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Debts and Debt-Based Sukuk Related to Risk Shifting Behavior

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***Abstract*—**This paper elaborates risk shifting in debt financing system as the ultimate cause of the global financial crisis. In contrast, risk sharing in equity financing like sukuk helps the economic system to be better sustained. Nevertheless, some types of sukuk are haunted by the issue of imitation with bonds. The critics on the imitation issue not only have raised doubt on the ability of sukuk to diminish risk shifting behavior but also the ability of this Islamic financial instrument to ensure better future financial stability. Through that, this paper provides discussion on the possibility of sukuk to induce risk shifting and how equity financing may help sukuk to be free from risk shifting. This paper is important in the sense that sukuk receives a significant demand from investors throughout the world. For this instrument to be supportive in the future economic stability, the issue of imitation needs to be identified and addressed. Furthermore, critics cannot be focused on debts and its ability to gauge the financial flux but also to sukuk due to their structures similarity.

***Keywords*—**Global financial crisis, debt, risk-shifting, risk sharing, equity, sukuk, bonds.

I. Introduction

THE global financial crisis in 2007/2008 caused countries around the world to experience massive erosions of wealth and unprecedented numbers of bankruptcies [11]. The crisis caused the world per capita output, which typically expanded by 2.2 per cent annually before the crisis, to contract to 1.8 per cent a year following the crisis; the largest contraction since World War II [4]. Following the massive economic destruction during the crisis, researchers around the world tried to find the cause of the global financial crisis. While major blame is on the debt and leveraging activities, the risk-shifting feature of debt-based financing was identified as the ultimate cause of the global financial crisis [16]. Analysts found that risk-shifting behaviour was practised excessively pre-crisis, which resulted in the growing number of defaults, bankruptcies and hence economic collapse [14].

II. Risk Shifting in Debt Financing

By definition, risk shifting is an agency problem arising between two parties that allow one of the parties to take advantage of another party [13]. Related to the global financial crisis 2007/2008, risk shifting happened when equity holders shifted the risk of investment to the debt holders with the intention to expand their wealth at the expense of the debt holders [3]. During that time, risk shifting was initially concentrated in the subprime mortgage crisis when the risk was being shifted from homeowners, to small lenders, investment banks, investors, and ultimately to the taxpayers [23]. Although the economy was no longer able to sustain it, these multishifted risks let the equity holders of the corporations and financial institutions enjoy the wealth that they earlier gained through the taxpayer's bail out [9].

Risk shifting incentive is possible in a corporation because equity holders have a limited liability feature that not only protects the equity holders from excessive losses but also creates a chance for the equity holders to reap enormous profits when the investment yields a large return [10]. Previous researchers identified risk shifting as an automatic behaviour when the equity holders decide to engage in debt-based activities [5]. At that time, the debt holders lose wealth because they are not compensated for the increased likelihood of default on their claims, while equity holders continue to ultimately gain via dividend payments [25]. Even though risk shifting is a natural feature of debt, nevertheless, some of the researchers found risk shifting is obvious, especially when the corporations are financially distressed [8].

Black and Scholes [2] clarify the relation of financial distress situation of a company with risk-shifting behaviour by explaining the resemblance of equity value with the put option feature. In this relation, the equity holders sell the corporation's assets to the debt holders for cash. Upon the due date of the debt, the equity holders have two options, either to redeem the assets if the value of the assets exceeds the redemption value of the debt, or the equity holders may choose to not redeem the assets if the value of the assets is less than the redemption value of the debt [21]. If the latter situation happened, the debt holders have to take over the assets and hence firms. The linkage between equity value and put option explained the advantages of equity holders as the limited liability holders and the disadvantages of the debt holders who have to bear any undue circumstances on the debt [8]. In this sense, if the equity holders decide to take riskier decisions, risk shifting postulates that the value of their put option becomes higher and more volatile accordingly with the value of the corporation's assets [17]. Through the risk-shifting feature, debt is the optimal choice for the equity holders because they well acknowledge that they have little risk to offset with the possible vast profit whether the decision is risky or not [19], [20].

III. Risk Sharing to Curb Risk Shifting Behaviour

In consequence of the bad impact on the economic cycle of risk shifting, researchers and economists agree that risk shifting can be controlled with the risk-sharing feature of

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equity-based financing [16]. Risk sharing is a feature that is derived from the Quran verse 275 of Chapter 2, which offers transactions to be based on sharing and prevents shifting [23]. Risk sharing cascades the possibility of risk to be shifted via its principle that needs transactions to be based on assets and bound with the ownership feature. The ownership feature does not allow assets to be traded multiple times, thus protecting the investors in the event of default or liquidation. Furthermore, equity financing needs the principal return to be based on the value of the real assets rather than an implicit guarantee of claim, as in debt financing. These two features on top of prevention from Riba (interest or usury), Gharar (risk) and Maysir (gambling), offer more justice and a stable financial system that is based on real economic activities [23].

> 'While risk-shifting activities currently dominate the conventional financial systems, risk sharing in the form of equity has long been a cornerstone of capital markets with vibrant stock exchanges. The development towards a more equity-based financial system where risk sharing takes place reduces the over-reliance on debt funding, thus avoiding excessive debt and speculation and thus financial system fragility. In Islamic finance, this is further reinforced by Shariah principles that actively discourage excessive debt given its detrimental effects on society' [1].

In the Islamic financial system, there are two types of contracts that are based on equity financing, namely Mudarabah and Musyarakah contracts. Mudarabah is a contract that requires two parties–the investor and the manager–to take a business venture. The transaction is based on the predetermined profit sharing ratio and the profit will only be paid to the financier if the project is successful. As such, the profit is like a dividend, which contrasts with the fixed claim as in debt financing. In the event of loss, the loss will be borne by the investor unless the loss is due to the manager's negligence. Mudarabah contracts through equity financing evidence profit sharing, which is based on real activities of the project with the investors having rights on the investment assets and activities [12]. For example, in 2007, when DP World issued Mudarabah sukuk worth USD 1.5 billion, the purchase undertaking of the Mudarabah venture needed equity holders to promise to buy their interest in the venture upon maturity or default. In the sale undertaking, the equity holders promised to sell their interest in the Mudarabah venture to the investors if a tax redemption occurs. Thus, regardless of the performance of the venture, the investors may have a legal avenue to obtain their capital and return with the purchase and sale undertaking both priced at outstanding principal plus any accrued unpaid return.

For Musyarakah, the concept of equity financing is similar to Mudarabah contracts except that Musyarakah may have capital contributions from both equity holders and the investors [12]. Any profits deriving from the venture will be distributed based on a pre-agreed profit sharing ratio, but a loss is shared by equity participation. In sum, both Mudarabah and Musyarakah contracts do not represent debt receivables, but rights in particular investment projects and assets. As a contrast with debt financing, equity financing offers protection to the investors during defaults by enforcing risk to be shared among equity holders and investors. Risk sharing in equity financing makes risk-shifting behaviour impossible because all of the market players will bear the same risks in the event of default. This argument on risk sharing to curb risk shifting is possible especially by taking convertible bonds as an example. In convertible bonds, the initial transaction of this type of bond is similar to straight bonds. Thus, equity holders may engage in risk shifting when they issue convertible bonds. However, the incentive to shift risk can be diminished when the equity element in the conversion feature is exercised. For example, when the equity holders decide to take riskier decisions, the risks of debt will increase as well as the equity value. The increment in equity value makes the conversion feature attractive to investors, which may cause the equity holders to think twice before they decide to engage in risk shifting activities. Different from straight bonds, if the equity holders want to shift the risks, there is no conversion feature to protect the investors. Thus, the investors will bear the risks while the equity holders enjoy the profits. This explanation on the equity feature further justifies that risk shifting could be curbed via the risk-sharing feature of equity financing.

IV. Preference of Debt Financing over Equity Financing

The urgency to remove the preference on equity over debt financing is very important. Especially in a capital budgeting process, knowledge of risk shifting related to debt and the global financial crisis is greatly needed. In 2010, the post-crisis initiated an urge by a group of prominent scholars and economists that debt needs to be controlled and focus needs to be given to equity financing [17]. Even so, almost a decade following the crisis shows that the danger of debt does not concern everybody. A statistical study by Dobbs et al. [7] notes that rather than declining, global debt has continued to grow following the crisis. The global debt rose by USD 57 trillion from the crisis year to the year 2014, reaching USD 199 trillion or 286 percent of the global GDP. The growth in debt can be seen in both developed and developing countries, with 14 countries having increased total debt to GDP ratios by more than 50 percentage points.

Previous researchers have analysed the reasons for the debt financing preference over equity financing among the market players. Some of the reasons are equity holders do not have to dilute the corporation's ownership with the new equity holders and debt increases the corporation's value and return on equity via tax privileges imposed by the government [24]. Specifically, corporate income tax creates benefits for debt, as interest payments shield earnings from taxes, while dividends and share repurchase do not [18]. Other than that, the unequal preference of debt over equity financing also can be found due to regulations that are imposed by the government. In Iran and Pakistan, the regulators put restrictions on equity-based financing on their banks' portfolios because of the myth that equity-based financing may result in a higher probability of default by the banks. Mirakhor [22] has rejected this perception by providing statistical analysis on the ability of

equity financing to reduce the probability of default and hence promote better profits. Other than that, the imitation issue of sukuk also may become the reason why debt is still the all-time choice among the market players, as explained in the next paragraphs.

V. Imitation Sukuk and Risk Shifting Behaviour

Sukuk is an investment instrument belonging to the Islamic financial system. This instrument offers transactions that follow Shariah principles and encourage fair play among the issuers and the investors. While sukuk can be based on 14 different contracts, as described by AAOIFI, this paper concentrates on four types of contracts that are popularly used in the market, namely sukuk Murabahah, sukuk Ijarah, sukuk Musyarakah and sukuk Mudarabah [6]. Sukuk Murabahah and sukuk Ijarah are categorised as debt-based sukuk due to their similar features with bonds as criticised by Shariah scholars, especially from the Middle East. On the other hand, sukuk Musyarakah and sukuk Mudarabah are classified as equity-based sukuk through their equity feature, as mentioned previously. Regarding the preference of debt over equity, the impact of this imitation issue in sukuk is broad. One, it may cause the issuers that have an extensive understanding of bonds to feel that their movement to Sukuk is just worthless because the structure and implementation of debt-based Sukuk are just the same as bonds Thus, they may not want to increase their cost of transition to bonds in which they need to hire Shariah personnel, training on Shariah issues, costs related to the assets and so on. In addition, the issuers also may find difficulty getting new investors in Sukuk, especially when the issuers currently have regular investors in bonds. The issuers may consider the effort is just not worth it because the debt-based Sukuk is just the same as bonds [15].

This paper extends the analysis of imitation issue in sukuk related to risk shifting and the global financial crisis. The argument is, if debts or bonds induce risk-shifting behaviour and may harm the entire financial system, then the imitation sukuk or debt-based sukuk also may induce risk shifting and thus may cause a global financial crisis because this type of sukuk has similar features to debts or bonds. The analysis of this argument focuses on the investors' protection in the event of default of the debt-based sukuk, whether the investors have full recourse to the underlying assets as in equity financing or the investors only have a claim on the debt receivables, as in bonds. Take into account an example from Sunway City issuance of Sukuk Murabahah [12]. As this Sukuk is a type of sale-based Sukuk, every time the issuer wants to raise funds, it will sell an identified asset to an agent on behalf of the investor on a spot basis. An asset purchase agreement will be signed and the agent will pay the purchase price to the issuer with the proceeds raised on the issuance of Sukuk. Because now the investors own the asset, they will sell it back to the issuer, on a deferred basis. The deferred selling price will be higher than the spot purchase price. Finally, the issuer will issue Sukuk Murabahah to evidence its obligation to pay the deferred selling price. Once the sale has taken place, investors do not own the underlying asset used to facilitate the transaction anymore. What they own is only the entitlement or rights to the receivables from the issuer. Thus, in the event of default, the investors have no protection against losses because they do not have any recourse to the underlying assets.

The same structure seems also to apply to sukuk Ijarah, which is also known as lease-based Sukuk. Unlike sale-based, where ownership is transferred instantaneously, Ijarah contracts do not transfer ownership on their own. The structure instead is a sale and lease back arrangement. For example, the first Malaysian global Sukuk was issued in 2002 [12]. In the Sukuk issuance, the issuer first sold the beneficial asset to a Special Purpose Vehicle. Sale of the beneficial title means that the issuer still holds the legal title, but it is held for the benefit of the investors. Then the investors purchase the beneficial ownership of the asset. After that, it is leased back to the issuers for the agreed lease price. In addition to that, the issuer also gave an irrevocable purchase undertaking to the investor, which says that at maturity or event of default, it will buy back the asset at par value. In other words, the agreement says, upon default the investors can only sell the assets back to the issuers and no other parties.

In sum, the investors of sukuk Murabahah and sukuk Ijarah would have beneficial ownership of the assets during the life of the Sukuk. This ownership feature would meet Shariah requirements of asset ownership under Shariah principles. However, in the event of default, the investor has no power to retain or sell the assets to a third party but only to the issuers. Because the investor does not have recourse to the asset, the issuer may like to engage in risk shifting and the investor will be on the losing side. In other words, the issuer still has control of the asset, which means the risk of investment totally belongs to the investors. In addition to that, debt-based Sukuk inherits the debt-based feature of fixed income in which certainty of return and certainty of capital are the two most important features of the debt instrument. When Sukuk is structured using sale-based and lease-based options, these two certainties are easy to achieve.

As the chief instrument of the Islamic financial system, Sukuk is supposed to be free from risk-shifting activities. To achieve that, Sukuk needs to be an entirely different instrument from debt. However, the previous paragraph has explained the high structural similarity of Sukuk and bonds, even though Sukuk was said to follow obediently the Shariah rules of asset ownership, Riba prohibition, Gharar and Maysir avoidance. This issue is crucial to the attention of the regulators. As the whole world knows that debt and risk shifting may cause a global financial crisis, Sukuk if implemented with the same debt-based structure will also become a reason for a global financial crisis. In addition, while the economists and scholars favour sukuk and the Islamic financial system as compared with debt as an effort to enhance economic stability, the issue of imitation however needs to be addressed. Only then will the effort be fruitful.

VI. Conclusions

Through this argument, there are a few issues that need to be handled. First, all countries around the globe need to be

aware of their debt activities. Learn from the previous global financial crisis, which it is agreed was caused by debt and risk-shifting activities; thus, the awareness to cut the growth of debt needs to be increased. Even though regulators may suggest the Sukuk to replace debt, they also need to be aware of the issue of Sukuk imitation, which may make their effort to avoid debt fruitless. This paper contends that the preference for debt financing over equity financing is due to the lack of exposure given to the issuers and investors on the advantages of equity over debt and the danger of a debt-funding system. With the conflicting results on the actual existence of risk shifting, without empirical verification, the significance of this situation is still an open question [8]. In addition, the focus cannot only be given to bonds, as much as Sukuk is a Shariah instrument, but the test of Sukuk on the existence of risk shifting may also reconfirm that the controversial debt-based Sukuk (Murabahah and Ijarah) is not different from debt instruments. These findings are important to detangle the confusion of the Sukuk, which is intended to be about sharing rather than debt, and may help to raise efforts on Sukuk restructuring following pure Shariah principles. Therefore, the reputation of equity financing over debt financing may be improved. Therefore, through the argument, this paper is unique in the sense that it initiates an analysis of risk shifting not only in the type of bonds–straight bonds and convertible bonds–but also in the type of Sukuk–debt-based Sukuk (Murabahah and Ijarah) and equity-based Sukuk (Musyarakah and Mudarabah). In the wake of the financial crisis and solutions to protect against financial shocks, this analysis is necessary for future stability as well as to encourage market players to avoid debt-based activities.

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