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Testing *Sukuk* And Conventional Bond Offers Based On Corporate Financing Theories Using Partial Adjustment Models: Evidence From Malaysian Listed Firms*

Mohamed Hisham Hanifa[1], Mansur Masih[2] and Obiyathulla I. Bacha[3]

Abstract

Sukuk (Islamic debt securities) are dominating the Malaysian capital market with strong support from the government, mega-conglomerates and firms. *Sukuk*, as an important source of firms' financing, is increasingly catching up with conventional bonds in terms of volume of transactions and number of *sukuk* issuances. However, from theoretical perspectives, it is still largely unknown why some firms may consider *sukuk* issuance while others consistently rely on conventional bond offers. In examining this corporate financing behavior, most studies employed a partial adjustment model to predict whether firm have an optimal debt ratio, in which they partially adjust towards it when they deviate from it, consistent with trade-off prediction. Thus, the objective of this paper is twofold: firstly, to test firm target debt optimizing behavior and secondly, to find firm specific determinants of target debt ratio using a *sukuk* or conventional bonds issuance[4] dataset. Our sample consists of 120 conventional bonds and 80 *sukuk* issuers from the year 2000 until 2011. We employ two advanced dynamic panel data estimators[5], which have resulted in three major findings. Firstly, our results provide stronger support for trade-off view based on firm optimizing behavior among *sukuk* and conventional bond issuers, however with different issuance motives. Secondly, issuers of partnership-based *sukuk* and convertible bonds follow closely pecking order view, in which, the former is chosen if firms face a higher information asymmetry cost. Finally, while both exchange-based *sukuk* and straight bond issuers aligning towards a particular target, only firm with higher sales growth prefer the former. As such, together with industry insights, we attribute our findings that *sukuk* offers bring unique "benefits" to the issuers that may not be available if conventional bonds are issued instead, although it is against traditional theoretical interpretation.

*based on some core chapters of the first author's Ph.D. dissertation

Keyword: *sukuk*, conventional bonds, trade-off theory, pecking order theory

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[4] *Sukuk* samples are split into exchange-based *sukuk* and partnership-based *sukuk*, while conventional bond samples are split into convertible bond and straight bond samples.

[5]Standard-GMM and System-GMM

Introduction

Malaysia has been recognized to be in the forefront of Islamic finance internationally. Within Islamic finance, the development of s*ukuk* (Islamic debt securities) is often referred to as a benchmark to indicate achievement in this field. The government is continuously supportive in terms of tax incentives, infrastructure and labor, which reflects the seriousness of the initiative taken to make Malaysia an international financial hub. The focus on *sukuk* would enable the Malaysian capital market to offer a complete financial menu to meet all market demands by both local and international market players. While government remains the key driver for Islamic finance development, little is known concerning the influence of corporate issuers in joining the *sukuk* market. We questioned why some issuers choose *sukuk* while others continue to use conventional bonds when making their financing decision. Unveiling these questions will foster our understanding of the *sukuk* market and subsequently improve further penetrations of the *sukuk* market especially in Malaysia.

Anecdotal evidence indicates that the *Sukuk*[6] market has shown remarkable progress since its introduction in early 2000[7] by both public and private sectors. These listed Malaysia as one of the world's largest *sukuk* markets up to the year 2011, where 70% of the total global *sukuk* that had been issued were issued in Malaysia[8]. In the corporate issuance regime, the *sukuk* market has grown with an annual average growth of 21% between 2001 and 2008[9]. Our data, among non-financial issuers, displays *Sukuk* issuance in ringgit amounts from the year 2000 until 2011, which accounts for 56% of the total issuance of private debt securities among public listed firms in Malaysia[10]. Among these, there are only 16 out of 200 sample firms that used both issuance, i.e. *sukuk* and conventional bonds but in different periods. Hence, from both theoretical and practical perspectives, it is still largely unknown why some firms may choose to consider *sukuk* issuance and why others consistently rely on conventional bond offers.

In Malaysia, based on SC Islamic debt securities guidelines versions 2004 and 2011, each *sukuk* is structured based on various *Shariah*[11] principles that generally fall under the concept of exchange *(`uqud al-mu`awadat)* and contract of participation (*`uqud al-isytiraq)*[12]. Specific *Shariah* contracts that belong to the categories exchange-based contracts are deferred sale *(bai` bithaman ajil)*, mark-up sale *(murabahah)*, sale and buy back *(bai` inah)*, leasing *(ijarah)* and progressive sale *(istisna`)*. On the other hand, contracts for the categories of participation-based contracts are trust-partnership *(mudaraba)* and partnership *(musaraka).* According to Bakar (2009) from financial obligation perspectives, exchange-based contracts are structured similar to conventional fixed-claim debt instruments except that securitizations of the firms' intangible and tangible assets used in these contracts must originate from approved Islamic contracts in order to legalize the returns gained by the *sukuk* holders.

On the other hand, *sukuk* based on contracts of partnership are a relatively new innovation and seen as distinct from any present conventional bond structures. Under this structure, *sukuk* holders' returns are paid based on profit-sharing arrangements on the

[6] Securities Commission guidelines allow the terms *Sukuk* and IPDS to be used interchangeably.
[7] Source: Malaysian sukuk market reported an average growth of 22% from 2000 – 2007; Financial Stability and Payment Systems Report 2007, Bank Negara Malaysia.
[8] Islamic Finance Information Service, http://www.islamicfinanceservice.com/Sukuk.html
[9] Source : Securities Commission, Malaysia.
[10] Source: Bondstream based on own calculations.
[11] Islamic Law as prescribed by Quran and hadith.
[12] Categorization used mentioned in Securitization of Islamic Debt Guideline 2011 by SC Malaysia.

performance of the underlying projects in which *sukuk* investors have undivided and proportionate ownership. From a financial obligation perspective, there should not be any guarantee of profit payment or principle redemption in this structure as accentuated by the Accounting and Auditing Organisation for Islamic Institution (AAOIFI)[13] Shariah Board in February 2008. In Malaysia however, the SC *Shariah* Advisory Council ("SAC") allows the use of a third party guarantee to mitigate the risk raised from this structure. However, it is unclear how these different structures may affect the issuers financing choices as prior empirical studies treat all s*ukuk* contracts in aggregate despite their different implications on firm cash flow claims.

In contrast, bonds are pure debt obligations issued to finance any activity and the value rests on the issuer's creditworthiness. *Sukuk* prices depend on the market value of the firm's underlying assets or the value of its business venture. Bond offers can be further categorized into straight bonds and convertible bonds. Conventional bond offerings can be differentiated based on their substance into convertible bond and straight bond types. Straight bonds can be simply understood as pure debt obligations. There have been abundant works concerning the corporate financing decision; however, they failed to differentiate the reasons for convertible bond offers. Ross et al., (2005) supported this notion with "probably there is no other area of corporate finance where real-world practitioners get as confused as they do on the reasons for issuing convertible bond" (p. 686). They argued that convertible bonds with equity features might have a different impact in terms of cash flow claims, their sensitivity to information, and their incentive properties for managers. Consistent with this argument, there is a tendency in the prior related works to treat convertible debt bonds separately as a debt instrument with equity features, hence applying traditional capital structure theories to understand their implications on their determinants and firm's value. However, most of the empirical works that were conducted in developed markets and have produced mixed results (e.g. Lee & Gentry, 1995; Lewis et al., 1999), while scarcely investigated within the Malaysian capital market. In this study, we concurrently investigate the firms' determinants upon straight bond and convertible bond offers. By doing so, we may be able to provide a comparative understanding about the reasons for issuing specific categories of *sukuk* and bonds, based on the established theories of the firms' corporate financing.

As mentioned, we approach the issue of the financing decision based on existing corporate financing theories. Hundreds of papers have attempted to examine whether a firm's financing decisions matter by considering more practical assumptions, based on market frictions and imperfections such as financial distress, taxes, agency problems and asymmetric information (see Harris and Raviv, 1991; Myers, 2001; Frank and Goyal, 2007 for reviews). In particular, this research agenda has advanced two dominant theories of capital structure, namely the trade-off (Modigliani and Miller, 1963) and pecking order theories. Trade-off theory predicts that firms should balance the benefits against the cost of debt and thus, have an optimal (well-defined) target debt ratio. On the other hand, pecking order theory considers the problem of information asymmetries in which shareholders/managers of a firm know more about the value of its assets in place and future growth prospects than do the outside investors (Myers, 1984; Myers and Majluf, 1984). This problem consequently leads to a pecking order of financing choice in which internal funds are preferred to external finance and debt is preferred to equity. In contrast with trade-off theory, the pecking order theory does not predict that firms have an optimal (well-defined) target debt ratio. Test of debt optimality is

[13] AAOIFI is an Islamic international, autonomous, non-profit corporate body that prepares accounting, auditing, governance, ethics and *Shariah* standards for Islamic financial institutions and the industry. Its headquarters is in Manama, Bahrain.

often referred to as the main factor for arguments to support either theory. With the advancement of econometric techniques, most empirical studies employed a partial adjustment model of debt that captures the actual debt change as a faction[14] of the desired change towards target debt ratio. However, we found early studies provide mixed evidence for firms' target optimizing behavior or often referred to as dynamic adjustment behavior, which leads to inconclusive theoretical evidences concerning firms' financing choice.

In this paper, using advance dynamic panel data models, we examine firms' dynamic adjustment process and firm specific determinants of the target debt ratio when issuing *sukuk* and conventional bonds together with their respective sub-category offerings. Specifically, following Flannery and Rangan (2006), we use the "partial adjustment model" that captures firms' target debt optimizing behavior over years (time), if any, in our regression analysis. Our findings are also further supported by industry views as the practicality of *sukuk* may not be well understood simply looking at the established interpretation in the prior empirical judgments. Therefore, this paper converges on the whole Malaysian debt securities market and our focus is on answering the following questions:

(1) What are the significant determinants of target debt ratio and its dynamic adjustment behavior for two dominated principles of issuance, *sukuk* and bonds?
(2) What are the significant determinants of target debt ratio and its dynamic adjustment behavior in each of the sub-categories of *sukuk* and bonds?
(3) Do our empirical findings support the market's practice as the reasons for *Sukuk* offers?

Overall, our study acknowledges that the issuance of *sukuk* and conventional bonds can be explained by existing corporate financing theories. In addition, owing to the unique features of *sukuk*, we argue that its issuance is motivated by "benefits" that are uncommonly interpreted by previous empirical research. Our partial adjustment model also provides contrary evidences when debt securities principles are examined based on their sub-categories hence, leading to opposite theoretical arguments as reasons for its issuance. Consistent with the determinants for target debt ratio and its dynamic adjustment process, both of our estimators indicate exchanged-based *sukuk* and straight bond choices are consistent with trade-off predictions while partnership-based *sukuk* and convertible offers are consistent with pecking order theoretical predictions. We strengthen our empirical results with industry insights to conclude that growth opportunities are the main determinants of exchange-based offers while smaller firms opt for partnership-based offers, as these structures do not require underlying assets for issuance.

The remainder of this paper is organized as follows: The literature review mainly on corporate financing followed by the data set and methodology. Specifically on the estimation of the partial adjustment model, we employ Standard-GMM and System-GMM estimators. Next, we present analyses of the data and report results based on the principle differences and across its sub-category offerings. Lastly, we summarize the main conclusion and offer suggestions for further research.

[14] The faction change indicates that due to the transaction cost, firms may temporarily deviate from such target and seek to adjust towards it.

Literature Review

As the central question of our paper focuses on the issuers' financing choice between *sukuk* and bonds within their respective sub-category offerings. Therefore, we present prior empirical work in this section based on the most commonly used firm specific debt determinants and dynamic adjustment processes in order to provide economic and statistical justification for either trade-off or pecking order theoretical predictions. Specifically, we discuss all empirical works using samples of both developed and developing countries, including Malaysia, into three issuance reason contexts. These contexts are debt over pure equity offers, straight bond over convertible bond and *sukuk* over bond offerings. Unfortunately, to the best of our knowledge, we did not find any prior studies focused on issuer's choice between exchange-based and partnership-based *sukuk*, in which the present study attempts to fulfill this literature gap.

Issuer's choice for debt over equity

Trade-off theory predicts that firms have an optimal debt ratio (i.e. target debt ratio) but due to transaction cost, may temporarily deviate from such target and seek to adjust towards it. To examine this dynamic adjustment behavior, recent studies have employed advanced dynamic panel data methods such as a partial adjustment model. As such, consistent with the dynamic[15] trade-off predictions, prior studies by Gaud et al., 2005, Flannery & Rangan (2006), Lemmon, Roberts & Zender (2008), Huang & Ritter (2009), and Dang (2013) found evidence that firms adjust towards specific target debt ratios. However, the speed of adjustment reported varies widely from paper to paper primarily due to their econometric procedures and macroeconomic setting. In contrast with the trade-off theory, the pecking order does not predict that firms have a target debt ratio, which may be evidenced by slow or over-adjustment behavior found in the studies by Fama & French (2002) and Hovakimian & Li (2011). Instead, its implications may suggest that maintaining target debt ratio is not the firm's first order of importance (Syam-Sunder and Myers, 1999; Frank & Goyal, 2003). Chang and Dasgupta (2009) suggest that a more fruitful assessment of firms' target debt would be through examination of the firms' specific debt issuance motives instead of examining all debt types in aggregate. However, we could not find any prior papers that examined the dynamic adjustment for particular types of debt offerings as presently focused on in this study.

Early studies also provide mixed evidence concerning firm specific determinants for target debt ratio that has lead to inconclusive theoretical explanations. Among the most commonly used firm target debt determinants are profitability, asset tangibility, firm size, growth opportunities and non-debt tax shields. In the case of firm profitability, the pecking order theory, based on works by Myers and Majluf (1984) suggests that firms prefer internal funds rather than external. If external finance is required, the first choice is to issue straight debt, convertible debt, and then, eventually equity as a last resort (Brealey and Myers, 1991). This behavior may be due to the costs of issuing new equity, as a result of asymmetric information or transaction costs. All things being equal, the more profitable the firms are, the more internal financing they will have, and therefore, we should expect a negative relationship between leverage and profitability. On the other hand, from the trade-off theory point of view, more profitable firms are exposed to lower risks of bankruptcy and have greater

[15] The term "dynamic" is used to differentiate from the static trade-off theory. The latter assumes that firms are always at their optimal target leverage which is deemed as an inappropriate assumption, while the former assumes firms with specific target leverage may temporarily deviate and seek to adjust towards it over time.

incentive to employ debt to exploit interest tax shields, expecting a positive relationship. However, empirical studies using the advanced panel method found profitability to be negatively related to leverage, hence interpreted as also being in line with the trade-off view (Frank and Goyal, 2007). In a dynamic[16] trade-off setting, profitability can be a proxy for growth opportunities thus; profitable firms may choose to hold on to their retained earnings to take advantage of future investment opportunities, therefore resulting in a negative relationship between leverage and profitability variables (e.g. Hennessy and Whited, 2006; Strebulaev, 2007). We found that a few papers examined dynamic adjustment models and established this relationship as in Gaud, et al., (2005), Flannery & Rangan (2006), Lemmon, Roberts & Zender (2008), Huang & Ritter (2009) and Dang (2013).

With regards to firm's asset tangibility, according to the trade-off theory, a firm with a large amount of fixed assets can borrow at a relatively lower rate of interest by providing the security of these assets to the creditors. Having the incentive of getting debt at a lower interest rate, a firm with a higher percentage of fixed assets is expected to borrow more as compared to a firm whose cost of borrowing is higher due to having less fixed assets. Thus, we expect a positive relationship between tangibility of assets and leverage consistent with Harris & Raviv (1991), Rajan & Zingales (1995), Shyam-Sunder & Myers (1999), Fama & French (2002), Frank & Goyal (2003), Gaud, et al., (2005), Jong, et al., (2008), Frank & Goyal (2009), Alves & Ferreira (2011), Flannery & Rangan (2006), Hovakimian & Li (2011), Baker & Wurgler (2002), Lemmon, Roberts & Zender (2008), Huang & Ritter (2009) and Dang (2013). From a pecking order theory perspective, firms with few tangible assets are more sensitive to informational asymmetries. Thus, these firms will issue debt rather than equity when they need external financing (Titman & Wessels (1998), leading to an expected negative relation between the importance of tangible assets and leverage.

In relation to firm size, according to trade-off theory, large firms don't consider direct bankruptcy costs as an active variable in deciding the level of leverage as these costs are fixed by constitution and constitute a smaller proportion of the total firm's value. Furthermore, larger firms being more diversified, have lesser chances of bankruptcy (Titman and Wessels 1988). Following this, one may expect a positive relationship between size and leverage of a firm as found in Harris & Raviv (1991), Rajan & Zingales (1995), Shyam-Sunder & Myers (1999), Fama & French (2002), Frank & Goyal (2003), Gaud, et al., (2005), Jong, et al., (2008), Frank & Goyal (2009), Alves & Ferreira (2011), Flannery & Rangan (2006), Hovakimian & Li (2011), Baker & Wurgler (2002), Lemmon, Roberts & Zender (2008) and Dang (2013). According to pecking order theory, Rajan and Zingales (1995) argue that there is less asymmetrical information about larger firms. This reduces the chances of undervaluation of the new equity issue and thus, encourages the large firms to use equity financing. This means that there is a negative relationship between size and leverage of a firm.

As for firm's growth opportunities, by applying pecking order arguments, growing firms place a greater demand on the internally generated funds of the firm. Consequentially, firms with a relatively high growth will tend to issue securities less, subject to information asymmetries to avoid debt overhang problems (Myers, 1977). Firms with high-growth opportunities may also invest sub-optimally, and therefore, creditors will be more reluctant to lend for long horizons. This problem can be solved by short-term financing (Titman and Wessels, 1988) or by convertible bond offers[17] (Jensen and Meckling, 1976; Smith and Warner, 1979). This should lead to firms with relatively higher growth having more leverage

[17] Will be discussed in detail in the convertible bond sub-sections.

thus a positive relationship (Harris & Raviv, 1991; Fama & French, 2002; Alves & Ferreira, 2011; Flannery & Rangan, 2006; Dang, 2013). Under a trade-off framework, low-growth firms should use debt because it has a disciplinary role to alleviate the free-cash flow problem (Jensen, 1986; Stulz, 1990) thus, a negative relationship between debt and growth opportunities as found in Rajan & Zingales (1995), Shyam-Sunder & Myers (1999), Frank & Goyal (2003), Gaud, et al., (2005), Jong, et al., (2008), Frank & Goyal (2009), Hovakimian & Li (2011), Baker & Wurgler (2002) and Lemmon, Roberts & Zender (2008).

Finally, a firm's incentive to exploit the tax advantage of debt financing, high non-debt tax shields represents that firms can benefit more from non-debt tax claims and have less incentive to exploit the tax advantage of debt financing (DeAngelo and Masulis, 1980). Since non-debt tax shields may substitute for a debt tax shield, the trade-off predicts that non-debt tax shields and target debt have a negative relationship as found in Titman & Wessels (1998), Fama & French (2002) and Flannery & Rangan (2006). However, pecking order theory does not offer any prediction for this variable.

Issuers' choice for convertible bonds over straight bonds

Brennan and Kraus (1987) found that firms with high growth opportunities are more likely to offer convertible bond debt securities and are consistent with the earlier study of Smith et al., (1979). These studies indicated that on average, those firms, which are younger, smaller, more rapidly growing, and having higher market and earning variability offer convertible bonds. Brennan and Schwartz (1988) concluded that convertibles are potentially useful in resolving any agency conflict between managers and bondholders on how risky the firm's activities are. When there is an unexpected increase in firm equity risk, it reduces the value of the debt portion of a convertible bond, but at the same time, it increases the value of the embedded option on the firm's equity share. This is largely because of the risk-neutralizing effect of convertible features where convertible bond issuers tend to be smaller, riskier, growth firms and often characterized as having high earning volatility.

Essig (1991) examined the characteristics of convertible bond issuers and finds that firms issuing convertible bonds have, on average, high debt ratios and large growth opportunities, consistent with the previous studies such as Brennan and Kraus (1987) and Smith et al., (1979). The study showed that firms are more inclined to employ convertible bonds if they have higher ratios of growth opportunities, market value to book value of equity, long-term debt to equity and a higher volatility of the company's cash flow. Firms issuing convertible bonds also have a lower ratio of tangible assets to total assets. Myers (1998) further provided evidence supporting the above hypothesis, that convertible bonds are likely to be used primarily by high-growth companies with future investment opportunities.

Lewis et al., (1999) found that convertible debt is issued either as a substitute for common equity or as a substitute for straight debt. Firms with valuable, risky investment opportunities are more likely to issue convertible debt as a substitute for straight debt, while firms with valuable investment opportunities, but a large degree of asymmetric information, are more likely to use convertible debt issues as a substitute for common equity. The study is consistent with the risk-shifting and backdoor equity hypothesis. Lewis, Rogalski and Seward (2001) also found that firms with high profitable growth opportunities issue convertible debts. Similar to Brennan and Schwartz (1988), Lewis et al., (2001) found that a typical firm that issues convertible debt is smaller in terms of capitalization and total assets than either equity-issuing or straight debt firms.

Rauh and Ameer (2010) examined factors that affect a firms' choice concerning various debt structures in their capital structure decision. Their sample is comprised of 305 US firms, which have issued long-term debt in at least one year from 1996 until 2006. They categorized leverage into 7 broad classifications, which includes bank debt, bonds, program debt, private placements, mortgage or equipment, convertible debt and other debt. They used industry and year fixed-effect regression in their analysis and showed that the convertibles debt issuer had significance and correlated negatively with the profitability variable, asset tangibility variable and positively for the growth opportunities variable. They also found opposite signs of correlation when examining among bond and program debt issuers, which they show as significant, positively related with the asset tangibility variable, size variable, and negatively correlated with the growth variable. They explained that the issuance of convertible debt confirms the prediction of pecking order theory, as they argued that convertible debt is the most information sensitive compared to all other debt types. Bond and program debt on the other hand confirms trade-off predictions based on the same asymmetric information role in capital structure. They conclude that convertible debt issuers are among the less profitable firms, have strong investment opportunities Stein (1992) and issue to resolve agency conflicts between shareholders and bondholders (i.e. risk shifting (Brennan and Schwarz, 1988). Convertible debt is also issued by firms that have less incentive to exploit tax advantage of debt financing.

In Malaysia, the only study that examined firm specific characteristics and convertible offers were as documented by Ibrahim and Kuan (2010). Their sample consists of 24 convertible bond issuances and 107 normal bond issuances from the year 2001 until 2007. They used logit model for their analysis with dependent variable representing security choice, 1 for convertible debt and 0 for straight bond. The firm specific factors were calculated based on the average data for three years prior to the offering year. They show that firm size, debt tax shield, profitability and growth opportunity have a negative and significant coefficient. They explained that smaller firms with a lower debt tax shield, lower profitability and lower growth opportunities would be more likely to choose to issue convertible bonds instead of straight bonds. They also found debt ratio to have a positive and significant coefficient, which means the higher the debt ratio the more likely the firm will issue a convertible bond.

Issuer's choice for *sukuk* over conventional bonds

Nagano's (2010) study was the first empirical analysis that focused on the determinants of *sukuk* issuance based on capital structure theory. The author argued that *sukuk* has characteristics of both, debt and equity. Investors of *sukuk* are paid dividends on the outcome of profit-sharing agreements between issuers and investors instead of fixed interest installment payments as in normal bonds. Thus, this profit sharing type of financial tool depends on greater internal information of the issuers when investors would like to receive maximum dividends. Therefore, the author predicts that the information cost of *Sukuk* issuance is between normal debt finance and equity issuance. Thus, the choice of this financing tool is accordingly subordinated to normal debt finance, but prior to equity issuance according to pecking order theory.

The author used a sample consisting of 76 *Sukuk* issuers (Malaysian public listed firms from 2001-2007) and employed a simultaneous equation system of two stage least squares to analyze them. He found only two variables (i.e. size and *sukuk* past issuance experiences) that significantly explain *sukuk* issuance. The author explained that large firms could access the *Sukuk* funding market more easily than smaller firms with issuers whom are normally already

familiar with the *sukuk* market. The insignificant relationship with other variables also indicates that *sukuk* is considered to be chosen prior to the normal bond issuance and *sukuk* is chosen regardless of the availability of firms' internal funds. His findings ultimately reject the key prediction of pecking order theory and conclude that the possible determinants of *sukuk* are firm size and past *Sukuk* issuance.

Shahida and Saharah (2013) later extended the paper by Nagano (2010) by introducing two new independent variables, namely tax incentives and leverage influences of firm characteristics. They argued based on prior empirical studies that, leverage best represented the firms internal funding ability (to support pecking order prediction) while tax variables represent external factors (to support trade-off theory) that may influence a firm's decision to issue *sukuk*. They used a sample of 79 public listed companies that issued *sukuk* and bonds in the Malaysian capital market from 2001 until 2010 and analyzed them using three estimators, namely Ordinary Least Square (OLS), fixed effects and the random effects panel data regression method.

They show that consistent variables are found to be significant with the same correlation signs between three estimators (i.e. OLS, fixed effect and random effect). Their findings reveal that among the most important firm specific conditions for *Sukuk* issuance are firm size, past *Sukuk* issuance experiences and finally the government tax incentive with the following explanations. Firstly, regarding firm size, they explained that large firms are more diversified, thus they have a lower possibility of experiencing financial failure and can access a capital market more easily than smaller firms. Secondly, the success story of firms in issuing *Sukuk* encouraged them to repeat the deals again and finally, government favorable tax incentives for *Sukuk* also influenced its issuance reasons. Taken together, they show arguments to be consistent with trade-off theory with leverage and profitability remaining insignificant for *Sukuk* issuance decisions.

Clearly, the above analysis shows larger firms with prior issuance experience and motivation to gain government tax incentive issues that sukuk. These arguments, even through can be regarded as a type of "benefit" along with trade-off arguments, but we are uncertain on the reasons for the issuance of specific *sukuk* contract, which may be driven by benefits offered by the contract itself. Since, no study focus on *sukuk* specific contract offers has taken place, our analysis based on existing corporate financing theories addresses this gap in the existing literature, and provides our the overall research aim. Subsequently, our comparative analysis with its conventional counterparts may provide further insights on the unique benefits that each debt securities offer as well as the issuer's reasons for issuing it.

Data and Methodology

Our study uses *sukuk* and conventional bonds data obtained from the Bondsteam database and then, matches them with issuer financial data provided by the Osiris database. We employed the Bondsteam database because it provides qualitative information about issuers' information, amount raised, year of initial issuance, tenor, industry categorization and type/contract of financing deals, for both conventional and Islamic debt securities.

The Bondsteam database provides sample populations of 580 firms that issued debt securities from the year 2001 until 2009. Of these firms, 200 firms are non-financial public listed firms consisting of 120 conventional bond issuers and 80 *sukuk* issuers. Within conventional bond issuers; there are 100 straight bond issuers and 20 convertible bond issuers

while within *sukuk* issuers; there are 67 exchange-based *sukuk* issuers and 13 partnership-based *sukuk* issuers. For dynamic adjustment observation purposes, only firms with debt securities issuance history of a minimum of three consecutive observations towards the end of the period under study are included as our sample firms (Deesomsak et al., 2009). This means that the firms should have at least issued debt securities in the year 2009 as the latest firm's full financial information available at the time of this study was for the year ending 2011.

We then match the issuer name and the year of issuance with the Osiris database to obtain the firms' specific financial data starting from one year prior to issuance until the maximum of nine consecutive years[18]. As such, we collect financial data for the years spanning from 2000 until 2011. The financial data that was collected based on the five most commonly used firms' debt determinants as independent variables and together with our dependent variable proxy. The independent variables are asset tangibility, profitability, firm size, growth opportunity and non-debt tax shield as listed in prior studies (among others Rajan & Zingales, (1995); Lee et al., (2000); Buferna, (2005); Faulkender & Petersen, (2006); Abor, (2008), and Dang, (2013) while the dependent variables identified in this study are long term debt to total asset ratio. Hence, following our research question, the data set was constructed as an unbalanced panel and thus, the number of firms' year observations varies between firms.

Some firms were excluded from the study for three main reasons. Firstly, the financial and insurance sector was excluded, as its financial characteristics and use of debt securities are substantially different from other non-financial firms. Secondly, it is difficult to obtain data for every firm on specific variables during different periods; therefore, all firms with missing data were excluded from the study. Thirdly, within the conventional bond issuers list, we exclude firms dealing in non-permissible core business[19] or regarded as *Non-Shariah* compliant. These firms are excluded because they do not have the choice to raise funds through the Islamic debt securities market, even if they wanted to. This is to enable us to form a comparison between the two issuance principles about firm dynamic adjustment behavior and target debt determinants with regards to existing corporate finance theory.

From the modeling perspective, this study employs advanced econometric techniques for dynamic panel data models that combine the features of time, series and cross-sectional data. To examine dynamic adjustment behavior and firm specific determinants for target debt ratio, most studies have employed a partial adjustment model of debt that captures the actual debt ratio change as a fraction of the desired change towards target debt ratio.

Early research studies employed a traditional methods, i.e. two-stage procedure to estimate the partial adjustment model of debt such as the Fama–MacBeth (1973), pooled Ordinary Least Squares (OLS) and/or fixed effects estimators (e.g. Shyam-Sunder and Myers, 1999; Fama and French, 2002; Frank and Goyal, 2003; Byoun, 2008). However, it is well established in econometrics literature that these methods provide biased estimates in dynamic panel data models, especially in the likely presence of individual firm fixed-effects and short panel lengths (see Baltagi, 2008). Simply put, they may produce estimated speeds of adjustment that are unreliable, thus potentially leading to misleading evidence for the trade-off theory. In this paper, we adopt Arellano and Bond's (1991) and Blundell and Bond's (1998) Generalized Methods of Moments estimators (hereafter Standard Generalized Method of Moments (Standard-GMM) and System GMM (SYSGMM), respectively) to improve the

[18] GMM estimator is designed for situations with "small *T*, large *N* " panel data, meaning usually for T<9 time periods and N > 50 individual firms (Roodman, 2006).

[19] Refer SC "List of Shariah-Compliant Securities by Shariah Advisory Council" dated 25 May 2007.

consistency and efficiency of our estimates of the speed of debt adjustment and determinants of target debt ratio.

The Standard-GMM estimator exploits all the linear restrictions in (1) under the assumption of no serial correlation. Specifically, based on the orthogonality conditions between the lagged values of $\Delta Debt_{i,t-1}$ $(DEBT^{*}_{i,t} - DEBT_{i,t-1})$ and the error term, $\varepsilon_{i,t}$, we follow Arellano and Bond (1991) and use all these lagged values, i.e. $\left(Debt_{i,t-2}, Debt_{i,t-3}, \dots \dots Debt_{i1}\right)$ as instruments for $\Delta Debt_{i,t-1}$. We also employ the SYSGMM estimator that considers additional moment conditions in the level equation of $\Delta Debt_{i,t-1}$ where it adopts $\left(Debt_{i,t-2}, Debt_{i,t-3}, \dots \dots Debt_{i1}\right)$ as instruments for $\Delta Debt_{i,t-1}$ under the orthogonality conditions between these instruments and $\varepsilon_{i,t}$, (Blundell and Bond, 1998).

According to Flannery and Hankins (2013) the two-stage procedure proposed for estimating the partial adjustment model using Standard-GMM and SYSGMM estimators performs best in unbalanced panels where some of the explanatory variables are expected to be endogenous. In the presence of heteroskedasticity and serial correlation, the two-step SYSGMM produces better estimates than Standard-GMM as its estimations use a consistent estimate of the weighting matrix by taking the residuals from the one-step estimate (Davidson and MacKinnon, 2004). Though asymptotically more efficient, both two-step GMM estimators present estimates of the standard errors that may tend to be severely downward biased. Therefore, in this paper, we address this problem using the finite-sample correction to the two-step covariance matrix derived by Windmeijer bias-corrected (WC) robust VCE, which can make two-step robust GMM estimates more efficiently than one-step robust estimates, especially for SYSGMM (Roodman, 2003). Finally, we follow Arellano and Bond (1991) and employ (1) the AR2 test to check the important condition of no second-order correlation in the (differenced) error term and (2) the Sargan test to check the validity of the instruments used. However, since this study applies the recommended specifications of Windmeijer (2005) bias-corrected (WC) robust VCE on our two-step GMM estimators, the distribution of the Sargan test is not known when the disturbances are heteroskedastic. In other words, Sargan test results are not available if we specify vce (robust) in our Stata command.

As mentioned, we follow the convention of previous research (e.g Ozkan, 2001; Fama and French, 2002; Flannery and Rangan, 2006) and adopt a dynamic, partial adjustment model of debt to test the prediction of the trade-off theory that firms move partially towards their defined target debt ratio. Formally, this partial adjustment model is specified as follows:

$$DEBT_{i,t} - DEBT_{i,t-1} = \gamma\left(DEBT^{*}_{i,t} - DEBT_{i,t-1}\right) + \varepsilon_{i,t} \qquad \textbf{(1)}$$

This model measures the change in debt between two periods. The first term on the right side of the equation is the speed of adjustment, γ; the speeds by which firms adjust toward their target debt ratio from their debt ratio in the previous period. The target debt ratio is measured as:

$$DEBT^{*}_{i,t} = \beta X^{'}_{i,t} \qquad \textbf{(2)}$$

In **(2)** $X^{'}_{i,t}$ is a vector of the explanatory variables used. Following the approach outlined in papers such as Gaud, et al., (2005), Drobetz and Wanzenried (2006) and Flannery

and Rangan (2006), we subsitute equations **(2)** into **(1)** and the rearrangement gives the following testable dynamic panel data model;

$$DEBT_{i,t} = \alpha_0 + \gamma\beta X'_{i,t-1} + (1-\gamma)DEBT_{i,t-1} + \varepsilon_{i,t}^{20} \quad \textbf{(3)}$$

Writing the full list of the most commonly-used explanatory variables instead of the vector in **(3)** gives the full model specification used to test for the trade-off theory's relevance in regards to the firm's specific determinants of debt securities issuance by Malaysian public listed firms. We use the following regression equations to analyze both *sukuk* and conventional bond offers as

$$DEBT_{i,t} = \alpha_0 + \gamma_1 DEBT_{i,t-1} + \beta_2 TANGIBILITY_{it} + \beta_3 NDTS_{it} + \beta_4 PROFIT_{it} + \beta_5 SIZE_{it} + \beta_6 GROWTH_{it} + \varepsilon_{i,t} \quad \textbf{(4a)}$$

where $Debt_{it}$is the debt securities ratio for firm i in year t, speed of adjustment towards target debt ratio (γ) and determinants for target debt ratio such as tangibility *(TANGIBILITY),* profitability*(PROFIT),* growth opportunities*(GROWTH),* non-debt tax shield *(NTDS)* and firm size (*SIZE*).

The present study also examines the sub-categories of debt securities offers. Since our partnership-based debt and convertible bond sample size is small (N<50), we introduce interaction terms (*Inter)* to effectively analyze the differences of the slope coefficient between the sub-categories of the respective debt securities principles. In other words, using interaction terms, we analyze exchange-based and partnership-based *sukuk* offers together in a single model, and similarly for straight bond offers together with convertible bond offers together in another single model. The equation (4b) explains the regression with interaction terms as follows:

$$\begin{aligned} DEBT_{i,t} = {} & \alpha_0 + \gamma_1 DEBT_{i,t-1} + \beta_2 TANGIBILITY_{it} + \beta_3 NDTS_{it} + \beta_4 PROFIT_{it} + \\ & \beta_5 SIZE_{it} + \beta_6 GROWTH_{it} + \alpha(Inter)_7 + Inter * \gamma_8 DEBT_{i,t-1} + Inter * \\ & \beta_9 TANGIBILITY_{it} + Inter * \beta_{10} NDTS_{it} + Inter * \beta_{11} PROFIT_{it} + Inter * \\ & \beta_{12} SIZE_{it} + Inter * \beta_{13} GROWTH_{it} + \varepsilon_{i,t} \end{aligned} \quad \textbf{(4b)}$$

Overall, our post estimation specification tests, namely AR2 statistics for both estimators show no evidence of second order autocorrelation, suggesting that the instruments used in estimating the panel dynamic model 4(a) and model 4(b) are appropriate. The Sargan test remains unknown when the disturbances are heteroskedastic, due to vce(robust) specifications. We also found no evidence of instruments proliferation (too many instruments) in our models as our number of instruments compared is lower compared to the number of observations (i.e. debt securities sample). Overall, post estimation specification tests are satisfactory and reported along with the results.

[20] This type of model is also referred to as a first-order autoregressive, AR(1), model.

Data Analysis and Discussion

Based on the descriptive analysis in tables 1a and 1b, the mean debt securities ratio (DEBT) for conventional bond offers is 0.177 and ranges from 0[21] to 1.174, while the *sukuk* ratio reports an average of 0.175 and ranges from 0 to 0.631. We found the conventional bond offer has a ratio for maximum percentiles higher than its *sukuk* counterparts, which means that the issuance amounts of debt securities exceeds their book value of total assets. We conjecture among the possible reasons for lower debt ratio among *sukuk* offers are due to restrictions imposed by SC that the debt issuance amount are limited to the value of firm's underlying assets used to raise debt, whereas there is no similar requirement for its conventional bond counterparts. Nevertheless, the average ratio of debt securities ratio is almost similar under both issuance principles. Within conventional bond sub-categories, we found straight bond and convertible bond ratios report an average of 0.173 and 0.201, respectively, which is consistent with the ratio documented by Ibrahim and Kuan (2010). While, within *sukuk* sub-categories, we found partnership-based *sukuk* offers and exchanged-based *sukuk* offers have an average almost similar to each other, 0.170 and 0.175, respectively.

Comparison between conventional bonds and *sukuk* reveals a similar average across most firms' specific determinant variables, (i.e. tangibility, profitability, size, non-debt tax shield) except for growth opportunity variables. The table indicates that the average growth among conventional bond and *sukuk* issuers varies substantially, 3.81% and 11.75%, respectively. The table also shows that variations also persist on the minimum (negative) growth percentage rate among the two domain debt principles of -96.75% for conventional bond issuers and -69.19% for *sukuk* issuers. Simply put, firms with higher growth opportunities (measured by sales growth) may prefer *sukuk* financing compared to its conventional counterparts. In addition, we also rank the sub-category offers according to the issuer's debt preferences with reference to firm's average growth percentage rate. We found that firms with the least growth percentage prefer convertible bonds (2.178%), straight bonds (4.083%), exchange-based *sukuk* (11.43%) and partnership-based *sukuk* (14.13%). Overall, the higher average growth opportunities percentage report clearly suggests that *sukuk* issuers fulfill the recommended "utilization of proceeds" clause of SC guidelines that all funds raised must channel into *Shariah*-compliant purposes (i.e. to finance firms' business development).

[21] minimum value of 0 indicates that there were not prior debt securities outstanding in the firm's balance sheet prior to any new issuance being made.

Table 1a: Summary statistics for the conventional debt securities offers and break down into their respective sub-categories. DEBT is total debt securities to total assets. TANGIBILITY is fixed assets to total asset. NDTS are measured by depreciation to total assets. PROFIT is EBIT to total assets. SIZE is the logarithm to total asset. GROWTH is measured by the annual growth rate in sales. All variables are winsorized at the 1% and 99% level.

	CONVENTIONAL BOND				**CONVERTIBLE BOND**				**STRAIGHT BOND**			
	Mean	Std	Min	Max	Mean	Std	Min	Max	Mean	Std	Min	Max
DEBT	0.177	0.158	0	1.174	0.201	0.182	0	0.823	0.173	0.154	0	1.174
TANGIBILITY	0.588	0.204	0.017	0.994	0.659	0.202	0.072	0.994	0.576	0.202	0.018	0.991
NDTS	0.028	0.035	0	0.236	0.021	0.033	0.004	0.163	0.029	0.0356	0	0.236
PROFIT	0.084	0.563	-2.181	16.148	0.080	0.103	-0.155	0.669	0.084	0.607	-2.181	16.148
SIZE	13.456	1.555	5.935	18.454	14.104	1.150	11.892	16.287	13.346	1.588	5.935	18.454
GROWTH	0.004	0.305	-0.968	1.169	0.022	0.315	-0.840	0.987	0.041	0.303	-0.968	1.169
OBSERVATION	120				20				100			

Table 1b: Summary statistics for the Islamic debt securities offers and break down into their respective sub-categories. DEBT is total debt securities to total assets. TANGIBILITY is fixed assets to total asset. NDTS are measured by depreciation to total assets. PROFIT is EBIT to total assets. SIZE is the logarithm to total asset. GROWTH is measured by the annual growth rate in sales. All variables are winsorized at the 1% and 99% level.

	SUKUK				**PARTNERSHIP *SUKUK***				**EXCHANGE *SUKUK***			
	Mean	Std	Min	Max	Mean	Std	Min	Max	Mean	Std	Min	Max
DEBT	0.175	0.129	0	0.631	0.170	0.157	0	0.631	0.175	0.125	0	0.613
TANGIBILITY	0.555	0.193	0.048	0.965	0.513	0.162	0.244	0.892	0.561	0.196	0.048	0.965
NDTS	0.026	0.032	0	0.186	0.025	0.023	0.001	0.084	0.027	0.033	0	0.186
PROFIT	0.086	0.077	-0.598	0.436	0.082	0.053	-0.166	0.186	0.087	0.080	-0.598	0.436
SIZE	13.959	1.4732	11.538	18.186	15.078	1.192	12.375	17.670	13.807	1.443	11.538	18.186
GROWTH	0.118	0.247	-0.692	1.012	0.141	0.251	-0.464	1.012	0.114	0.247	-0.692	0.882
OBSERVATION	80				13				67			

Based on the correlation matrix in tables 2a and 2b, it is interesting to highlight that there are mixed positive and negative correlations between debt securities ratio (DEBT) via conventional bond principles with firm specific target debt determinant variables (e.g. TANGIBILITY, NDTS, PROFIT, SIZE and GROWTH) although only TANGIBILITY and SIZE correlations are positively significant at $p<0.05$. These results suggest that an increase in a firm's conventional bond ratio might result in an increase in the firm's asset collateral value and the firm's size, or vice-versa. When examining the relationship among the independent variables, the result indicates a significant ($p<0.05$) positive correlation between firm's TANGIBILITY and NDTS (0.341), TANGIBILITY and SIZE (0.23), SIZE and NDTS (0.109), GROWTH and PROFIT (0.098) and GROWTH and SIZE (0.141). On the other hand, there is a significant negative correlation of -0.088 ($p<0.05$) between firms' TANGIBILITY and PROFIT variables.

The correlation signs for *sukuk* offers show that there are constant positive correlation signs between *sukuk* offers with firm specific target debt determinants such as TANGIBILITY, NDTS, PROFIT, SIZE and GROWTH. Similar to its conventional bond counterparts, we found that only two variables, namely TANGIBILITY and SIZE variables are significantly ($p<0.05$) correlated at 0.34 and 0.138 with *sukuk* ratio. We also found significant ($p<0.05$) positive correlation signs among the independent variables between NDTS and TANGIBILITY (0.508), SIZE and TANGIBILITY (0.382), NDTS and SIZE (0.207), SIZE and PROFIT (0.207) and GROWTH and PROFIT (0.256).

We use Vafea's (2005, p. 1105) method to examine our sub-categories' sample of debt securities within each debt principle into either a complementary role or a substitutive role to each other based on their correlation sign. The author argued that a complementary link is detected when the correlation shows a positive relationship, while substitutive roles are made clear when the direction of the correlation is negative. Our table indicates that the two sub-category samples within conventional bond offers, namely convertible and straight bonds show a larger complementary role to each other based on positive correlation signs with the main firms' target debt determinants (e.g. TANGIBILITY, NDTS, SIZE and GROWTH) except for PROFIT. Similarly, we also found that a higher number of correlation signs are positive within *sukuk* offers, thus testifying for a complementary role also between partnership and exchange based contracts for firm variables of firms' TANGIBILITY, NDTS, SIZE. Simply put, we may deduce that issuers have a distinct issuance motive for their choice of issuance. Overall, our analysis indicates that the multi-colinearity is not detrimental to the results of our regression analysis.

Table 2a: Pairwise correlation coefficient shows the correlations between dependent and independent variables in the conventional bond and with its respective sub-categories

	DEBT	TANGIBILITY	NDTS	PROFIT	SIZE	GROWTH
DEBT	1					
TANGIBILITY	0.2894*[a] 0.2855*[b] 0.2845[c]	1				
NDTS	-0.0029[a] 0.1450[b] 0.03[c]	0.3410*[a] 0.2476*[b] 0.3746*[c]	1			
PROFIT	-0.0199[a] 0.1659[b] -0.0274[c]	-0.0881*[a] 0.0293[b] -0.0770*[c]	0.0098[a] 0.1103[b] -0.0006[c]	1		
SIZE	0.2904*[a] 0.0809[b] 0.3183*[c]	0.2293*[a] 0.1751*[b] 0.2153*[c]	0.1086*[a] -0.0130[b] 0.1398*[c]	-0.0332[a] 0.0988[b] -0.0370[c]	1	
GROWTH	0.0221[a] 0.0255[b] 0.0231[c]	-0.0442[a] -0.0781[b] -0.0351[c]	-0.0583[a] 0.0717[b] -0.0840*[c]	0.0979*[a] 0.0975[b] -0.1036*[c]	0.1405*[a] 0.2100[b] 0.1395*[c]	1

Note: [a] Denoted for conventional issuance sample. [b] Denoted for convertible bond sample. [c] Denoted for straight bond sample. * Indicates that the coefficient is significant at 5% level.

Table 2b: Pairwise correlation coefficient shows the correlations between dependent and independent variables in the Islamic debt securities and with its respective sub-categories

	DEBT	TANGIBILITY	NDTS	PROFIT	SIZE	GROWTH
DEBT	1					
TANGIBILITY	0.3431*[d] 0.5611*[e] 0.3164*[f]	1				
NDTS	0.0367[d] 0.1558[e] 0.0228[f]	0.5075*[d] 0.5081*[e] 0.5084*[f]	1			
PROFIT	0.0032[d] 0.3185*[e] -0.0323[f]	0.0433[d] 0.1609[e] 0.0328[f]	0.1011*[d] -0.0966[e] 0.1136*[f]	1		
SIZE	0.138*[d] 0.3456*[e] 0.1218*[f]	0.3818*[d] 0.2389*[e] 0.4400*[f]	0.2065*[d] -0.0485[e] 0.2412*[f]	0.2065*[d] 0.3477*[e] 0.1775*[f]	1	
GROWTH	0.0148[d] -0.0884[e] 0.0331[f]	0.0131[d] -0.0765[e] 0.0267[f]	0.0701[d] -0.1010[e] 0.0880*[f]	0.2558*[d] 0.0509[e] 0.2775*[f]	0.0123[d] -0.0923[e] 0.0131[f]	1

Note: [d] Denoted for full Islamic issuance sample. [e] Denoted for partnership-based *sukuk* sample. [f] Denoted for exchange-based *sukuk* sample. * Indicates that the coefficient is significant at 5% level.

Issuer's choice for *Sukuk* and Conventional Bond to address research question 1

In relation to the evidence of target optimizing behavior as predicted by the trade-off theory, we found ($DEBT_{t-1}$) variable, which represents the speed of adjustment, is statistically and economically significant in both debt securities' principles. Our findings[22] suggest that the conventional bond issuers and *sukuk* issuers adjust at approximately 29[23] percent and 38[24] percent respectively, towards their target debt ratio annually. With an adjustment speed of over 30 percent, the issuers of debt securities under both issuance principles make full adjustment towards their target debt ratio in less than 3½ years. Furthermore, this adjustment speed range is a relatively slower speed than previous evidence documented in Malaysian literature. Shah (2012) found firms' speed of adjustment of approximately 49 percent while Haron and Khairunisah (2012) report the speed of adjustment of approximately 57 percent. We attribute the reasons for the variations on the speed of adjustment mainly as depending on how the target debt are measured, even though both studies employ GMM estimators. Empirically, our speeds of adjustment are also comparable with evidence from the UK, Germany and France as reported by Dang (2013). In addition, a comparison between the two-issuance principles domains indicates that *sukuk* issuers made a faster adjustment of 38 percent than conventional debt issuers of 29 percent. Thanks to their wider subscriber base for *sukuk* offers, firms issuing *sukuk* may face lower adjustment costs and therefore, find it easier to borrow or retire debt relatively faster than its conventional bond counterparts. Overall, we find that the estimated speeds of adjustment for our conventional bond and *sukuk* samples are statistically and economically significant, which strongly supports the trade-off theory.

Within the results for the determinants of the target debt securities ratio, we found mixed significant effects among commonly used firms' determinant variables with the issuance of conventional bond and *sukuk* offers. We report that collateral asset value has a significant and positive effect[25] on the conventional bond ratio. This finding is consistent with the trade-off view that firms with more collateralized assets may face lower bankruptcy costs and thus, are able to borrow more. It is also in line with the agency framework that predicts that firms use their collateral to mitigate the asset substitution effect and the agency cost of debt. Empirically, our findings are consistent with previous empirical evidence (e.g. Rajan and Zingales, 1995; Antoniou et al., 2008; deJong et al., 2008; Dang, 2013). On the other hand, we found that the *sukuk* ratio is not significantly affected by the collateral value of their assets. Theoretically, every *sukuk* offer must be backed with a firm's underlying assets except for partnership-based *sukuk*; hence, this is an insignificant finding. This may imply that issuers may rely on intangible assets instead of tangible assets to back their *sukuk* offers.

Issuer's motive to exploit the tax advantage of conventional bond financing, proxy by non-debt tax shield variable shows a significant and negative effect[26] on conventional bond issuers, hence, it is consistent with trade-off predictions. Based on the existing evidence in prior literature (e.g. Antoniou, et al., 2008), these findings suggest that conventional bond issuers use non-debt tax shields as a substitute for debt tax shields. In the case of *sukuk* offers, we found insignificant associations reported for the non-debt tax shields variable. This could mean that debt tax advantage alone may not seem to benefit *sukuk* issuers. Besides, there are other tax incentives given exclusively for *sukuk* issuers as part of on-going government promotional policies.

[22] All findings are reported based on SYSGMM results, unless mentioned otherwise.
[23] Refer to table 3a column 2, (1-0.7080)*100
[24] Refer to table 3a column 4, (1-0.6207)*100
[25] Refer to table 3a column 2, e.g. coef = 0.3204, $p<0.001$
[26] Refer to table 3a column 2, e.g. coef = -0.5967, $p<0.1$

Our findings indicate a significant and negative effect[27] of the profitability variable on conventional bond ratio. This finding appears to be most consistent with the pecking order theory's predictions that firms with large profits and sufficient retained earnings are less likely to rely on debt financing. It is often interpreted to be inconsistent with the static trade-off theory that predicts that profitable firms should use more debt to shelter from corporate taxes. However, since profitability may also become a proxy for growth opportunities such that, a negative relation between profitability and debt is also in line with the trade-off view (Frank and Goyal, 2007). Furthermore, in dynamic trade-off settings, profitable firms may choose to hold onto their retained earnings to take advantage of future investment opportunities, thus resulting in lower debt (e.g. Henssessy and Whited, 2006; Strebulaev, 2007). Empirically, our results are consistent with the well-documented prior evidence concerning the relation between debt and profitability (e.g. Shah, 2012; Haron and Khairunisah, 2012, Rajan and Zingales, 1995; Antoniou et al., 2008). We also found that profitability variables are insignificantly related to *sukuk* ratio. This finding may imply that *sukuk* financing is sought by the issuers regardless of the availability of a firm's internal funds. Similar findings were also documented in the prior *sukuk* empirical work (e.g. Nagano, 2010; Shahida and Saharah, 2013).

The table reports that the *sukuk* ratio is significant and positively affected by firm's growth opportunity[28], which is consistent with pecking order predictions. Existing theory interprets this association based on the presence of asymmetric information, in which, firms will finance their investment opportunities with external funds only when the funding pressure exceeds their existing retained earnings, thus firms may rely on the source of financing that is less risky and sensitive to valuation errors (Akerlof, 1970; Myers & Majluf, 1984). Prior Malaysian empirical works (e.g. Pandey, 2001; Haron and Khairunisah, 2012) also document a negative relationship between debt offers with firms' growth opportunities. On the other hand, growth opportunities are insignificant determinants for a conventional bond ratio. Hence, we do not find any evidence to conclude that conventional bond issuers use their bond offers as a disciplinary device to alleviate the free cash flow problems as argued by the trade-off theory.

Our findings concerning the firm size variable are significantly and negatively[29] associated with *sukuk* offers in the Standard-GMM estimator. This finding is consistent with the pecking order argument that small firms may face higher financial distress and bankruptcy costs, thus resulting in higher information asymmetric cost. Therefore, firms may prefer the "safest" financing based on this asymmetric information effect. Our findings contradict early studies (e.g. Nagano 2010; Shahida and Saharah, 2013) that *sukuk* are issued by large firms. The choice of econometric modeling and estimators could influence our contradictory findings as prior papers used OLS, fixed and random effect regressions as compared to the more efficient estimations using the instrumental variables in this paper. We also report an insignificant association between firm size and conventional bond ratio. The established long-term relationships between issuers and bond investors could attribute the size of the firm to be an irrelevant factor in conventional bond decisions.

Overall, our findings concerning dynamic adjustment behavior by conventional bond and *sukuk* issuers are strongly consistent with the trade-off theory. In terms of the determinants for target debt ratio, we show that conventional bond issuers show a greater variable significant association consistent with the trade-off theory. On the other hand, firm specific determinants for target debt ratio among *sukuk* issuers show a greater significant association with the pecking order theory. Therefore, to address the contradiction between pecking order and trade-off predictions and at the same time to provide a more in-depth understanding of issuer specific financing choices, we

[27] Refer to table 3a column 2, e.g. coef = -0.1671, $p<0.1$
[28] Refer to table 3a column 4, e.g. coef = 0.1677, $p<0.01$
[29] Refer to table 3a column 3, e.g, coef = -0.0453, $p<0.1$

run equation 4(b) with specific issuance types within *sukuk* and conventional bond offers. The results are shown in the following sub-section.

Table 3a: Regression Analysis for Debt Securities by Principles of Issuance.

DEBT PRINCIPLES	CONVENTIONAL BOND		*SUKUK*	
Estimator	*Standard-GMM* (1)	*System-GMM* (2)	*Standard-GMM* (3)	*System-GMM* (4)
CONSTANT	-0.9841 (-0.27	-0.2389 (-1.03)	0.5966 (1.67)*	0.4242 (1.27)
$DEBT_{t-1}$	**0.6221** **(5.37)***	**0.7080** **(8.51)***	**0.6585** **(3.21)***	**0.6207** **(4.41)***
TANGIBILITY	**0.3296** **(4.80)***	**0.3204** **(5.22)***	0.2042 (1.42)	0.1850 (1.52)
NDTS	-0.3878 (-1.20)	**-0.5967** **(-1.92)***	-0.9265 (-1.47)	-1.092 (-1.51)
PROFIT	**-0.1223** **(-2.08)****	**-0.1671** **(-1.87)***	0.1054 (0.83)	0.1433 (1.07)
SIZE	-0.0006 (-0.02)	0.0098 (0.58)	**-0.0453** **(-1.80)***	-0.0315 (1.35)
GROWTH	-0.0056 (-0.42)	-0.0063 (-0.46)	0.0162 (1.63)	**0.1677** **(1.75)***
AR2 Test	1.456	1.411	0.778	0.874
Number of Instruments	66	78	61	72

Notes: This table reports the estimation results for the partial adjustment model of debt specified by Equation 4a, as follows

$$DEBT_{i,t} = \alpha_0 + \gamma_1 DEBT_{i,t-1} + \beta_2 TANGIBILITY_{it} + \beta_3 NDTS_{it} + \beta_4 PROFIT_{it} + \beta_5 SIZE_{it} + \beta_6 GROWTH_{it} + \varepsilon_{i,t}$$

where $DEBT$ is defined as the total debt securities to total asset, $\beta_1 = (1 - \gamma)$ stands for the deviation of lagged debt from the target debt determinants includes Asset Tangibility $(TANGIBILITY)$ defined as the ratio of fixed asset to total asset, Non-Debt Tax Shield $(NTDS)$ is the ratio of depreciation to total asset, Profitability *(PROFIT)* is the ratio of EBITDA to total asset, Firm Size ($SIZE$) is measured by natural logarithm of total assets and Growth (GROWTH) is measured by annual growth rate in sales. *GMM* and *SYSGMM* denote Arellano and Bond's (1991) and Bundell and Bond's (1998) estimators, respectively. AR2 test is a test for second-order correlation, under null of no serial correlation. Standard errors are corrected for downward biased using VCE robust. Number of observation is also higher than the instruments used in all analysis. The z-statistics are reported in parentheses. *,** and *** indicate significant at 10%, 5% and 1% levels, respectively.

Issuers' choice for sub-category offers within *Sukuk* and Conventional Bond offers to address research question 2

In relation to straight bond offers, we found that speed of adjustment towards target debt is at approximately 45[30] percent, or in economic terms, every straight bond issuance is completely adjusted toward a specific target debt ratio in less than 2½ years. This finding implies that firms engage in active and frequent debt adjustment (i.e. towards a specific target debt ratio), consistent with trade-off predictions. On the other hand, for convertible bond offers, our findings indicate a negative[31] speed of adjustment or over-adjustment evidence beyond any specific well-defined target debt ratio. In other words, firms do not engage in a dynamic debt adjustment process when issuing convertible bonds. This finding may suggest that there are other important considerations that firms seek to adhere, rather than maintaining their target debt ratio with the issuance of convertible bond. Our findings are consistent with prior empirical works (e.g. Shyam-Sunder and Myers, 1999; Lemmon and Zender, 2010) which conclude that firms do not have a well-defined target debt ratio to adjust to as predicted by the pecking order theory. In the case of exchange-based *sukuk*, we found that firms dynamically adjust toward a specific target ratio at a speed of approximately 37[32] percent. This finding is consistent with the trade-off prediction that issuers of exchange-based *sukuk* completely adjusted towards their specific target debt ratio in less than 3 years. The analysis of partnership-based *sukuk*, however reveals the opposite. We found partnership-based debt issuers have a negative[33] speed of adjustment, implying that firms tend to over-adjust themselves beyond their specific target debt ratio. Similar to the argument presented for convertible bond offers, we attribute that partnership-based *sukuk* issuance follows pecking order predictions closely.

Our estimated results concerning the determinants of target debt ratio for our sub-categories dataset show mixed and significant findings that are consistent with both theoretical predictions. For the sake of brevity, we only explain the significant findings for each debt securities type. In general, we found that the three variables significantly explain firm specific determinants for straight bond offers, namely, asset tangibility, non-debt tax shield and firm profitability. Asset tangibility is positively[34] related to straight bond ratio, consistent with the trade-off theory's prediction that tangible assets provide collateral and hence less risk for investors and less agency cost. Our findings also suggest that straight bond issuers gain the tax advantage of their bond financing evident from a significant and negative[35] relationship with the non-debt tax shield variable which confirms trade-off predictions. Lastly, the relationship with profitability [36] suggests a lower straight bond ratio and that increasing cash holding could possibly suggest that firms value their financial flexibility as an important factor consistent with dynamic trade-off predictions.

In relation to convertible bond offers, we found two variables, namely asset collateral value and non-debt tax shield that significantly explain firm specific determinants for its target debt ratio. Firstly, our results show that there is a significant negative[37] association between convertible bond ratio and a firm's asset collateral value or simply, lower collateral value of assets. Pecking order theory argues that issuer's with less collateral face higher information costs in which the information costs are mitigated by providing the conversion options that are embedded within convertible bond features (see Essig, 1991). Secondly, we also found a significant and positive

[30] Refer to table 3b column 2, (1-0.5498)*100
[31] Refer to table 3b column 2, Inter*$DEBT_{t-1}$ coef = - 57.69 [1- (0.5498 + 1.0271)]*100
[32] Refer to table 3b column 4, (1-0.6343)*100
[33] Refer to table 3b column 4, Inter*$DEBT_{t-1}$ coef = – 62.15 [(1- (0.6343 + 0.9872)*100]
[34] Refer to table 3b column 2, e.g coef = 0.3591, p<0.001
[35] Refer to table 3b column 2, e.g coef = -0.9079, p<0.001
[36] Refer to table 3b column 2, e.g. coef = -0.1497, p<0.1
[37] Refer to table 3b column 2, e.g. coef = -0.1666 [0.3591 + (-0.5257)], p<0.001

relationship[38] between the convertible bond ratio and non-debt tax shield variables. Although, pecking order does not offer any predictions for non-debt tax shield associations, our findings are inconsistent with trade-off predictions that convertible bond issuers are motivated to gain the tax advantage of its offers. This finding is logical in a sense that issuers aiming for debt tax shelter may not benefit much from convertible bond offer issuance since it normally carries a much lower coupon rate as compared to other straight bonds (see among others Billingsley & Smith, 1996; Bancel & Mittoo, 2004). Taken together, our firm specific determinants concerning target debt ratio for convertible bond offers are consistent with the pecking order theory.

Our findings concerning the firm specific determinants for target debt ratio when issuing exchange-based *sukuk* suggest that firm size and growth opportunities significantly explain the issuer's choice. Our Standard-GMM result shows that firm size has a negative effect[39] on the exchange-based *sukuk* ratio. Should firm size be a proxy for the inverse probability of bankruptcy, the negative correlation[40] between firm size and exchange-based *sukuk* offers will comply with the predictions of the pecking-order view (see Myers, 1984; Myers and Majluf, 1984). In addition, a firm's growth opportunities also show a significant and positive effect on exchange-based debt offers. Economically, it means the larger growth in a firm's annual sales rate; the higher chances that exchange-based *sukuk* are being issued. This relationship could be interpreted as the need of external funding pressure exceeds their existing internal funds to fund high value investment projects, as explained by the pecking order theory. Taken together, both findings are consistent with the pecking order view that smaller firms with high growth opportunities may choose exchange-based *sukuk* offers.

Lastly, our results indicate only firm size appears to be significantly related to partnership-based *sukuk* choice in relation to a firm's specific target debt determinant. The regression coefficient implies a negative correlation between firm size[41] and partnership-based *sukuk* offers, suggesting that smaller firms prefer partnership-based offers. Based on this relationship, pecking order theory argues that smaller firms face a higher degree of information asymmetry which may increase the cost of debt and/or may result in more restrictive covenants being imposed if normal debt is issued. Besides, firm size can also be used as a proxy for bankruptcy costs since smaller firms are more vulnerable to failure and more risky due to their investment being less diversified (e.g. Billingsley et al., 1988; Deesomsak, 2004). Our findings suggest that partnership-based *sukuk* may be preferred in both cases based on its features. Theoretically, partnership-based *sukuk* has features that allow *sukuk* investors to jointly own the business venture with the issuers and allows *sukuk*-investors to claim their returns based on the performance of the business venture instead. Thus, there are possibilities that this equity participation may resolve restrictive covenants and reduce potential bankruptcy costs.

We found that the estimated speed of adjustment and determinants of target debt ratio in analyzing model 4(b) provide comparable results between Standard-GMM and SYSGMM estimators which point to the aforementioned findings with regards to the issuer's specific debt securities choices. We also found a consistent theoretical argument between a firm's debt optimizing behavior and factors that influence the determinants of target debt ratio across different sub-categories of debt securities except for exchange-based *sukuk* offers. For instance, we found that straight bond offers are most consistent with the trade-off theory based on their active debt adjustment process and target debt determinants such as higher collateral asset value, lower non-

[38] Refer to table 3b column 2, e.g. coef = 1.3994 (-0.9079 + 2.30730), $p<0.1$
[39] Refer to table 3b column 3, e.g. coef = 0.0168, $p<0.1$
[40] Refer to table 3b column 3, e.g. coef = -0.0465, $p<0.1$
[41] Refer to table 3b column 4, e.g. coef = -0.04 (-0.0174 + -0.0253), $p<0.05$

debt tax shield and lower profitability. Convertible bond offers show the most consistent findings with the pecking order theory based on their inactive debt adjustment behavior and its target debt determinants such as lower firm collateral assets and not being motivated to gain the tax advantage of convertible bond financing. Partnership-based *sukuk* also shows findings that are more consistent with pecking order theory based on an inactive debt adjustment process and smaller firm size as their only target debt determinant. However, for exchange-based *sukuk* offers, we found inconsistent judgments between trade-off and pecking order views evidenced from an active target adjustment process and high growth opportunities among issuers for target debt determinants, respectively. This contradiction initiates us to further our investigation using insights from industry players.

Table 3b Regression Analysis for Debt Securities by Sub-Categories Offers.

DEBT PRINCIPLES	CONVENTIONAL BOND		*SUKUK*	
SUB-CATEGORIES	STRAIGHT BOND AND CONVERTIBLE BOND		EXCHANGE BASED AND PARTNERSHIP BASED	
Estimator	*Standard-GMM* (1)	*System-GMM* (2)	*Standard-GMM* (3)	*System-GMM* (4)
CONSTANT	-0.0564 (-0.16)	-0.3724 (-1.45)	0.7191 (2.13)**	0.4301 (1.40)
$DEBT_{t-1}$	**0.4923** **(4.55)***	**0.5498** **(5.94)***	**0.6628** **(3.22)***	**0.6343** **(5.05)***
TANGIBILITY	**0.3227** **(3.30)***	**0.3591** **(3.92)***	0.0647 (0.48)	0.0353 (0.30)
NDTS	**-0.6948** **(-2.03)****	**-0.9079** **(-2.97)***	-0.7628 (-1.26)	-0.8159 (-1.20)
PROFIT	-0.1214 (-1.63)	**-0.1497** **(-1.81)***	0.1388 (1.02)	0.1588 (1.16)
SIZE	0.0019 (0.007)	0.0273 (1.23)	**-0.0465** **(-1.79)***	-0.0253 (-1.22)
GROWTH	-0.0068 (-0.48)	-0.0074 (-0.52)	**0.0168** **(1.73)***	**0.0015** **(1.73)***
Inter*TANGIBILITY	**-0.2850** **(-1.88)***	**-0.5257** **(-2.54)***	-0.0483 (-0.24)	-0.0322 (-0.21)
Inter*NDTS	**3.8894** **(2.02)****	**2.3073** **(1.88)***	-0.0635 (-0.06)	-0.0257 (-0.02)
Inter*PROFIT	0.1387 (0.65)	0.1065 (0.39)	-0.1599 (-1.04)	-0.1693 (-1.15)
Inter*SIZE	-0.0307 (-0.78)	-0.0036 (0.42)	-0.0149 (-0.18)	**-0.0174** **(-2.13)****
Inter*GROWTH	0.0051 (0.33)	0.0055 (0.25)	-0.0295 (-1.13)	-0.0262 (-1.43)
Inter*$DEBT_{t-1}$	**1.1064** **(14.41)***	**1.0271** **(8.41)***	**1.0352** **(7.93)***	**0.9872** **(12.82)***
AR2 Test	1.105	1.105	1.22	1.36
Number of Instruments	72	84	67	78

Notes: This table reports the estimation results for the partial adjustment model of debt specified by Equation 4b, as follows

$$DEBT_{i,t} = \alpha_0 + \gamma_1 DEBT_{i,t-1} + \beta_2 TANGIBILITY_{it} + \beta_3 NDTS_{it} + \beta_4 PROFIT_{it} + \beta_5 SIZE_{it} + \beta_6 GROWTH_{it} + \alpha(Inter)_7 + Inter * \gamma_8 DEBT_{i,t-1} + Inter * \beta_9 TANGIBILITY_{it} + Inter * \beta_{10} NDTS_{it} + Inter * \beta_{11} PROFIT_{it} + Inter * \beta_{12} SIZE_{it} + Inter * \beta_{13} GROWTH_{it} + \varepsilon_{i,t}$$

where $DEBT$ is defined as the total debt securities to total asset, $\beta_1 = (1 - \gamma)$ stands for the deviation of lagged debt from the target debt and target debt determinants includes Asset Tangibility $(TANGIBILITY)$ defined as the ratio of fixed asset to total asset, Non-Debt Tax Shield $(NTDS)$ is the ratio of depreciation to total asset, Profitability *(PROFIT)* is the ratio of EBITDA to total asset, Firm Size ($SIZE$) is measured by natural logarithm of total assets, Growth Opportunities (GROWTH) is measured by annual growth rate in sales and interaction terms (*inter)* are used to estimate the regression slope for convertible bond and partnership-based *sukuk* offer. *GMM* and *SYSGMM* denote Arellano and Bond's (1991) and Bundell and Bond's (1998) estimators, respectively. AR2 test is a test for second-order correlation, under null of no serial correlation. Standard errors are corrected for downward biased using VCE robust. Number of observation is also higher than the instruments used in all analysis. The z-statistics are reported in parentheses. *,** and *** indicate significant at 10%, 5% and 1% levels, respectively.

Industry player's insights concerning our empirical findings to address research question 3

To provide an in-depth understanding why firms issue *sukuk* in general, or specifically, exchange-based *sukuk* and partnership-based *sukuk*, we conduct an interview session with key industry players. We chose our respondents with three distinctive backgrounds related to *sukuk* decision-making and structuring which include an investment bank manager, a consulting firm, and the manager of a firm that is experienced in issuing *sukuk*. The interview was conducted in November 2013 within the ambit of our empirical results.

Our interview session has provided us with the following insights concerning the reasons for *sukuk* offers based on real-world interpretations of our significant findings, particularly smaller firm size and higher firm growth opportunities. Firstly, issuers focus on the utilization of funds as their main reason before entering into sukuk market. This is to adhere with the SC preference that *sukuk* must be used to finance *Shariah*-compliant investments, although the present guidelines on *sukuk* offers are limited to only Shariah-compliant firms. The reason for this is perhaps to increase the number of issuers (i.e. firms) as the overall development of the *sukuk* market depends on the deals issued in private sectors. Even though we do not find any written document to support this view, our findings may justify this regulatory change. Secondly, firms with abundant growth opportunities find it easier to raise funds from the sukuk market for reasons such as competitive rates, government tax incentives and faster fund raising processes. For instance, if the issuer decides to issue bonds instead of *sukuk*, then, the potential subscribers/investors are small and limited to only non-Islamic funds, whereas if the issuer offers *sukuk* instead, it widens the potential investor's pools which includes everybody in the market. Through the forces of supply and demand, issuers are at the advantage of reducing the risk associated with more diversified investors' holdings, and thus, a reduction in their cost of borrowing, (i.e. rates/price of sukuk). Thirdly, the issuer's preference for exchange-based issuance is mainly due to the availability of an active secondary trading market that allows issuers and investors to gain greater flexibilities. In Malaysia, Shariah scholars regard the trading of debt contracts (Bai-dayn) as permissible although it is widely disputed in other countries. Issuer preference over exchange-based *sukuk* is to allow their *sukuk* investors benefit from active secondary market trading, in contrast to, inactive or no immediate trading market possibilities with the issuance of partnership-based *sukuk*. Finally, consistent with our findings, the reason why smaller firms choose partnership-based *sukuk* is that, under this contract, issuers are not constrained to have large asset size. In other words, partnership-based *sukuk* is a suitable financing source for new firms that need funds to finance a particular project, consistent with the existing pecking order argument.

In addition, from the industry argument that smaller firm size and higher growth opportunities affect *sukuk* offers, we found that the latter relationship is against the traditional interpretations of the pecking order theory. Instead, we argue that a positive relationship between growth opportunities and *sukuk* offers are more consistent with the trade-off theory view than pecking order, as firms may enjoy greater external "benefit" when they source from *sukuk* financing even though they are cash affluent (i.e. sufficient internal funds).

Conclusions

Prior studies have paid little attention to understanding the corporate choice between *sukuk* and conventional bonds together with its respective sub-categories. Henceforth, this study tries to fill this gap by employing an advanced econometric model and procedures to examine firm dynamic adjustment behavior and firm specific determinants of target debt ratio across different principles of debt securities offers in Malaysia.

Our article has made at least three contributions to the existing corporate financing literature. Firstly, we have used an integrated partial adjustment model of debt that captures changes in target debt as well as past deviations from such target as key drivers of firms' dynamic debt adjustment behavior and firms' specific determinants for target debt ratio on specific debt types. Secondly, in our two-step estimation procedure, we have employed advanced and appropriate econometric methods to estimate the dynamic, partial adjustment models of debt, namely Standard-GMM and System-GMM estimators that showed consistent and comparable findings on the adjustment speeds and target debt determinants across different types of debt securities. Thirdly, our article has also conducted one of the first empirical tests of trade-off theory and pecking order theory using debt securities' variations based on its issuance principles and their respective sub-categories as our sample dataset.

The study found that issuers of conventional bonds engage in debt optimizing behavior and follow firms' specific characteristics, such as higher asset collateral value, aiming at tapping the tax benefit of debts and that they value their financial flexibilities. On the other hand, *sukuk* issuers are characterized as being relatively smaller firms with higher growth opportunities and at the same time, actively and frequently engage in debt adjustment behavior. Overall, our results provide strong evidence supporting the trade-off theory, as under both domains of issuance principles, firms adjust towards target debt ratio relatively quickly in our partial adjustment model. However, based on the evidence of a firm's specific characteristic, we show that there are trade-offs of different "benefits" from each of the issuance principles.

The study also shows different theoretical evidences when each of the sub-categories of *sukuk* and conventional bonds are examined separately. We found straight bond offers are most consistent with trade-off theory based on their active debt adjustment process and a firm's determinants for target debt factors such as higher collateral asset value, aiming at exploiting the tax advantage of bond issuance and that they value their financial flexibilities. Convertible bond offers show the most consistent findings with pecking order view based on their inactive debt adjustment behavior and their target debt determinants such as lower asset collateral value and not aimed to exploit the tax advantage of its offers. Partnership-based *sukuk* offers show more consistent findings with the pecking order theory. This is based on an inactive debt adjustment process and smaller firm size as their target debt determinants. Finally, exchange-based *sukuk* issuers shows dynamic debt adjustment behavior and characterized as firms with higher growth opportunities, consistent with trade-off prediction. Based on our interview findings, we offer an argument against the traditional interpretation by pecking order theory for higher growth opportunities among *sukuk* issuers. Instead, we argue that firm with higher growth opportunities gain more "benefits" when they issue *sukuk,* even though they have sufficient internal funds.

Overall, our findings suggest that there should be an intensive and comprehensive plan to encourage new firms to issue either of the debt securities based on their unique determinants as identified. As more data becomes available in the future, one could further investigate by incorporating different combination of sukuk structure between exchange-based and partnership-based sukuk. Subsequently, one could also discover on the debt securities choices across different sectors. Finally, there are additional room for improvement in terms of regulatory framework and facilitative infrastructure to achieve a more balanced growth of the overall Malaysian capital market.

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