THE THEORY OF CAPITAL STRUCTURE FROM ISLAMIC PERSPECTIVE,
AND THE ROLE OF SUKUK

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Abstract

For the past fifty years after the influential irrelevance theory of Modigliani and Miller (1958) on capital structure, academicians debate rigorously on the theory of capital structure. However, the number of literatures focusing on corporate finance from the view point of Islamic perspectives is not large. The objective of this paper is to examine the theory of capital structure from the Islamic point of view. Here we do literature review on Islamic scholars thought on the theory, and subsequently discuss the implication of sukuk on capital structure as indicated by tradeoff, agency cost and pecking order theory.

Key words: capital structure, Islamic finance, sukuk.

1. INTRODUCTION

For the past fifty years after the influential irrelevance theory of Modigliani and Miller (1958) on capital structure, academicians debate rigorously on how should a company set up the structure of her capital. The excursion turns into a conflicting theory, puzzling decision, and mixing evidence. From the initial idea to show that under certain condition the structure of the firm capital not significant to firm value, many authors then attempt in recognizing the determinant of debt level. Harris and Raviv (1991) identify that besides tax and bankruptcy cost, there are four others forces that drive capital structure behavior, namely, agency problems, asymmetric information, product/ input market competition and corporate control consideration.¹

In case of Islamic corporate financing, it is well known that Islamic finance also has the characteristics of both debt and equity issuances. For equity, the structure is comparable to the conventional given that equity financing is based on musharaka or mudaraba contract which is in line with the syariah. What makes it distinct is its restriction to the business operation that must be free of riba (usury), maysir (gambling) and gharar (dubiousness) where those are confined by syariah. In addition, the products and services offered must be

¹ Zingales realises that the nature of the firm has changed, and it forces us to reexamine much of what we take for granted in corporate finance. He discussed comprehensively the corporate finance considerations that form the bases of our understanding on financial management decisions, corporate governance, risk management, and valuation of a firm. See Luigi Zingales (2000), “In search of new foundations,” The Journal of Finance, Vol.55, No.4, p.1641.
halal. In terms of debt financing, Islam forbids charging of interest. As a result, Islamic debt contract is structured under other than debt contract that is designed corresponding to its purpose and its underlying asset. What seems to be interesting on Islamic finance is the market based debt instrument called sukuk (Islamic bond) given that it utilizes asset securitization. It comes to our notion that this type of instrument might bring us to novel capital structure wisdom.

Departed from this quest, the objectives of this paper then are is to examine the theory of capital structure from the Islamic point of view. Here we do literature review on Islamic scholars thought to the theory of capital structure, and discuss the implication of sukuk as indicated by tradeoff, agency cost and pecking order theory. The paper is organized as follows. The next section briefly introduces sukuk as Islamic debt instrument. In this section we discuss the common characteristic of sukuk and its type. Section three reviews the theory of capital structure followed by examination of the theories from Islamic perspective that forms the building blocks of the model. Finally, section four is discussion and conclusion.

2. SUKUK AND ITS COMMON TRAITS
The history of sukuk began in classical period when sakk (singular for sukuk) meant any document representing a contract or conveyance of rights, obligations or monies done in conformity with the syariah. Empirical evidence also shows that sukuk were extensively used during medieval Islam for the transferring of financial obligations originating from trade and other commercial activities. Their use then spilled over into Europe and sakk is at the origin of the world cheque/check.  

In modern times sukuk is represented by Islamic financial instruments (Islamic Bond) that is structured in the form of asset securitization or asset-backed securities. In the AAOIFI Standard no. 17, sukuk instrument is defined as:

“certificates of equal value representing undivided shares in ownership of tangible assets, usufruct and services or in the ownership of the assets of particular projects or special investment activity, however this is true after the receipt of the value of the sukuk, the closing of the subscription and employment of funds received for the purpose for which the sukuk were issued.”  

Brugnoni notes that there are three conditions to the requirement of an asset to fulfill the structure of a sukuk. The first and the most integral condition for a bond to be called a sukuk is its tangibility, i.e. the identification of

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3 A standard in May 2003 on “Investment Sukuk” published by the Accounting and Auditing Organisation for Islamic Financial Institutions (AAOIFI).
suitable assets on the balance sheet of the originator/borrower. The technical term for this debt structure is ‘assets backed.’ However Brugnoni prefer the term ‘assets based,’ since the funding raised through sukuk issues shall be hypothecated or earmarked rather then used for general unspecified purposes. In some condition, identifiable existing assets or specific assets that may become available at a future date can also be used to back sukuk. A second condition is that these assets must be suitable. For example, under Islamic financial contracts of murabahah or istisna’, shariah considerations dictate that the pool of assets should not solely be consist of debts. The third fundamental condition is that returns and cash flows must be linked to assets purchased or those generated from an asset once constructed (project finance) and that the principle cannot be guaranteed.4

So far there are seven out of fourteen types of sukuk acknowledged by AAOIFI’s standards that have been implemented. These types of sukuk named after its main contract bases that in turn determine its types of underlying asset, as follow:5

- **Sukuk al-ijarah** (lease-based): securitization of existing tangible leased assets;
- **Sukuk al-salam** (advance payment or forward buying): pre-sale of future delivery of goods or commodities;
- **Sukuk al-istisna’** (progressive financing): mobilization of the cost of construction and manufacturing of specific assets;
- **Sukuk al-murabaha** (markup/cost-plus sale): mobilization of the acquisition cost of goods to be sold under a murabaha;
- **Sukuk al-musharaka** (profit-loss sharing/partnership): sale of capital participations into a partnership;
- **Sukuk al-mudharaba** (trustee partnership): mobilization of funds from capital providers;
- **Sukuk al-wakala** (contract of agency): mobilization of capital to acquire certain goods that are entrusted to an agent;

In general, given that the structure of Islamic bond is based on asset securitization, we presume that Islamic bond shares comparable characteristics with asset-backed securities. By using a Modigliani and Miller framework, Hill analyzed the legal aspect of asset securitization and suggested that securitization may reduce information costs, agency costs, bankruptcy costs, and also transaction costs. These indications lead to the notion that sukuk has advantages to the firm value.

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3. THE THEORY OF CAPITAL STRUCTURE AND ISLAMIC PERSPECTIVES

There are several studies on the theory of capital structure from Islamic perspectives, for example Al-Deehani et al. who study the capital structure of Islamic Banks under profit sharing contract. They propose a theoretical model in which, under certain assumptions, an increase in investment accounts financing enables the Islamic bank to increase both its market value and its shareholders' rates of return at no extra financial risk to the bank. Aggarwal and Yousef study the mathematical model of investment and capital structure financed by Islamic Bank under debt-like instruments, equity-like instruments; and collateralized investments in the retail and trade sectors. Obaidullah re-examines hypotheses in the theories of capital structure from Islamic perspective. A comprehensive discussion is provided by Ahmed, which focusing on the pecking-order theory and Islamic implication to the capital structure choice of small company.

The following sub-sections discuss the theories of capital structure i.e. trade-off theory, agency cost, and pecking-order, from Islamic scholars’ perspectives, and its possible implication when the companies are using sukuk, provided that sukuk is an asset-based securitized instrument.

Trade-off theory of bankruptcy cost
In the Modigliani and Miller world, where the corporate tax is zero, the cost of capital is irrelevant to capital structure. If corporate tax is taken into account, by considering debt tax shields, the cost of capital will decline steadily as the proportion of debt in capital structure increases. Hence, it suggests a corner solution. However it is impossible in the real situation to have 100% debt financing. Baxter then argues that as the proportion of debt is increased, the cost of bankruptcy is also increasing. Consequently, the rate of return required by bondholders increased with leverage. The classical version of the hypothesis goes back to Kraus and Littenberger who considered a balance between the dead-weight costs of bankruptcy and the tax saving benefits of debt. So, the optimal capital structure is realized by trading-off between the

7 Mohammed Obaidullah (2007), Teaching corporate finance from an Islamic perspective, Islamic Economic Research Centre, King Abdulaziz University, Jeddah, Saudi Arabia, p.74.
9 The principle of debt tax-shield is based on the concept of opportunity cost as in section 2, so we have to be careful in building its assumption. Indeed, compare to equity financing which is not tax free, using debt is giving advantage. Moreover, the assumption that debt holder is also an investor makes it comparable to equity holder. That’s why the conventional finance fail to recognize the interest paid as financial cost. As a result, they innocently trading off paying interest with paying tax.
advantages of debt and nontrivial bankruptcy cost.\textsuperscript{11}

In sum, by considering firms characteristics, the trade-off theory suggests that firms with more tangible assets and higher profitability, should have high debt ratios. While risky firms with more intangible assets, and good growth opportunities should borrow less.\textsuperscript{12} From this theory it appears that the determinant of debt has correlation to the determinant of its cost itself. In other words it suggests that the determinant of debt level is its interest itself.

From Islamic perspective, Obaidullah argues that the advantage of debt with respect to interest tax shield is quite clear. Tax shield on interest is non-existent since Islamic economy denies interest on debt. Thus, “trade-off” theory would be largely irrelevant for an Islamic firm. However, the cost of financial distress under the Islamic framework would be quite relevant. Given that Islamic debt is essentially asset-backed, hence the quantum of total debt would be bounded by the tangible assets in ownership of the firm. Due to this constraint, cost of financial distress for an Islamic firm would be minimal.\textsuperscript{13} In addition, most of the characteristic of Islamic contract is predetermined. Consequently, the financial cost of Islamic debt is non-adjustable, hence the bankruptcy cost due to financial distress supposed to be constant.

Since Islamic bond is asset-based securitization, it also may reduce bankruptcy costs by moving some assets (receivables) from the firm to a more bankruptcy remote location. Indeed, the transaction should be carefully structured to have this effect. Hill argues that, this feature of securitization could yield cost savings in an inefficient bankruptcy process. But the closer a firm is to bankruptcy, the more difficult and uncertain it is to effectively remove some of the firm's assets. The firms closest to bankruptcy probably will not experience much benefit; however, the firms further away from bankruptcy might experience more of a benefit.\textsuperscript{14} Jobst insists that, the robustness of the transaction to bankruptcy proceedings requires that: \textsuperscript{15} (i) securitized assets have been absolutely (i.e. off-balance sheet) transferred from the originator to the SPV, so that they are detached from the bankruptcy estate (usually referred to as true sale) \textsuperscript{16}, and (ii) originator and SPV are separate entities so that the assets and liabilities of the latter would not be

\begin{itemize}
\item[\textsuperscript{13}] See Mohammed Obaidullah (2007), \textit{op. cit.}, p.76.
\item[\textsuperscript{16}] True sale means the proprietorship of the assets is transferred to the creditor. See Edward M. Iacobucci, and Ralph A. Winter (2005), “Asset securitization and asymmetric information”, \textit{Journal of Legal Studies}, Vol.34, No.1, pp.161-206.
\end{itemize}
substantively consolidated with the originator in the event of insolvency proceedings (commonly referred to as substantive non-consolidation).\textsuperscript{17}

From the above discussion, we can see that from Islamic perspective, the level of debt should be negatively related to the firm value due to Islamic negligence on debt tax shields that let the bankruptcy cost risen freely. However, when sukuk are available, the financial distress might be lessening. Hence, we can expect that sukuk may reduce worsen firm value due to bankruptcy cost and be a remedy to financial distress.

\section*{Agency cost}

The agency cost theory is initiated by Jensen and Meckling. Agency problem arises when a party (the principal—i.e. shareholders or debt holders) employs another party (the agent—i.e. managers) to carry out some tasks on its behalf. Since the interests of the principal and the agent may diverge, they are involved in a costly negotiation process, which may lead to a second-best solution. The principal has to recognize that it will be costly to make the agent take actions that are in proportion to the principal’s interest. An agency cost is defined as the sum of the monitoring expenditures by the principal, the bonding expenditures by the agent, and the residual loss. To be more specific, monitoring costs are expenditures to measure, observe and control the agent’s behavior. The bonding expenditures could be induced by budget restrictions, compensation policies, operating rules, or legislative practices, etc. JM notice that, once the cost of bonding and monitoring would far outweigh the benefits derived from such effort, another form of costs arises namely ‘residual loss.’ \textsuperscript{18}

Jensen and Meckling introduce two types of conflicts: conflicts between shareholders and managers; and conflicts between shareholders and bondholders. The conflict between shareholders and managers are manifested in many forms. The following are some problems that have been identified in the literature i.e.: perquisite consumption, managerial entrenchment, debt-term decisions, risk adverse manager, managers’ tenure, anti take over, operating decisions, dividend policy, and overinvestment problems. For these types of problems, conventional authors believe that, to a certain extent issuing debt helps to mitigate agency problems that arise from managerial behavior under divergent interests between shareholders and managers. For example, the overinvestment problem can be mitigated by issuing debt since debt commits firm to pay out cash so prevents managers from investing in negative

\textsuperscript{17} Iacobucci and Winter argue that the principle of “true sale” and “remote bankruptcy” in securitization could eliminate a certain cost of bankruptcy. See Edward M. Iacobucci, and Ralph A. Winter (2005), \textit{op. cit.}; Similar suggestions also found in Schwarz (1994), \textit{op. cit.} and Fan et al. (2006), \textit{op. cit.}

NPV projects. An increase in debt also increases the risk of bankruptcy, therefore limits management’s consumption of perquisites. Besides, issue convertible debt also helps to discipline managers’ behavior because they give managers a chance to share in a firm’s profits in case of good performance and thus reduces the monitoring costs. Further, this topic is better known as corporate governance, that examine not only simply the implication of debt, but also a complex set of governance mechanisms that intermingle the advantages of monitoring and incentive set of mechanisms.

There are several forms of problems as the result of conflict between shareholders and debt holders. Authors identify three distinguished categories for this type of agency problem as follow: i) wealth transfer; it happens when shareholders increase their wealth by repurchase shares or paying dividend, at the expense of bondholders’ interests by selling its assets with the bondholders being left with valueless claims; ii) asset substitution/risk-shifting; it happens when bondholders can anticipate shareholders incentive of substituting safe projects by risky projects. As a result they will ask for a higher risk premium. The anticipation of wealth expropriation also will lead to the increase in risk premium; and iii) underinvestment problem; this problem mostly occurs for levered, high-growth firms. The overhang of debt decreases the shareholders incentives to invest in new projects (even the projects with high growth opportunities will be passed through) because the profits from these projects will be exhausted in debt repayment. One way to minimize these conflicts is that firms with high growth opportunities to have lower leverage and use a greater amount of long-term debt than firms in more mature industries.

In summary, the agency theories suggest that leverage is positively associated with firm value, default probability, extent of regulation, free cash flow, liquidation value, extent to which the firm is a takeover target, and the importance of managerial reputation. Also, leverage is expected to be negatively associated with the extent of growth opportunities, interest coverage, the cost of investigating firm prospects, and the probability of reorganization following default. Moreover,

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19 See for e.g. Masulis (1988), op. cit.; Hunsaker (1999), op. cit.; and Garvey and Hanka (1998), op. cit.
21 Ibid., p. 337; Jensen and Meckling also note that bonds will have covenants that attempt to restrict the extent to which equityholders can pursue risky projects that reduce the value of the debt.
23 The conflicts can also be mitigated by adjusting the properties of the debt contracts, for example, the adjustment can be done by including covenants such as adding limits on the dividends payment or setting restrictions on the disposition of assets. Alternatively, debt can be secured by collateralization of tangible assets in the debt contracts. The issue of convertible debt or debt with warrants also can serve as another way of mitigating the conflicts because convertible debt will have lower agency costs than plain debt. See for e.g. Smith and Warner (1979), op. cit.; Stulz and Johnson (1985), op. cit.; and Green (1984), op. cit.
firms with low growth prospects and strong cash flows should have high amounts of debt that would use up resources that would otherwise be used for perquisites.\textsuperscript{24}

From Islamic perspective the problem of wealth transfer should never be happened. Shareholders of a firm are considered holding a musharaka or mudaraba contract, where the distribution should come from net profit of the business. So, paying dividend or buying back shares funded by debt issuance is impractical. The utilization of sukuk in capital structure also could ease the asset substitution or risk shifting problem. As explained earlier, sukuk issues shall be hypothecated or earmarked rather then used for general unspecified purposes. The assets must be suitable to its Islamic financial contract base. The returns and cash flows must be linked to assets purchased or those generated from an asset once constructed (project finance).\textsuperscript{25} From these characteristics, the possibility of asset substitution or risk shifting problem have no chance to take place, because the claims are not subject to asset substitution. Yet debt holder has no reason to anticipate any wealth expropriation and then charge higher risk premium.

Sukuk is expected could mitigate the underinvestment problem, since it is comparable to asset securitization. The argument is, securitized debt holders do not capture gains from the firm's future investments. Therefore, there is no underinvestment problem associated with securitized debt.\textsuperscript{26} To be precise, securitization allows issuers to appropriate partial debt holder wealth by carving out a defined pool of reference assets to satisfy securitized debt claims, which capture ex ante gains from the firm’s future asset value. Thereby, issuers subordinate existing creditors and render existing debt less inhibitive on the realization of new investment opportunities.\textsuperscript{27} Hence, from the previous discussion, we can expect that for the firm with high growth opportunity, sukuk may reduce the underinvestment problem.

\textbf{Asymmetric Information: The pecking-order theory of financing choices}

Under pecking order theory, capital structure is designed to mitigate inefficiencies in the firm’s investment decisions that are caused by the information asymmetry between insiders (i.e. managers representing the existing shareholders) and outsiders (i.e. new investors). Myers and Majluf show that, if new investors are less well informed than present insiders about the value of the firm’s assets, then the market may mispricing the shares. If firms are required to finance new projects by

\textsuperscript{25} Alberto Brugnoni (2008), \textit{op.cit.}, p.21.
issuing equity, under pricing may be so severe that new investors capture more than the NPV of the new project, resulting in a net loss to existing shareholders. They suggest that, this underinvestment problem can be avoided if the firm can finance the new project using a security that is not so severely undervalued by the market. For example, internal funds and/or riskless debt involve no undervaluation, and, therefore, will be preferred to equity. Thus, it implies that firms use internal finance when available, and choose debt over equity when external financing is required; a new issue of stock is the last resort.\(^{28}\) Myers refers to this implication as a "pecking order" theory of financing.\(^{29}\)

Harris and Raviv note that, the most implication of pecking order theory is that, upon announcement of equity issue, the market value of the firm’s existing shares will fall. New projects will tend to be financed mainly from internal sources or the proceeds of low-risk debt issues. In addition, the underinvestment problem is least severe after information releases such as annual reports and earnings announcements. Moreover, for firms with comparatively little tangible assets relative to firm value (this firm are more subject to information asymmetries), the underinvestment problem will occur more often than for similar firms with less severe information asymmetries. These types of firms can be expected to accumulate more debt over time.\(^{30}\)

From Islamic perspective, Ahmed classifies the financial instruments in Islamic firms into debt and equity. Debt is created in real transactions, so all debt is backed by assets. The equity can either be insider finance and retained earnings, or external finance in terms of mudaraba stock (class A) and musharaka stock (class B). Mudaraba equity is for a fixed period as private equity. Thus, the type of this equity holder will be a dispersed group of investors who are not interested in the control rights, but with the short-run value maximization (i.e. for capital gain). While musharaka equity will last for the life of the project and have both control voting rights and rights to profit/loss (i.e. residual claim). Thus, the type of this equity holder will be interested in the long-run profitable investments of the firm, and concerned about the dilution of ownership.\(^{31}\) Ahmed then suggests that, in deciding what kind of instruments to use, the firm would opt for the least cost alternative available.\(^{32}\) Specifically, the order of preference in

\(^{32}\) Mohammed Obaidullah notes that costs may be direct or indirect. Directs costs are those that a firm has to pay explicitly in pecuniary terms for arranging finance from the suppliers of funds. These costs
choosing instruments would be in ascending order of total costs that would be in the following order: retained earnings, debt, *ijarah*, *mudaraba* stocks, and finally *musharaka* stocks.\(^{33}\)

In case of sukuk, there is no literature yet that examines the position of sukuk in the pecking-order hierarchy of Islamic financing. However, as mention before, sukuk has the advantage of mitigating the asymmetric information problem. Thus, we may expect that sukuk is subordinate to the retained earnings and super ordinate to regular debt. In addition, there are many literatures in the conventional financing that mention the benefit of asset securitization in mitigating the asymmetric information problem. For examples Schwarcz (1994), Hill (1996), Minton et al. (1997), Iacobucci and Winter (2005), Jobst (2005), and Fan et al. (2006) are among others.

Iacobucci and Winter theorize with the hidden-action explanations of asset securitization that depend on the separation of cash flows that are risky but relatively insensitive to managerial effort from other cash flows. Partitioning in this case helps control agency problems by reducing the risk to the firm from factors beyond managers’ control. The cash flow theory of asset securitization also depends on the separation of cash flows from the rest of the firm to reduce agency costs, but for different reasons. Partitioning off these flows in an asset securitization transaction exchanges a series of small, difficult-to-monitor cash flows for a single, relatively easy to monitor cash infusion, thus reducing the agency costs of free cash flow. Where there is uncertainty about the value of the non-securitized assets, the partitioning of the collateral in a securitization transaction from the rest of the firm allows the sale of securities that are not subject to a lemons problem. This allows the firm to avoid a lemons discount and helps it to signal the high quality of its remaining general equity; only higher-quality firms would incur the relatively high transaction costs of securitization to avoid the lemons discount. On the other hand, where there is uncertainty about the collateral, securitization allows expert investors or rating agencies to value the collateral independent of the rest of the firm.\(^{34}\)

Hence, from the previous discussion, we can expect that for the firms that are more subject to information asymmetries will use more debt in their capital structure, and sukuk may reduce the underinvestment problem.

4. **CONCLUSION**

would include the specific costs incurred to service debt or equity in the form of mark-ups in *murabaha*, internal rate of return in *ijara*, profit-shares in *mudaraba* and *musharaka* and dividends in equity. In addition, there would be dilution costs (in the form of dilution of rights of existing shareholders) with external equity. This cost may be observed to be more in case of *musharaka*-based equity than *mudaraba*-based equity, since the former provides for greater say in management to the financiers. See Mohammed Obaidullah (2007), op. cit., p.77.

\(^{33}\) Mohammed Obaidullah also suggest the same order. *Ibid.*

\(^{34}\) Edward M. Iacobucci, and Ralph A. Winter (2005), op. cit.
From our discussion, it shows that the Islamic principle will give different implication to the theory of capital structure. Furthermore, the Islamic principle could answer to the long debate on the theory of capital structure. The Islamic assumption on opportunity cost also implies that there is cost that is not tradable, and thus gives a pivot point in determining the capital structure decision. It also shows that the conventional concept of debt that—among other costs—makes the interest itself as the major cost in determining the firm value. The concept of asset securitization in Islamic debt (sukuk) also shows that there is limitation to the extent of financial leverage. Hence, Islamic view suggests that optimal capital structure is a matter of tangible asset value, excluding the transaction cost. From Islamic perspective, the determinant of capital structure then is obviously the asset owned by the company itself. Along with the growth in Islamic financial system, it is interesting to do an empirical study to examine the role of sukuk in mitigating the cost of agency.
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