variables have a positive effect on a firm's financial performance. Both variables are statistically significant at a 1% level. This finding can be better explained by trade-off theory. According to prior literature, a firm has an optimal capital structure by offsetting the advantages of debt and the cost of debt (Modigliani & Miller, 1963; DeAngelo & Masulis, 1980; Jensen & Meckling, 1976; Haris & Raviv, 1990; Frank & Goyal, 2003), and this theory apparently can also be applied to Islamic debt. Trade-off theory refers to the idea that a company chooses how much debt finance and how much equity finance to use by balancing the costs and benefits. It states that there is an advantage to financing with debt and the tax benefits of debt, and fortunately Islamic debt is exempted from the taxes. Moreover, the use of leverage is one way to improve firm performance (Champion, 1999), and firms prefer debt financing because they anticipate a higher return (Hadlock & James, 2002). Furthermore, this finding is in line with Krishnan and Moyer (1997) and Abor (2005) who find a positive relationship between capital structure choice and firm financial performance in developing countries. In particular, Krishnan and Moyer (1997) include Malaysia as one of the sample in their study.

The positive result for Islamic debt coefficient obtained supports the trade-off theory, which was derived from the models based on taxes and agency cost. From the point of view of internal management, having Islamic debt in their debt structure brings more pressure to the management as Islamic debt is more expensive compared to non-Islamic debt, hence, improving the firm's efficiency is important to maximise asset utilisation due to the Islamic debt obtained. At the end, this action leads to improvement in the firm's performance. Moreover, debt may reduce agency costs by reducing cash flows available for expropriation and investments in negative net present value projects (Harris & Raviv, 1990; Jensen, 1986), as does Islamic debt. Furthermore, compared to equity issues, the issue of debt will not dilute the managers' equity holdings as a proportion of total equity, but further enhance the alignment of interests (Fleming, Heaney & McCosker, 2005). In addition, though conventional debt and Islamic

Table 7. Pairwise correlation matrix for explanatory variables.

Variables	Tobin's Q	ROA	ROE	Islamic Debt Proportion	Non-Islamic Debt Proportion	First Issuance
Tobin's Q	1.0000					
ROA	0.1525*** (0.0000)	1.0000				
ROE	0.0382** (0.0353)	0.1829*** (0.0000)	1.0000			
Islamic Debt Proportion	0.4379*** (0.0000)	0.0393** (0.0304)	0.1006*** (0.0000)	1.0000		
Non-Islamic Debt Proportion	0.0997*** (0.0000)	0.0528*** (0.0036)	0.0466*** (0.0101)	-0.2773*** (0.0000)	1.0000	
First Issuance	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
Second Issuance	-0.0681*** (0.0002)	0.0285 (0.1162)	0.003 (0.8666)	-0.0847*** (0.0000)	-0.0919*** (0.0000)	0.0000 (0.0000)
More than 2 Issuance	-0.0699*** (0.0001)	0.0346** (0.0565)	0.0920*** (0.0000)	-0.0334* (0.0659)	-0.0780*** (0.0000)	0.0000 (0.0000)
Islamic Debt Below Average	-0.3119*** (0.0000)	0.0780*** (0.0000)	0.1048*** (0.0000)	-0.5965*** (0.0000)	0.0788*** (0.0000)	0.0000 (0.0000)
Islamic Debt Average	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
Islamic Debt Above Average	0.3119*** (0.0000)	0.0813*** (0.0000)	0.1059*** (0.0000)	0.5979*** (0.0000)	-0.0817*** (0.0000)	0.0000 (0.0000)
Debt Type of Islamic Debt	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)
Asset Type of Islamic Debt	-0.0556*** (0.0021)	0.0228 (0.2080)	0.0087 (0.6304)	-0.0400** (0.0000)	-0.0587*** (0.0012)	0.0000 (0.0000)
Equity Type of Islamic Debt	0.0045 (0.8056)	0.0073 (0.6892)	0.1006*** (0.0000)	0.1094*** (0.0000)	0.2026*** (0.0000)	0.0000 (0.0000)
Firm Size	-0.2079*** (0.0000)	0.0082 (0.6878)	0.1971*** (0.0000)	-0.1369*** (0.0000)	0.4492*** (0.0000)	0.0000 (0.0000)
Year 2001	-0.0056 (0.7587)	0.0000 (1.0000)	-0.0483*** (0.0078)	0.1882*** (0.0000)	0.1362*** (0.0000)	0.0000 (0.0000)
Year 2003	0.0573*** (0.0016)	0.0000 (1.0000)	-0.0292 (0.1074)	0.0611*** (0.0007)	0.0971*** (0.0000)	0.0000 (0.0000)
Year 2004	0.0348** (0.0547)	-0.1001*** (0.0000)	-0.0884*** (0.0000)	0.0271 (0.1349)	-0.1106*** (0.0000)	0.0000 (0.0000)
Year 2005	0.2012*** (0.0000)	0.0097 (0.5919)	-0.0105 (0.5624)	0.3000*** (0.0000)	-0.0901*** (0.0000)	0.0000 (0.0000)
Year 2006	0.0689*** (0.0001)	0.0000 (1.0000)	0.0037 (0.8368)	0.0496*** (0.0062)	-0.0866*** (0.0000)	0.0000 (0.0000)
Year 2007	0.0078 (0.6681)	0.0355** (0.0501)	0.0542*** (0.0028)	0.0237 (0.1917)	0.0624*** (0.0006)	0.0000 (0.0000)
Year 2008	-0.0361** (0.0466)	0.0000 (1.0000)	0.0732*** (0.0001)	0.0153 (0.398)	0.0330*** (0.0069)	0.0000 (0.0000)
Year 2009	-0.0688*** (0.0001)	0.0000 (1.0000)	0.0010 (0.9572)	-0.0177 (0.3304)	-0.0148 (0.4135)	0.0000 (0.0000)

Table 7. (Continued)

	Second Issuance	More Than 2 Issuance	Islamic Debt Below Average	Islamic Debt Above Average	Debt Type of Islamic Debt	Asset Type of Islamic Debt
Second Issuance	1.0000					
More than 2 Issuance	-0.3320*** (0.0000)	1.0000	1.0000			
Islamic Debt Below Average	0.1188*** (0.0000)	-0.0309* (0.0886)	0.0000			
Islamic Debt Average	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)			
Islamic Debt Above Average	-0.1170*** (0.0000)	0.0290 (0.1103)	-0.9890*** (0.0000)	1.0000		
Debt Type of Islamic Debt	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	0.0000 (0.0000)	1.0000	1.0000
Asset Type of Islamic Debt	-0.1335*** (0.0000)	0.0548*** (0.0025)	0.0199 (0.2732)		0.0000 (0.0000)	
Equity Type of Islamic Debt	-0.0364** (0.0450)	-0.0166 (0.3603)	0.0075 (0.6785)		0.0000 (0.0000)	-0.1335*** (0.0000)
Firm Size	0.1010*** (0.0000)	-0.0076 (0.7086)	0.2083*** (0.0000)		0.0000 (0.0000)	-0.0363* (0.0740)
Year 2001	-0.0426*** (0.0188)	-0.0934*** (0.0000)	-0.1008*** (0.0000)	0.1025*** (0.0000)	0.0000 (0.0000)	-0.0375** (0.0384)
Year 2003	0.0088 (0.6293)	0.0000 (0.0000)	-0.1189*** (0.0000)	0.1218*** (0.0000)	0.0000 (0.0000)	-0.0900*** (0.0000)
Year 2004	0.0458*** (0.0115)	-0.0926*** (0.0000)	-0.0096 (0.5979)	0.0119 (0.5132)	0.0000 (0.0000)	-0.0144 (0.4266)
Year 2005	0.0449*** (0.0132)	-0.0038 (0.8321)	-0.3430*** (0.0000)	0.3406*** (0.0000)	0.0000 (0.0000)	-0.0897*** (0.0000)
Year 2006	-0.1011*** (0.0000)	0.1730*** (0.0000)	-0.0761*** (0.0000)	0.0744*** (0.0000)	0.0000 (0.0000)	-0.0186 (0.3065)
Year 2007	0.0231 (0.2020)	0.0733* (0.0001)	-0.0665*** (0.0002)	0.0591*** (0.0011)	0.0000 (0.0000)	0.1052*** (0.0000)
Year 2008	0.0046 (0.8011)	-0.0772*** (0.0000)	-0.0102 (0.5737)	0.0037 (0.8405)	0.0000 (0.0000)	0.0168 (0.3550)
Year 2009	-0.0200 (0.2704)	0.0082 (0.6508)	0.0189 (0.2987)	-0.0186 (0.3040)	0.0000 (0.0000)	0.0661*** (0.0003)

Table 7. (Continued)

	Equity Type of Islamic Debt	Firm Size	Year 2001	Year 2004	Year 2005	Year 2006
Equity Type of Islamic Debt	1.0000					
Firm Size	0.2151*** (0.0000)	1.0000				
Year 2001	-0.0426*** (0.0188)	0.0085 (0.6746)	1.0000			
Year 2003	-0.1022*** (0.0000)	0.0167 (0.4107)	-0.0287 (0.1131)			
Year 2004	-0.1200*** (0.0000)	-0.1020*** (0.0000)	-0.0338* (0.0627)	1.0000		
Year 2005	-0.0618*** (0.0007)	-0.0172 (0.3959)	-0.0474*** (0.0089)	-0.1335*** (0.0000)	1.0000	
Year 2006	-0.1011*** (0.0000)	-0.0618*** (0.0023)	-0.0284 (0.1171)	-0.0801*** (0.0000)	-0.1124*** (0.0000)	1.0000
Year 2007	0.0781*** (0.0000)	0.0917*** (0.0000)	-0.0244 (0.1784)	-0.0688*** (0.0001)	-0.0966*** (0.0000)	-0.0579*** (0.0014)
Year 2008	0.2361*** (0.0000)	0.1215*** (0.0000)	-0.0150 (0.4085)	-0.0422*** (0.0198)	-0.0593*** (0.0011)	-0.0356*** (0.0499)
Year 2009	-0.0200 (0.2704)	0.0244 (0.2299)	-0.0056 (0.7566)	-0.0158 (0.3826)	-0.0222 (0.2202)	-0.0133 (0.4623)
	Year 2007	Year 2008	Year 2009			
Year 2007	1.0000					
Year 2008	-0.0305* (0.0922)	1.0000				
Year 2009	-0.0115 (0.5278)	-0.0070 (0.6981)	1.0000			

***Sig. at 1% significance level, **Sig. at 5% significance level and *Sig. at 10% significance level.

Table 8. Summary of the regression result.

Variables	Dynamic GMM		
	Tobin's Q	ROA	ROE
L1	0.5742*** (0.0174)	0.1220*** (0.0041)	0.1547*** (0.0015)
Constant	0.3180*** (0.0988)	8.7500*** (0.0410)	0.8463** (0.4264)
The debt structure of the firm			
Islamic Debt Proportion	0.7441*** (0.0723)	0.0159*** (0.0025)	0.0276** (0.2540)
Non-Islamic Debt Proportion	0.5372*** (0.0159)	0.0177*** (0.0015)	0.3357*** (0.0544)
The frequency of Islamic debt issuance			
D1_First Issuance	(Omitted)	(Omitted)	(Omitted)
D2_Second Issuance	-0.0961* (0.0951)	-0.0774*** (0.0140)	-0.7018*** (0.2332)
D3_More Than 2 Issuance	0.2090*** (0.0562)	0.0323*** (0.0026)	1.2480*** (0.1135)
The proportion of Islamic debt issued			
D1_ID Below Average	0.0006* (0.0129)	0.0181*** (0.0010)	0.1319* (0.1146)
D2_ID Average	(Omitted)	(Omitted)	(Omitted)
D3_ID Above Average	-0.0248** (0.0111)	-0.0036*** (0.0010)	-0.0135** (0.1266)
The type of Islamic debt issued			
D1_Debt Type of ID	(Omitted)	(Omitted)	(Omitted)
D2_Asset Type of ID	0.0423 (0.1076)	0.0250*** (0.0074)	0.3337 (0.2695)
D3_Equity Type of ID	0.1764* (0.1049)	0.0346*** (0.0027)	1.0458*** (0.0532)
Control Variables Size effect			
Firm Size	-0.0844*** (0.0142)	-0.0040*** (0.0005)	-0.2354*** (0.0654)
Year effect			
Year 2001	-1.5848* (0.9510)	-0.0169* (0.0097)	-0.5066*** (0.1019)
Year 2003	0.0458*** (0.0098)	0.0092*** (0.0024)	-0.0786* (0.0433)
Year 2004	0.0130 (0.0109)	0.0173*** (0.0019)	0.3969*** (0.0657)
Year 2005	0.0171*** (0.0048)	0.0058*** (0.0014)	0.0981*** (0.0159)
Year 2006	-0.0346*** (0.0072)	-0.0018*** (0.0003)	-0.0392*** (0.0078)
Year 2007	0.1160*** (0.0177)	0.0080*** (0.0020)	-0.0889*** (0.0298)
Year 2008	0.0397* (0.0236)	0.0017*** (0.0006)	0.8061*** (0.1146)
Year 2009	0.0587** (0.0294)	0.0048*** (0.0019)	0.7980** (2.8289)
J-Statistics	21514.85	78177.74	1.27e+06
Chi2	0.0000	0.0000	0.0000

debt are fundamentally different, they perform similarly in a competitive market as these two instruments are affected by the same factors (Kraciska & Nowak, 2012).

Although both debt types have a positive impact, the coefficient for Islamic debt is higher than the coefficient for non-Islamic debt (only for Tobins' Q), suggesting that the Islamic debt provides a higher contribution to the improvement of firms' financial performance compared to non-Islamic debt. Furthermore, it can be concluded that when Islamic debt is chosen as a tool of firm financing, (1) the markets react positively to firm performance, thus this positive reaction might lead to the stock becoming overvalued; (2) Islamic debt not only improves the effectiveness of the firm's management in managing their assets to generate profits, but it also improves the operating efficiency of the total business; (3) firms are effective in managing their operation efficiency which in the end contributes to the owners' wealth because ROE measures the performance from the perspective of the equity-holders. There are a few reasons for this significant positive contribution of Islamic debt issuance. First, Islamic debt is claimed and advertised as a secure investment due to its structure. Second, Islamic debt is given a special privilege such as stamp duty and exempted tax for both issuers and investors. Third, Islamic debt is guaranteed by the special purpose vehicle (SPV); in case of default the Islamic debt holders may recourse the assets underlying the Islamic debt. Fourth, though there were a few cases of default in Middle East, those cases have no impact on the investors' perspective, as some investors investing in Islamic debt only do so only to comply with the religious matter. Fifth, the majority of investors are non-Muslim, with an increasing presence of foreign investors (PricewaterhouseCoopers Malaysia, 2008). Sixth, the Islamic debt issuance contributes to an increase in the issuer's stock returns (Nagano, nd.).

Moreover, from the issuers' perspective, there are benefits issuing Islamic securities, in particular, Islamic debt. The key benefits are tax incentives, value proposition and regulatory process. First, for tax incentives, the issuers are exempted from stamp duty, tax deductible of issuance cost, and the special purpose vehicle (SPV) is exempted from tax, and tax neutrality. Second, for value proposition, there is a wider investors' base, Islamic debt is attractively priced due to the strong demand, there is strong structuring expertise in the Islamic finance industry, and Islamic debt enhances the issuers' profile. Third, in terms of regulatory process, the process facilitates the issuance process, the rating of Islamic debt is automatically approved for AAA-rated for Islamic debt issued in domestic (Malaysian) currency and A-rated Islamic debt issued in foreign currency, any amendment to terms of approved Islamic debt need only to inform the Securities Commission, and exchangeable Islamic debt is exempted from rating. From the point of view of shareholders, the usage of debt increases their wealth, and because of this, markets believe that Islamic debt positively contributes to the firm performance. Moreover, Islamic debt issuance contributes to an increase in the issuers' total factor productivity (Nagano, n.d.).

Furthermore, the positive result may be due to the stabilised nature of the Malaysian financial system which has evolved in line with the changing structure of the economy. The changes in the economic structure and financial system

in turn have had an important influence in shaping the increasing complexity and sophisticated nature of its capital market along with the implementation of regulations, and these changes support firms to operate more effectively and efficiently, increasing the confidence of markets. Moreover, a more diversified financial system, in particular, the rapid growth of the Malaysian Islamic Capital Market and the Malaysian debt market, has increased the alternative sources of financing available to corporations.

These key benefits supports the theory that the choice of capital structure may help mitigate agency costs (Jensen & Meckling, 1976). According to the agency costs theory, high leverage or a low equity/asset ratio reduces the agency costs of outside equity and increases firm value by constraining or encouraging managers to act more in the interests of shareholders. Moreover, corporate debt has a disciplining effect on management, since it serves to reduce the free cash flow and therefore minimises management's discretionary spending.

Overall, the finding for ROA and ROE are similar to Tobin's Q which also supports the trade-off theory (Modigliani & Miller, 1963; DeAngelo & Masulis, 1980; Jensen & Meckling, 1976; Haris & Raviv, 1990; Frank & Goyal, 2003), and this theory apparently can also be applied to Islamic debt.

The frequency of Islamic debt issuance and Tobin's Q, ROA and ROE

The coefficient for first issuance of Islamic debt is a positive and significant at 1% level of significance (but for Tobins' Q which significant at 10% level of significance), suggesting that the first issuance of Islamic debt affects higher firm performance. This also indicates that (1) the markets react positively to the issuance of Islamic debt when it is first introduced to the market; (2) the firm effectively utilises its assets to generate profits for the shareholders, and additional debt, in particular Islamic debt, pushes the management to perform better. There are several factors that might contribute to this positive finding. First, the managers of the firms are compelled to put more effort into generating more profits. Because some of Islamic debt is in the form of partnership (profit and loss sharing agreement), Islamic debt tends to place greater pressure on the managers to manage the firms effectively. Second, there is a broad-based coordination of government policies which resulted in a comprehensive public policy that supports growth and innovation in the Islamic financial market, in particular, Islamic debt. Third, the importance of government intervention, such as tax incentives and required ratings improves issuers' and investors' confidence. Fourth, the rapid growth of Islamic finance signifies that Islamic debt has moved from the pioneering stage to being an established financing instrument that serves as a commercially viable and effective tool for mobilising investment assets to finance productive economic activities. Fifth, in the beginning of the Islamic finance initiation, Islamic debt offered those competitiveness features, particularly cost effectiveness, security and efficiency. As such, the market had high expectations of this new instrument, the upshot was that Islamic debt brought more pressure on managers to manage their firms effectively in order to meet market expectations. Sixth, apart from being well-regulated by various standards and guidelines, Malaysia is also the only

country that makes it compulsory for all tradable corporate debt securities to be rated to enhance investors' confidence and to assist in the investment decision-making process. Another distinguishing factor for the Malaysian Islamic debt market is the establishment of a centralised, national level Shariah supervisory board, which ensures that every Islamic debt issued in Malaysia, is in full compliance with the Shariah. All these factors provide sufficient protection to investors in the Islamic debt and conventional debt markets.

However, the coefficient for the second issuance of Islamic debt is a negative and significant at 5% level of significance, suggesting that the issuance of Islamic debt for a second time lowers firm performance. This negative finding is similar to the study by Godlewski et al. (2010), which suggest that Islamic debt expansion has a detrimental effect on firm value. This negative finding may indicate that (1) either the management of the firms have loosened their control because of overconfidence from the first successful issuance of Islamic debt or that the management have expropriated the firms' previous profits; (2) the markets have experienced, observed and learnt from the first Islamic debt issuance, leading underconfidence in the markets over this second issuance, which in turn may affect the share price of those firms issuing Islamic debt; (3) low credit rating of firms issuing Islamic debt as this is associated with high risk. The gap between the first and the second Islamic debt issuance ranges between two to six years. Presumably, in that time period, investors observed the firm's performance, their Islamic debt rating, the market conditions such as the frequency of default cases of Islamic debt. In Malaysia, cases of Islamic debt default were few and it is something that raises concern on the investors' protection because a default occurs due to the breach of any binding obligations under the original terms of the agreement between the issuer and the Sukuk holders. Thus this factor may contribute to the negative result.

Furthermore, debt is also a source of information which indicates the firm's current condition that investors can use to monitor and evaluate major operating decisions of the firm in two ways. Firstly, the mere ability of the firm to make its contractual payments to debt-holders provides information. Secondly, in the event that the organisation fails to make the payments, their ways to resolve the matter either through informal negotiation or formal bankruptcy proceedings will disseminate considerable information to the investors (Harris & Raviv, 1990). In sum, the negative relationship of the second issuance of Islamic debt and its firm's performance is probably either a result of the previous firm performance in meeting their obligation of payment or a result of inefficient utilisation of their firms's assets.

Fortunately, the coefficient for more than two issuance of Islamic debt is a positive and significant at 1% level of significance, suggesting the issuance of Islamic debt for more than two improves a firm's financial performance. This may indicate that after having a few experiences in issuing Islamic debt, the issuance of Islamic debt later on impacts positively on firm performance. This may be caused by the fact that (1) the debt-holders of Islamic debt closely monitor the management of the firm to ensure that the firm can generate profits and distribute a periodic

stream of cash flow over time. Thus, Islamic debt also reduces the agency problem within the company and hence increases firm value. (2) That as the industry grows, it is more apparent that there is more demand by non-Muslim investors and issuers to play a role in the industry. Here in Malaysia, for instance, there is just as strong a demand for Shariah compliant products among non-Muslims as there is among Muslims (PricewaterhouseCoopers Malaysia, 2008). From the view point of markets, this may indicate that the markets have learnt through several issuances of Islamic debt and therefore they have greater confidence in subsequent issuances compared to the second issuance of Islamic debt. However, investors are irrational according to the behavioural finance theory. Their decision may be influenced by the magnitude issue, their bias selection and the lucky event issue.

The proportion of Islamic debt issued and Tobin's Q

The coefficients for the proportion of Islamic debt below the average and at the average are a positive and significant varies at 10% and 1% level of significance. These positive and significant results may be caused by internal and external factors. In terms of internal factors, the proportion of Islamic debt issued at a certain level stimulates the management to work effectively. For external factors, there are two views; first from the markets' view, second from the view of government support. From the markets' view, the proportion of a certain level of Islamic debt may be considered as tax exempted stimulation as the profits derived from Islamic debt are exempted from the taxes. Furthermore, the markets have confidence over the assets/projects underlying the Islamic debt contract which may bring profits in future; therefore, this market confidence affects their stock price. With regards to government support, the Malaysian government has provided an interesting model to promote the co-existence of an ethical and societal-based finance through issuing a few regulations that appeal to Muslim and non-Muslim investors; hence these regulations issued can assure the credibility of this instrument. Furthermore, the regulating body has taken vital steps to develop a facilitative regulatory framework, to create a large pool of players, to introduce a comprehensive range of innovative and competitive Islamic financial product and services, and to ensure sufficient depth to facilitate liquidity management, hence creating market confidence.

Though debt reduces the agency costs of free cash flow by reducing the cash flow available for spending at the discretion of managers (Jensen, 1986), an increased leverage also has costs; as leverage increases the risk of default also increases. This theory supports the result for Islamic debt above the average which is a negative and significant at 1% level of significance. This finding suggests that the greater the proportion of Islamic debt issued, the lower the firm performance. This result is similar to the empirical result for non-Islamic debt, in that the proportion of debt at a certain level may hamper firm performance as an additional incurrence of debt gives no guarantee that firm performance will be higher. This is mainly because as the leverage increases, so does the risk of default, which provides a greater incentive for lenders to monitor the firm. Though it is claimed that Islamic debt is more secure than

the conventional debt, this result finds no support for that claim. On the contrary, this finding supports the notion that as the leverage increases, the probability of default also increases, and Islamic debt is no exception to this rule. Overall, the result for Islamic debt proportion Tobins' Q, ROA and ROE has similarity.

The type of Islamic debt and Tobin's Q

The coefficients for the debt-type and equity-type are a positive and significant at 1% and 10% level of significance for Tobins' Q and ROE. While all types of Islamic debt are a positive and significant at 1% level of significance for ROA. Though the finding for ROA is slightly different than for Tobin's Q, this result does not impair on the Tobin's Q result, as it is common for different methods of calculation to give different results. The finding suggests that debt-types and equity-types affect higher firm performance. The result supports the notion that certain types of debts have a different impact on shareholders' wealth (Mikkelson & Partch, 1986); hence, this finding can also be applied to Islamic debt.

Furthermore, the finding can be explained by the different Islamic debt structure. This is important since the structure determines the obligation of the originator/issuers. There is typically a requirement that on maturity of the Islamic debt or upon an event of default, the originator has a purchase obligation to repurchase the assets which enables the Special Purpose Vehicle (SPV) to redeem the outstanding certificates and repay the Sukuk holders. In this regard, the rights of Sukuk holders in the event of default will vary depending on whether the Sukuk structure is an asset-based or an asset-backed structure. The positive result for debt-based and equity-based Sukuk may be caused by their structure. The assumptions that may be raised is that debt-based and equity-based are in the structure of asset-backed Sukuk, and asset-based is in the structure of asset-based Sukuk. Thus, the rights of the Sukuk-holders depend on the structure of Islamic debt. For example, in the case of Sukuk ijarah, if the Sukuk is asset-backed, this allows the holders to liquidate the underlying asset in the event of default to recover most of their investments. On the other hand, if the Sukuk is asset-based, this only represents beneficial ownership on the underlying asset and it restricts the holders' rights in the event of a default.

The coefficient for firm size is a negative and significant for all four regression equations, suggesting that bigger firms which having Islamic debt in their debt structure have a lower firm performance. The negative result may be due to the fact that bigger firms are already well-stabilised in terms of cash flows and profits because of their well-stabilised capital structure; hence changing its capital structure with a new unproven instrument may endanger the firm's credibility and ability to maintain their stable cash flows and profits. This notion leads to the markets' perspective on the firms' capability in the future; the markets may have lower confidence and in turn, this affects the stock price of the firms.

Apart from year 2004, all the years reveal a significant result. All the years (2003, 2004, 2005, 2007, 2008, and 2009) have a positive coefficient except year 2001 and year 2006. Malaysia, with its economic strength, supportive government policies, educated workforce, developed

infrastructure, vibrant business environment and quality of life, has always been an attractive market for foreign investors. Therefore, the coefficients for year 2003, 2004 and 2005 are supported.

Despite the challenging global economy, Malaysia has continued to pursue liberalisation, enhancing the entrepreneurial and investment environments. The economy scores above the world average in many of the ten economic freedoms (World Bank, 2011). The trade regime is relatively open despite lingering non-tariff barriers. However, corruption and a judicial system that remains vulnerable to political influence pose significant challenges to economic freedom. 2001 and 2006 were two years which yielded a negative and significant impact. The first, 2001, may be due to the global economic slowdown overall. Significantly, though, a general election was held in 2003 and again in 2008, revealing a pattern in which there is a two year gap between this political event and a year yielding a negative and significant impact. This may indicate that before the general election, the political situation in Malaysia heats up, which affects the market players.

The Malaysian economy has been surprisingly resilient in spite of the global slowdown in 2007. Malaysia has only felt a minor impact from the slowing US economy, but emerging challenges in the form of soaring food prices and the persistent rise in global oil prices are weighing down heavily on economic prospects. Furthermore, to avoid the fiscal deficit, the government announced a revamp in oil subsidies, pushing up the price of petrol diesel, which has adverse implications for inflation and economic growth. However, in 2008 and 2009, the business confidence index increased as it indicates by the rise of sales and production, higher export sales, higher capacity utilisation, higher domestic demands and higher capital investment. The gross domestic product growth was sustained at a certain targeted level. This growth was driven by high commodity prices, strong private consumption and steady investment, and supported by fiscal spending. The business condition index would be a better indicator of current economic activity as it relies on firm-level information. Therefore, the positive and significant coefficients for year 2007, 2008 and 2009 are supported.

6. Conclusion

In sum, the findings for all three categories of explanatory variables, along with their control variables for all metrics (Tobins Q, ROA and ROE), are only slightly different in their coefficient value. Almost all the coefficient signs and significance values reveal the same direction and a similar significance value. The coefficients for Islamic debt is higher than the coefficient for non-Islamic debt and, overall, the findings for Tobin's Q, ROA, ROE and EVA support the trade-off theory (Modigliani & Miller, 1963; DeAngelo & Masulis, 1980; Jensen & Meckling, 1976; Haris & Raviv, 1990; Frank & Goyal, 2003) and this theory apparently can also be applied to Islamic debt.

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