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Capital Adequacy Requirements for *Sukuk*

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Abstract

Over the last few years there has been a dramatic growth in the use of Islamic finance techniques, particularly *sukuk*, in raising capital that complies with the requirements of Shariah law. Due to the growth of *sukuk* offerings, it has provides opportunities for Islamic financial institutions (IFIs) to diversify their investment functions by not

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focusing only on traditional intermediation function. Hence, the aim of this paper is to demystify *sukuk* by providing a discussion on the design of *sukuk* structure, with an emphasis particularly on lease, debt-based and equity-based, its pricing mechanism and the various risks underlying the *sukuk* structure. In particular, this paper attempts to explore the capital requirements for Islamic financial institutions (IFIs) as *sukuk* holders in an effort to cover the underlying risks (market and credit risks) arising from the holding of *sukuk* in their trading and banking book. Finally, we will address some of the risk management practices by IFIs in fulfilling the capital requirements for *sukuk* as required by CAS (Capital Adequacy Standard).

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Keywords: *sukuk*; risk management; capital adequacy requirement

1. INTRODUCTION

The growth of Islamic finance has gained impetus since the last decade, particularly in the areas of securitization. One of the products from securitization is *sukuk*.⁵ Although *sukuk* are structured in a similar way to conventional asset-backed securities, they fundamentally have significant different underlying structures and provisions. Most importantly, the advantage of *sukuk* is that they are compliant with *shariah* (Islamic law), which prohibits the receipt and payment of interest and stipulates that income must be derived from an underlying real business risk rather than as a guaranteed return from interest (Wilson, 2004). In fact, *sukuk* are subjected to by virtue of their structure are revealed; the risks inherent in lease, equity-based and debt based *sukuk* are different from one another. Therefore, all the issuers and investors must take into serious consideration towards the risks involved in structuring and investing their funds for *sukuk*.

A recent development in the context of the growth of *sukuk* offerings has provides opportunities for Islamic financial institutions (IFIs) to diversify their investment functions towards market making and trading activities. Trading portfolios in IFIs can be classified as trading, available for sale, or held to maturity, where they are normally divided into different liquidity tranches (portfolio with different liquidity and yield objectives). Various compositions on different types of *sukuk*, ranging from debt-based to equity-based with various credit ratings in the IFI's portfolios, thus affects the level of risk exposure of each IFIs and finally on the capital charges of those *sukuk*, either held as investment or held for trading purposes.

Therefore this paper seeks to demystify *sukuk* by providing a discussion on the design of *sukuk* structure, with an emphasis on lease (*ijarah sukuk*) debt-based (*istisna'* and *salam* types of *sukuk*) and equity-based (*mudharabah* and *musharakah* types of *sukuk*), its pricing mechanism and the various risks underlying the *sukuk* structure. In particular, this paper attempts to explore the capital requirements for Islamic financial institutions (IFIs) as a *sukuk* holder in order to cover the underlying risks arising from the holding of *sukuk* in their trading and banking book. Finally, this paper seeks to highlight some of the risk management practices by IFIs in fulfilling the capital requirements for *sukuk* as required by CAS (Capital Adequacy Standard).

⁵ *Sukuk* is the Arabic name and is derived from word '*sakk*' for the singular and '*sukuk*' for the plural one. The term is used to be referred to legal instrument, check and deed. In classical practice, *sukuk* was used as papers representing financial obligations originating from trade and other commercial activities. However, *sukuk* as applied in the capital markets pertains to the process of securitization and is generally defined as an Islamic bond (Wan Abdul Rahim Kamil, 2008).

2. THE DESIGN OF *SUKUK* STRUCTURE

Today, the Malaysia's *sukuk* market has expanded significantly with an average annual growth rate of 22% between 2001 and 2007. Malaysia's *sukuk* market has come a long way from its first issuance, i.e. Shell MDS Sdn. Bhd.'s *bay' bithaman ajil sukuk* was issued in 1990. Various *shariah*-compliant contracts have since been applied; adding depth, breadth and variety to the domestic *sukuk* market. Although the basic contracts of sale such as *bay bithaman ajil* and *murabahah* had supported the origination of numerous *sukuk* issues in the early phase of the market development, the situation has changed notably. For instance, two types of *sukuk*, i.e. *sukuk murabahah* (38.9%) and *sukuk bay' bithaman ajil* (38.1%) have dominated the Malaysia's *sukuk* market in 2004-2005. The combination of the two types of *sukuk* constituted RM47.2 billion (77%) of all Securities Commission's (SC) *shariah*-approved *sukuk*. The remaining RM14 billion (23%) of approved *sukuk* have been structured based on other principles of which *istisna* (11%), *musharakah* (8.6%), *bay'' al-inah* (1.7%), *ijarah* (1.6%) and *mudharabah* (0.1%).

There has been also a significant shift from debt-based *sukuk* premised on cost-plus sale agreement to lease and partnership-based *sukuk*. The increasing shift towards these two types of *sukuk* may have been partly influenced by the strong demand for distribution of such *sukuk* outside Malaysia, particularly from the Gulf countries. As a result, from 2006 *sukuk musharakah* has dominated the Malaysia's *sukuk* market. This type of *sukuk* constituted RM64.9 billion (64.1%) of all approved *sukuk* in 2006-2007. The remaining RM36.4 billion (35.9%) of approved *sukuk* have been structured based on *ijarah* (8.6%), *istisna'* (6.4%) and *mudharabah* (1.8%). Only 15.3% and 3.8% *sukuk* have been issued under *murabahah* and *bay' bithaman ajil* principles respectively.

In this paper, we will discuss on two categories of *sukuk*- lease and partnership based *sukuk* and debt-based *sukuk* which are directly related to further discussion. Below we discuss this *sukuk* based on their contract.

2.1 By Contracts

2.1.1 *Mudharabah sukuk*

The AAOIFI (2004) has defined *mudharabah sukuk* as certificate represents ownership of units of equal value in *mudharabah* equity and registered in the names of holders on the basis of undivided ownership of shares in *mudharabah* equity and its returns according to the percentage of ownership of share. The owners of such *sukuk* are the *rabbul maal*.

This *sukuk* give its owner the right to receive his capital at the time the *sukuk* are redeemed, and an annual portion of the realized profits as mentioned in the issuance publication. The *sukuk* can play a vital role in the process of development financing, because it is related to the profitability of the projects. Financing through *mudharabah* is more efficient in term of the allocation of resources compared with financing based on interest rate, which does not reflect the profitability of the projects.

According to Al-Bashir (2001), *mudharabah sukuk* is a tool for investment to raise funds, which is based on dividing *mudharabah* capital by equal value units, which are registered under *sukuk* holder's name (recorded bonds), which reflect the common asset in *mudharabah* capital. In other words, *mudharabah sukuk* mean the document of definite value issued in the name of their owner against funds they pay to the owner of the project. *Sukuk* owners acquire a definite proportion of the project profit, which is set out in the *sukuk* issuance publication (prospectus). *Mudharabah sukuk* neither yield interest nor entitle owner to make claims for any definite annual interest. This means that *mudharabah sukuk* are like shares with regard to vary returns, which are accrued according to the profits made by the project. Diagram 1 contains structure of *mudharabah sukuk* and its detail explanations.

Besides that, *mudharabah sukuk* must represent a common ownership and entitle their holder to shares in a specific project for which the *sukuk* have been issued to fund. A *sukuk* holder is entitled to all rights, which have been determined by *shariah* upon his ownership of the *mudharabah sukuk* in matters of sale, gift, mortgage, succession and other. The contract in *mudharabah sukuk* is based on the official notice of *sukuk* sale. Subscription in these *sukuk* is considered as an offer from the investor and approval of the issuer is then regarded as acceptance of the contract. Official notice of sale must contain all the conditions which are required by *shariah* in *mudharabah* contract and the distribution of profit should be in conformity with *shariah* rules.

On the other hand, *sukuk* holder is given the right to transfer the ownership by sale or trade in the securities market at his discretion on the expiry of the specified time period of the subscription. Then, the disposal or sale of the *sukuk* must follow the rules that stated below (Saiful Azhar, 1999):

- If the *mudharabah* capital after the subscription period is over and before the operation of the specific project still in the form money, therefore, the trading of *sukuk* would be based on the exchange of money for money and it must satisfy the rules of *sarf*.
- If such capital is still in form of debt, it must be based on the principle of Islamic debt trading or exchange debt for debt.
- If such capital is in the form of money, debt, assets and benefits, trade must be based on the market price evolved by mutual consent.

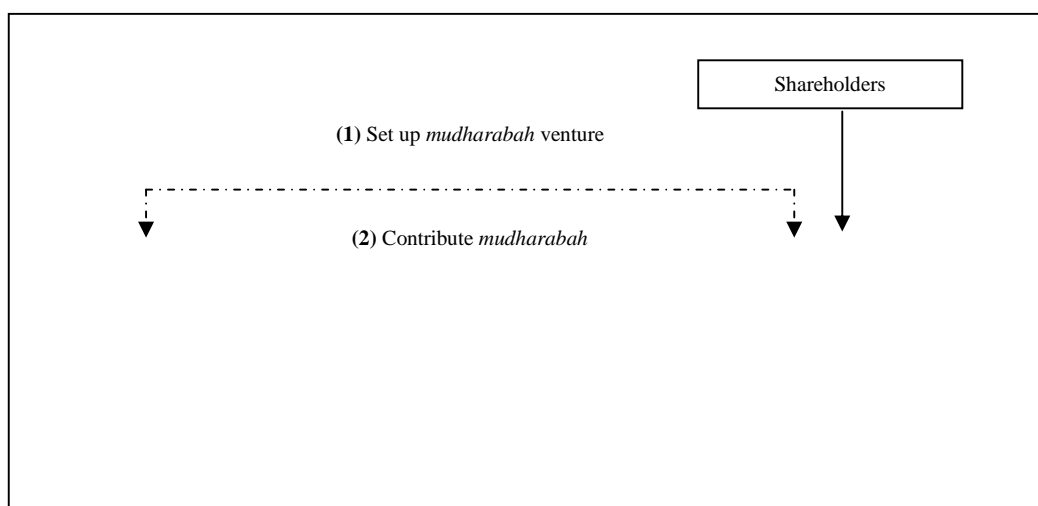
With regard to distribution of profit, the following rules must be observed (Saiful Azhar, 1999):

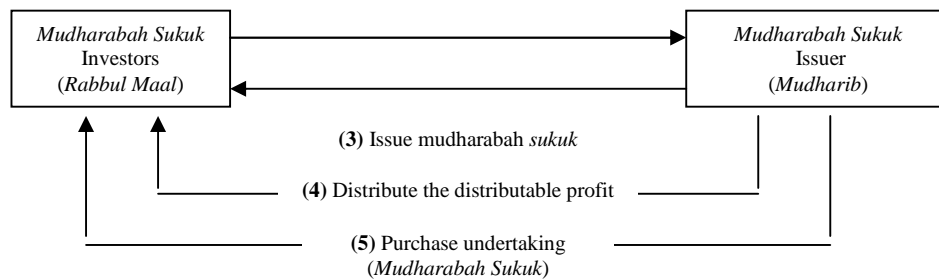
- The *mudharib*, the person who has received the fund also been charged with the duty to run the affairs of the specific project or business, profit realized from investment in *mudharabah sukuk* will be distributed between the *mudharib* and investor according to the agreement.
- *Mudharib's* share with the investor, the ownership of the assets in accordance with his participation to the total value of the company/ project assets.
- It is not permissible to guarantee him a fixed lump sum amount of profits.
- The issuer has the right to purchase *sukuk* offered for the sale by others according to the prices declared from time to time by the issuer.
- The *mudharib* is considered as the depositary of the common fund and the project assets entrusted to him. If he is negligent or has committed dishonesty leading to losses, he shall be liable for the losses.

In matter of concerning the guarantee of *mudharabah sukuk*, the following points must be observed (Saiful Azhar, 1999):

- It is permissible for the third party (the government) to promise to compensate any losses sustained in the specific project. However, this guarantee should be concluded in a separate contract and not included in the main contract of *mudharabah sukuk* between issuer and the investor.
- It is not permissible for the issuer to guarantee the capital of the *mudharabah* (the investor would not bear any loss in the value of the *sukuk*) or to guarantee the investor a fixed amount paid as profit.
- It is permissible for the *mudharib* and the investor to agree to put aside a specific or certain portion of the profit as reserves to provide for protection or to meet any losses arising during the implementation of the project.

Diagram 1: Issuance of *Mudharabah Sukuk*





1. Setting up a *mudharabah* venture - issuer shall invite the investors to participate in the *mudharabah* venture. Under this venture, the issuer shall be the entrepreneur (*mudharib*) whereas the investors shall be the capital providers (*rabbul maal*).
2. Contribution of *mudharabah* capital - the issuer, in the capacity of *mudharib*, shall also invite other investors to part finance the project.
3. Issuance of *mudharabah sukuk* - evidencing the *rabbul maal's* participation in *mudharabah* venture. Hence entitling the *mudharabah sukuk* holders to receive the distributable profit.
4. Distribute the distributable profit to the *mudharabah sukuk* holders based on agreed profit sharing ratio.
5. Purchase undertaking (*mudharabah sukuk*) or dissolution of the *mudharabah* venture.

2.1.2 *Musharakah sukuk*

The AAOIFI (2004) defined *musharakah sukuk* as certificates of equal value issued with the aim of using the mobilized funds for establishing a new project, developing an existing project or financing a business activity on the basis of any partnership contracts. In this case, the certificate holders become owners of the projects or assets of the activity as per their respective shares, with the *musharakah* certificates being managed on the basis of participation or *mudharabah* or an investment agency. *Musharakah sukuk* are used for mobilizing the funds for establishing a new project or developing an existing one or financing a business activity on the basis of partnership contracts. The certificate holders become the owners of the project or the assets of the activity as per their respective shares. These *musharakah* certificates can be treated as negotiable instruments and can be bought and sold in the secondary market.

Musharakah sukuk can be issued as redeemable certificates by or to the corporate sector or to individuals for their rehabilitation/employment, for the purchase of automobiles for the commercial use or for the establishment of high-standard clinics, hospitals, factories, trading centre, endowments, etc. After the project is started, these *musharakah* certificates can be bought and sold in the secondary market, subject to the condition that the portfolio of *musharakah* comprises non-liquid assets valuing more than 50% (Ayub, 2007). Profit earned by the *musharakah* is shared according to an agreed ratio. Loss is shared on pro rata basis.

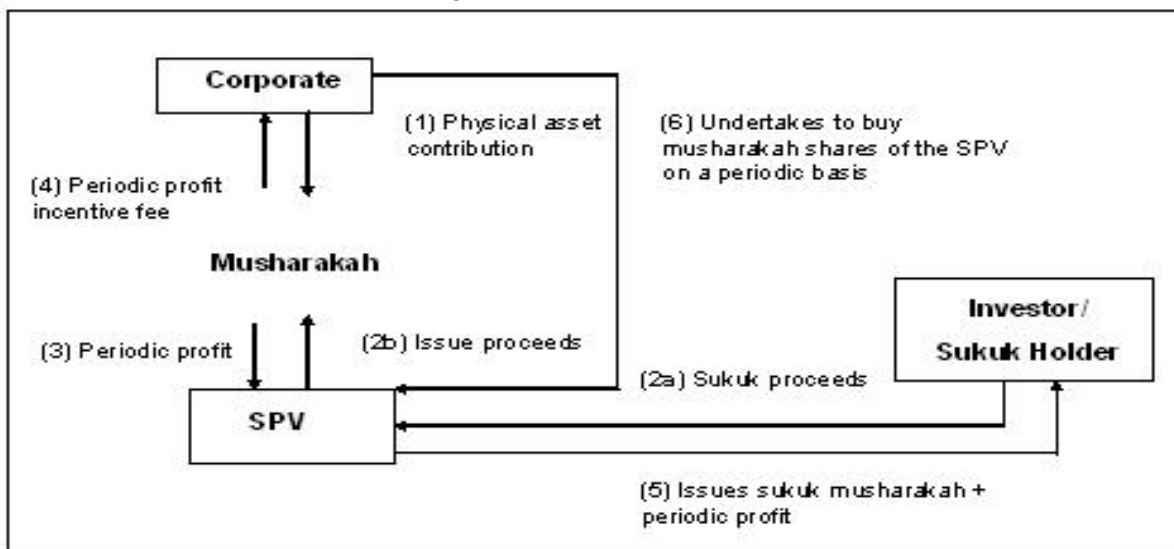
Investment *sukuk* can be issued on *musharakah* basis to mobilize short-term deposits for the development of long term projects or for investment in general financial activities or specific projects. The proceeds of the *sukuk* can be used to buy and lease certain equipment or for the construction of projects and factories, the expansion of projects or for working capital finance. The *musharakah* structure is considered more equitable and also safer for the investor than the *mudharabah* structure, as it involves both profit and loss sharing between the fund manager (issuer) and the *sukuk* holder, not only profit-sharing. Furthermore, *sukuk* holder also will have added comfort and security from the cushion provided by the manager's participation in the *musharakah* capital. Diagram 2 contains structure of *musharakah sukuk* and its detail discussion.

The issuance of *musharakah sukuk* can be simplified by Diagram 2 as shown below, and can be explained as follows:

Corporate and the Special Purpose Vehicle (SPV) enter into a musharakah arrangement for a fixed period and agreed profit sharing ratio and appointment of the Corporate as an agent to develop the land. Any losses will be apportioned based on the capital contributed. The corporate undertakes to buy musharakah shares of the SPV on a periodic basis.

1. Corporate (as Musharik A) contributes land or the other physical assets to musharakah.
2. a & b. SPV (as Musharik B) contributes cash i.e the issue proceeds received from the investors to the musharakah.
3. The Corporate as an agent of the musharakah to develop the land (or other physical assets) with the cash injected into the musharakah and sell/ lease the developed assets on behalf of the Musharik B.
4. In return, the agent (i.e the Corporate) will get a fixed agency fee plus a variable incentive fee payable.
5. The profit are distributed to the *sukuk* holders
6. The Corporate irrevocably undertakes to buy at a pre-agreed price the musharakah shares of the SPV on say semi-annual basis and at the end of the fixed period the SPV would no longer have any shares in the musharakah

Diagram 2 : Issuance of *Sukuk* Musharakah



2.1.3 Ijarah Sukuk

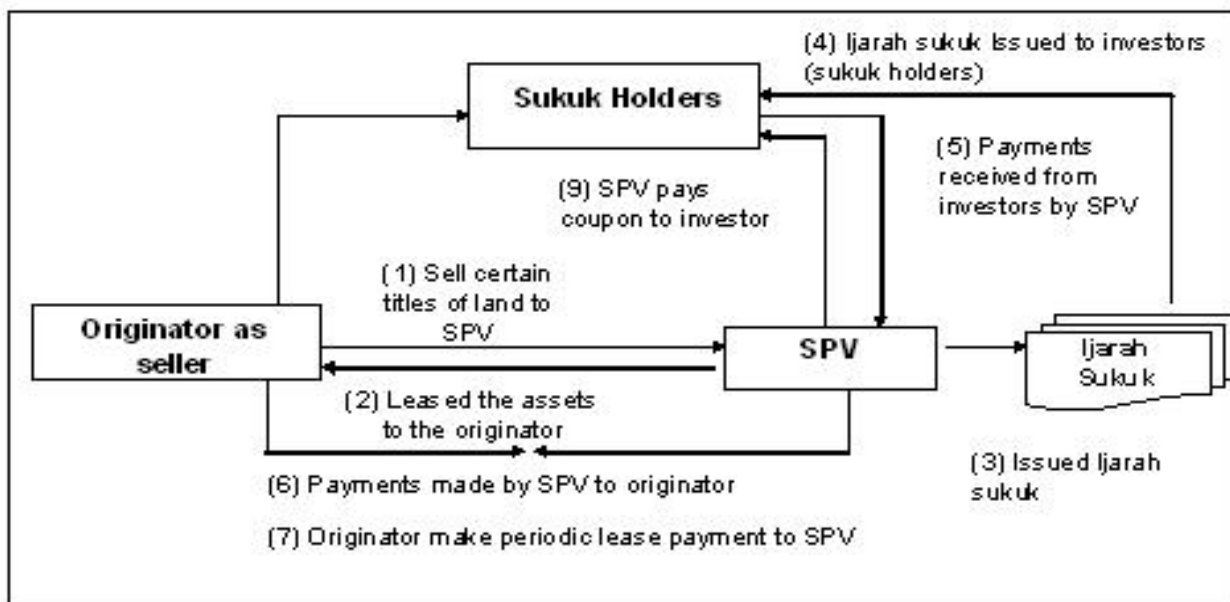
These are *sukuk* that represent ownership of equal shares in a rented real estate or the usufruct of the real estate. These *sukuk* give their owners the right to own the real estate, receive the rent and dispose of their *sukuk* in a manner that does not affect the right of the lessee, i.e. they are tradable. The holders of such *sukuk* bear all cost of maintenance of and damage to the real estate. (AAOIFI, 2004)

This *sukuk* will represent the holder's proportionate ownership in the leased asset along with the rights and obligations of the owner/lessor to that extent. Each one of the holders of this certificate will have the right to enjoy

a part of the rent according to his proportion of ownership in the asset. Similarly, the certificate holder will also assume the obligations of the lessor to the extent of his ownership. Therefore, in the case of total destruction of the asset, he will suffer the loss to the extent of his ownership. These certificates, being an evidence of proportionate ownership in a tangible asset, can be negotiated and traded freely in the market and can serve as an instrument easily convertible into cash. Thus they may help in solving the problems of liquidity management faced by the Islamic banks and financial institutions.

It should be noted, however, that the *sukuk* must represent real ownership of an undivided part of the asset with all its rights and obligations. *Ijarah sukuk* representing the holder's right to claim certain amount of the rental only without assigning any kind of ownership in the asset is not allowed in shariah. The reason is that the rent after being due is a debt payable by the lessee and any security representing such debt is not a negotiable instrument in shariah and is subject to the rules applicable to the disposal of debts. It is, therefore, necessary that the *ijarah sukuk* are designed to represent real ownership of the leased assets, and not only a right to receive rent.

Diagram 3: Issuance of *Ijarah Sukuk*



The issuance of *ijarah sukuk* can be simplified by Diagram 3 as shown above, and can be explained as follows:

1. SPV purchase property (e.g hospitals) from the originator (government).
2. Then SPV leased the assets to the originator for specified period.
3. The assets purchased by the SPV is funded by the issuance of *ijarah sukuk* which represents beneficial ownership in the assets and the lease.
4. *Ijarah sukuk* issued to the investors (*sukuk* holders).
5. SPV received the payment from the investors.
6. Originator (government) received cash proceeds from the SPV.
7. Then originator makes periodic lease payment to SPV.
8. SPV passed the rentals to investors- periodic distribution/coupon (during the tenure).
9. At the maturity date – SPV sells the property to the government (originator) at an agreed price. Then the government pays cash to SPV. SPV simultaneously pay the investors cash for *sukuk* redemption.

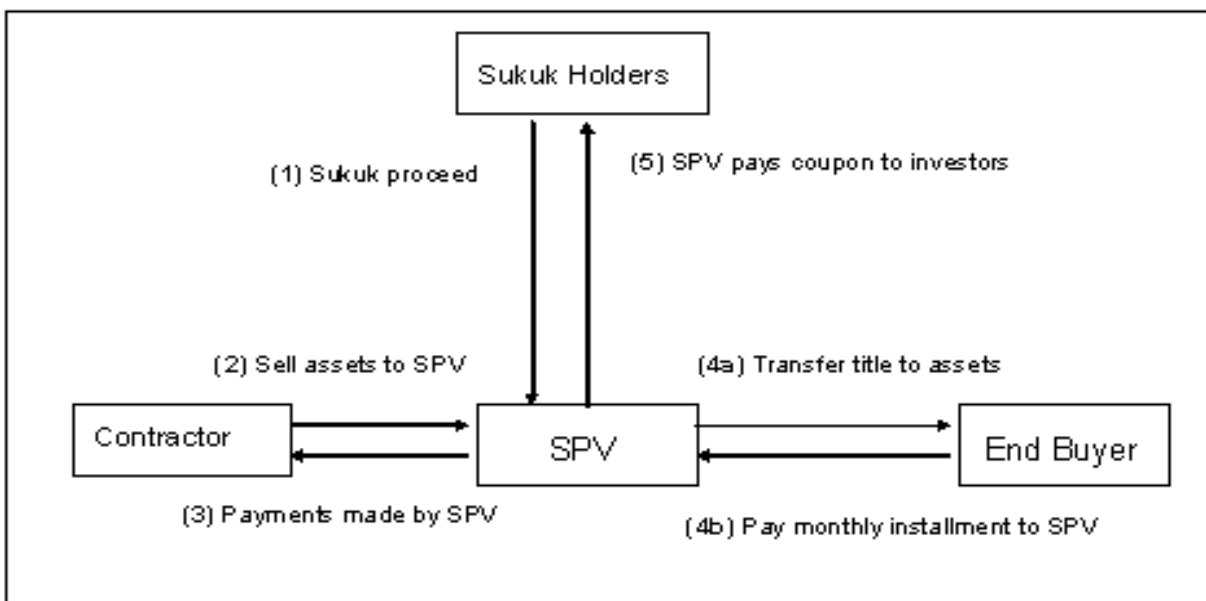
2.1.4 *Istisna' sukuk*

Istisna' is the second kind of sale where a commodity is transacted before it comes into existence. It means to order a manufacturer to manufacture a specific commodity for the purchaser. The manufacturer uses his own material to manufacture the required goods. It is necessary for the *istisna'* to be valid that the price is fixed and that necessary specification of the subject matter is fully settled between the parties. It is not necessary in *istisna'* that the price is paid in advance rather it may be deferred to any time according to the agreement of the parties.

Istisna' sukuk are issued with the aim of mobilising funds to be employed for the production of goods so that the goods produced comes to be owned by the certificate holders. The issuer of *istisna'sukuk* is the manufacturer (supplier/seller), the subscribers are the buyers of the intended product, while the funds realized from subscription are the cost of the product. The *sukuk* holders own the product and are entitled to the sale price of the certificates or the sale price of the product sold on the basis of a parallel *istisna'*, if any.

It is permissible to trade in or redeem *istisna'* certificates if the funds have been converted, into assets owned by certificate holders. If the realised funds are immediately paid as a price in a parallel *istisna'* contract or the manufactured item is submitted to the ultimate purchaser, then trading in *istisna'* certificates is subject to rules of disposal of debts. The instrument of *istisna'* may be used for project financing or building a bridge or a highway. The modern BOT (Buy, Operate and Transfer) agreements may also be formalized on the basis of *istisna'*. *Istisna' sukuk* may be issued to raise finance for the construction of highways, motorways, airports etc.

Diagram 4 : Issuance of *Istisna' Sukuk*



The issuance of *istisna' sukuk* can be simplified by Diagram 4 as shown above, and can be explained as follows:

1. SPV issues *sukuk* certificates to raise funds for the project.
2. *Sukuk* issue proceeds are used to pay the contractor under the *istisna'* contract to build and deliver the future project
3. Title to assets is transferred to the SPV.

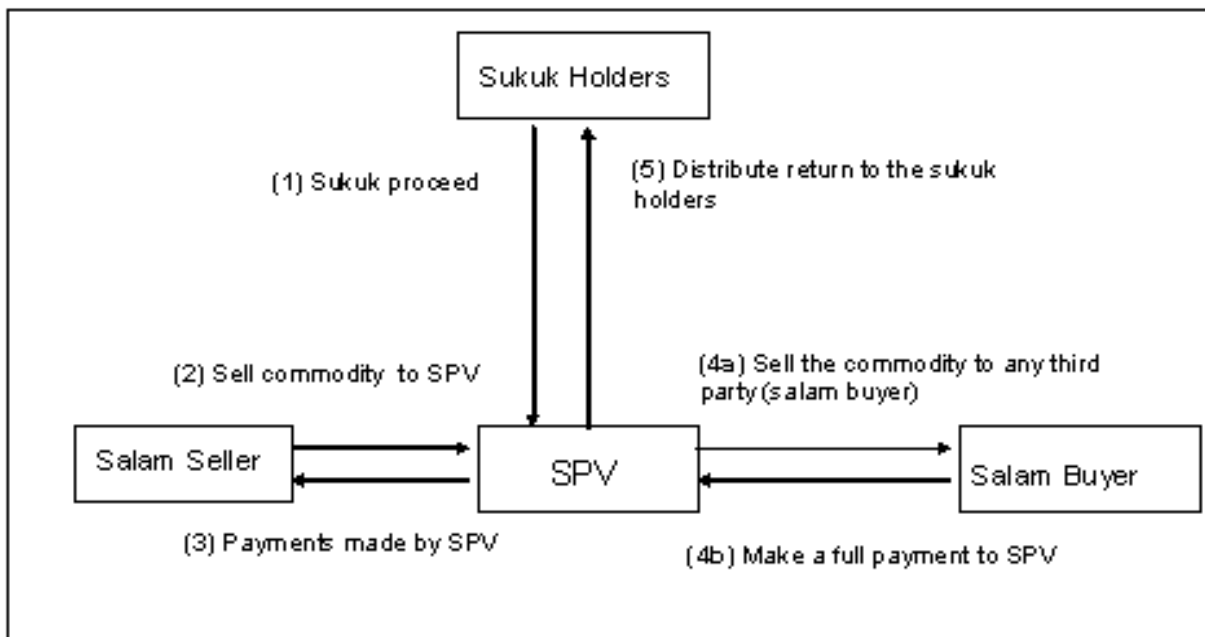
4. a & B. completed property/ project leased or sold to the end buyer. The end buyer pays montly instalments to the SPV.
5. SPV pays coupon (return) to *sukuk* holders (investors).

2.1.5 Salam sukuk

Salam is a sale whereby the seller undertakes to supply some specific goods to the buyer at a future date in exchange of an advanced price fully paid at spot. Here the price is cash, but the supply of the purchased goods is deferred. The permissibility of *Salam* was an exception to the general rule that prohibits the forward sales. *Salam* has become a liquidity management tool for Islamic banks by providing short term investment opportunities in *Sukuk Salam*.

It has provided an alternative to the conventional Treasury Bills in few Islamic countries. The issuer of the *Sukuk Salam* is a seller of the goods of *salam*, the subscribers are the buyers of the goods, while the funds realised from subscription are the purchase price (*salam* capital) of the goods. The holders of *Sukuk Salam* are the owners of the *salam* goods and are entitled to the sale price of the certificates or the sale price of the *salam* goods sold, if any. It is not permissible to trade in *Sukuk Salam* during the term of the *sukuk* since the underlying asset is a debt created through advance payment of the sale price. Such debt will only be converted into a tangible asset at the end of the maturity when the *Salam* subject matter is delivered.

Diagram 5 : Issuance of *Salam Sukuk*



The issuance of *salam sukuk* can be simplified by Diagram 5 as shown above, and can be explained as follows:

1. SPV issues *sukuk* certificates to raise funds for purchasing the commodity.
2. *Sukuk* issue proceeds are used to pay the *salam* seller under the *salam* contract.
3. Title to assets is transferred to the SPV.
4. a & b Then SPV sell the commodity to the *salam* buyer. The *salam* buyer pays in full in advance.
5. SPV distribute return to the *sukuk* holders (investors).

2.2 Pricing Mechanism of *Sukuk*

There are several different methodologies for pricing Islamic banking products have appeared over the years, including cost-plus pricing, price-leadership model, credit-scoring systems and risk-based pricing, and firm profitability analysis. As for the *sukuk* pricing, the issuer generally adopts the combination of price leadership model and risk-based pricing principally in setting the return or yield on their *sukuk*. Table 1 below provides some of the examples of *sukuk* products and their yields that have been structured following closely to the price leadership and risk-based models.

Table 1: Selected Issuance of *Sukuk* Globally

Issuer	Issuance Date	Country	Advisor	Size (Currency)	Yield	Type of <i>Sukuk</i>
Lagoon City <i>Sukuk</i> (Corporate)	01-Dec-06	Kuwait	LMC	USD 200	6m LIBOR+2.25% /5 Years	Musharakah
Bukhatir Investments <i>Sukuk</i> (Corporate)	01-May-06	United Arab Emirates	LMC, EIB / Bukhatir Investments Limited	USD 50	6m LIBOR + 1.75% / 5 Years	Mudharabah
Al Marfa'a Al Mali <i>Sukuk</i> (Corporate)	01-July-05	Kingdom of Bahrain	LMC	USD 134	3m LIBOR +2.50% / 5 Years	Istisna'
Durrat Al Bahrain <i>Sukuk</i> (Corporate)	01-Jan-05	Kingdom of Bahrain	LMC / KFH	USD 152.5	3m LIBOR +1.25% / 5 Years	Musharakah
The Commercial Real Estate <i>Sukuk</i> (Corporate)	01-May-05	Kuwait	LMC, KFH, Markaz / The Commercial Real Estate Company	USD 100	6m LIBOR + 1.25% / 5 Years	Al-Wakalah
First Islamic Investment Bank (Corporate)	01-Oct-04	Kingdom of Bahrain	LMC / FIIB	EURO 76	6m EURIBOR +1.25% / 2 Years	Al-Salam
Emaar (Corporate)	01-July-04	United Arab Emirates	LMC / EBI & Others	USD 65	6m LIBOR + 0.7% / 5 Years	Musharakah
Govt. of Bahrain BMA	01-May-03	Kingdom of Bahrain	LMC / BMA	USD 250	6m LIBOR +0.60% / 5	Mudharabah

Issuer	Issuance Date	Country	Advisor	Size (Currency)	Yield	Type of Sukuk
(Issue#7)					Years	
ADIB Sukuk Company	01-Dec-06	United Arab of Emirates	HSBC Amanah	USD 800	3m LIBOR + 0.4% / 5 Years	Mudharabah
WAPDA First sukuk Company Limited (Corporate)	01-Jan-06	Pakistan	Citi Group / Muslim Commercial Bank / Jahangir Siddiqui and Company	USD 134	6m KIBOR + 0.35% / 7 Years	Musharakah
The Investment Dar Sukuk (Corporate)	01-Oct-05	Kingdom of Bahrain	ABC (Islamic)	USD 100	6m LIBOR +2.00%/ 5 Years	Ijarah
First Sukuk Company BSC	01-Sept-06	Kuwait	Boubyan Bank / Standard BANK / WestLB	USD 100	6m LIBOR +2%/ 5 Years	Al-Salam
Arcapita Multicurrency Sukuk (Corporate)	01-Oct-05	Kingdom of Bahrain	HVB Group Standard Bank Plc WestLB AG	USD 210	3m LIBOR / EURIBOR + 1.75% / 5 Years	Musyarakah
Amlak Finance (Corporate)	01-July-05	United Arab Emirates	HSBC / Emirates Islamic Bank	USD 200	6m LIBOR +1.2%/ 5 Years	Musyarakah
Islamic Development Bank (Corporate)	01-June-05	International	HSBC, Deutsche, DIB, CIMB Bhd	USD 500	6m LIBOR + 0.12% / 5 Years	Mudharabah
Wings FZCO (Corporate)	01-Jun-05	United Arab Emirates	Dubai Islamic Bank, Julius Baer (Middle East), Standard Chartered (Middle East and South Asia, UBS, Gulf International Bank, National Bank of Abu Dhabi, HSBC Amanah	USD 550	6m LIBOR +0.75%/ 7 Years	Mudharabah
Gold Sukuk dmcc (Corporate)	01-May-05	United Arab Emirates	Dubai Islamic Bank / Standard Bank	USD 200	6m LIBOR + 0.6% / 5 Years	Al-Salam
Pakistan International Sukuk Co.Ltd (Govt)	01-Jan-05	Pakistan	CitiGroup, HSBC, National Bank of Pakistan, DIB, Arab Bank, ABC Islamic	USD 600	6m LIBOR +2.2%/ 5 Years	Al-Salam

Issuer	Issuance Date	Country	Advisor	Size (Currency)	Yield	Type of Sukuk
Sarawak Corporate Sukuk (Govt)	01-Dec-04	Malaysia	UBS Investment Bank / Noriba Bank	USD 350	6m LIBOR + 1.1% / 5 Years	Istisna'
Dubai Global Sukuk FZCO (Govt)	01-Nov-04	United Arab Emirates	DIB, Std. Chartered, HSBC, GIB, KFH, Arab Bank	USD 1000	6m LIBOR + 0.45% / 5 Years	Musyarakah

Sources: <http://www.lmc Bahrain.com/>

2.2.1 Price-leadership Model

In a strand of studies done by Scherer and Ross (1990), Nicholls (1951) and Markham (1951) which relates to price leadership, they demonstrated that the identity of the leader tends to vary. One of the distinguishing characteristics of price leadership in industries that do not have a dominant firm is occasional changes in the identity of the leader firm (Scherer and Ross, 1990). Hence, Van Damme and Hurkens (1998) show that an equilibrium refinement will pick the low-cost firm as the price leader no matter how similar the firms might be, as long as they are not identical. In Deneckere and Kovenock (1992), and Kovenock and Lee (1992), they report that differences in capacity constraints and brand loyalty can generate an endogenous price leader as a result of a pure-strategy equilibrium. The findings, find that the predicted occasional changes in the identity of the leader. The reasons for the difference in these predictions are two-fold; first, explicitly incorporate a cost of delay in price announcements and second, allow the firms to act whenever they wish.

Thus, this "price leadership" rate is vital because it establishes a benchmark for many types of financing products including *sukuk*. This approach lends itself to a high volume model creating scale efficiencies and keeping the cost base low. To maintain an adequate business return in the price-leadership model, a *sukuk* issuer must keep the funding and operating costs as well as the risk premium as competitive as possible.

In this perspective, the *sukuk* issuer may devise *sukuk* pricing in setting returns to the holders in many ways. For example, *sukuk* issuer may introduce a variable returns to the holders of the certificates. This rate of return is calculated on the basis of the London inter-bank offer rate (LIBOR) on dollar funds plus 0.6 percent per annum, which makes the *sukuk* certificates competitive with, and similar to, conventional floating-rate notes. It should be noted that LIBOR only serve as a base index or benchmark in setting the returns of *sukuk*, which parallel to the concept of price leadership model.

2.2.2 Risk-based Pricing

Longstaff and Rajan (2006) in their study have tackled the issue of how markets price credit risk portfolio in-term of risk-based pricing. They adopt a flexible empirical model and conclude that two credit risk factors are needed in order to explain fully observed tranche spreads, which allows traders to buy and sell protection against portfolio credit risk. The first set is a time series of single tranche spreads, which are effectively the prices of protecting the entire notional amount of the index against losses caused by defaults of the entities in this index. The second set on the other hand, consists of time series of multi-tranche spreads. Each time series comprise of the effective prices of protection against a particular range of credit losses on the notional amount of the index.

In the case of risk-based pricing mechanism, different structures of *sukuk* are basically one of the key important factors in determining the return to the *sukuk* holders. The higher the risk inherent in the *sukuk* structure (i.e. equity-based *sukuk*), the higher the expected return required from the issuance of *sukuk*, and vice versa.

2.3 Risk involved in the *sukuk* structures

Risk adverse effect the competitiveness of an asset's pricing. The novelty of *sukuk* inherently entails a higher exposure to certain market and financial risks. Therefore, all the issuer and investor must take into serious consideration towards the risk involved in structuring and investing their fund for *sukuk*. In fact, *sukuk* are subjected to by virtue of their structure (whether lease, equity or debt based) are revealed; the risks inherent in *mudharabah sukuk*, *ijarah sukuk* and *istisna' sukuk* are different from one another, in the same manner in which there are discrepancies between simple bond structures and the complex ones that are based on multiple contracts.

The risks embedded in *sukuk* may be outlined as follows:

2.3.1 Market risks

Market risk is defined as the risk on instruments traded in well-defined market. There are two categories of market risks: general (systematic) and firm specific (idiosyncratic). Systematic risks can arise due to governmental and economic policy shifts whereas idiosyncratic risk arises because different firm specific instruments are priced out of the correlation with other firms' instruments. Market risk is constituted of interest rate risk (mark-up risk), foreign exchange risk, price risk and securities price risk.

- A. Interest rate risk (mark-up risk):** *Sukuk* certificates are indirectly exposed to interest rate fluctuations through the widespread benchmarking with LIBOR in their financing operations. Consequently, the nature of these assets is that they are exposed to fluctuations in the LIBOR rate even the market rates. Every contract benchmarked with LIBOR inherits the possibility that in the future the LIBOR rates will rise and that the issuer on the asset side will not have made as much profit as future market conditions might dictate. The *sukuk* issuer will have to respond to fluctuations in LIBOR because any increase in earning will have to be mutual with the investors.
- B. Foreign Exchange Rate Risk:** Currency risk arises from unfavourable exchange rate fluctuations which will undeniably have an effect on foreign exchange positions. In the event of divergence between the unit of currency in which the assets in the *sukuk* pool are denominated, and the currency of the denomination in which the *sukuk* funds are accumulated, the *sukuk* holders are rendered to an exchange risk. In the case of Islamic Development bank (IDB), IDB serves as a guarantor and then protects the investors from any exchange rate fluctuation. However, this does not eliminate the exchange risk faced by the originators (Tariq, 2004)
- C. Price Risk:** Price risk relates to the price of the underlying commodities and assets in relation to the market prices. *Ijarah sukuk* are most exposed to this as the value of the underlying assets may depreciate faster as compared to market price. *Salam sukuk* also seriously exposed to commodity price volatility during the the period between the delivery of the commodity and the sale of the commodity at prevailing market price. In order to hedge its position, the bank may enter into a parallel (off-setting) *salam* contract.
- D. Securities Price Risk:** The price of *sukuk* (such marketable securities) is exposed to current yields. Similar to a fixed income security, the prices go down as yields go up and vice versa. Islamic banks holding such securities (*sukuk*) will be exposed to volatility in yields, unless they hold the security till maturity (for the investment purpose not for trading).

2.3.2 Credit risks

Credit risk refers to the probability that an asset or loan becomes irrecoverable due to a default or delay in settlements. If the relationship involves a contractual arrangement than the counterparty risk is the probability that the counterparty retracts on the conditions of the contract. The consequence can be severe with a decline in the value of a bank's assets.

Khan and Ahmed (2001) identify various unique credit risks that are particular to Islamic finance. *Sukuk* prospectuses operate, for the large part, in emerging markets where counterparty posses less sophisticated risk management mechanisms. The rescheduling of debt at higher mark up rate is not permissible due to the

prohibition of riba. Consequently, counterparties would be more inclined to default on their commitments to other parties. In fact, agency costs are higher with regard to equity (profit sharing) arrangements.

- A. Default risks:** Each prospectus has provision for the termination of the certificate in the event of a default by the originator (*sukuk* issuer). In the case the originator fails to pay the rentals on the *ijarah sukuk* that form the coupon payments, the *sukuk* holder can exercise the right to nullify the contract and force the originator to buy back the assets. Furthermore, in the event of a failure by the originator to reimburse the principal amount the *sukuk* holder can exercise the right to take legal action and force the originator to enter the debt rescheduling proceedings.

In *salam* and *istisna'* contracts are exposed to risk of failure to supply on time or to supply at all, or failure to supply the quality of goods as contractually specified. Such failure could result in a delay or default in payment or in delivery of the product and can expose Islamic banks (*sukuk* holders) to financial losses of income as well as capital.

In the case of *mudharabah sukuk* (Islamic bank as a *sukuk* holder), is exposed to an enhanced credit risk on the amounts advanced to the *mudharib* (issuer). The nature of the *mudharabah* contract is such that it does not give the bank appropriate rights to monitor the *mudharib* or to participate in the management of the project, which makes assessment and management of the credit risk difficult. The risk is especially present in markets where information asymmetry is high and there is low transparency in financial disclosure by the *mudharib*.

3. CAPITAL ADEQUACY FOR IFIs AS SUKUK HOLDERS

Recent developments in the context of the growth of *sukuk* offerings has provides opportunities for IFIs to diversify their business operations towards market-making and proprietary trading activities rather than focusing only on traditional intermediation function (receiving deposits and giving out financing). Normally, IFIs engaged in proprietary trading when they believe that they have a competitive advantage that will enable them to earn excess returns. The proprietary trading portfolio however, must be distinguished from the investment portfolio as this particular portfolio is generally held and traded by IFIs to act as a cushion as its liquidity is reasonably stable.

As the price volatility of most asset instruments including *sukuk* held in the investment and trading portfolios is often significant, thus both types of portfolios are subject to market risk.⁶ Volatility will prevail much higher in the illiquid market and thus further deepen market risk. Besides market risk, *sukuk* held as investment are also exposed to credit risk.⁷ Hence, this section will discuss the minimum capital adequacy requirements that need to be complied by the IFIs in order to cover the market and credit risks arising from the holding of *sukuk* in the banking and trading book respectively. The derived of the first IFSB (Islamic Financial Services Board) capital adequacy standards (CAS) document on the *sukuk* portfolio is based on asset-backed structure where the underlying assets is to be considered as collateral. Therefore, the risk weights that apply for the IFIs as a *sukuk* holders will be based on those of the underlying assets to the *sukuk* purchased which are categorized under debt-based *sukuk* or equity-based *sukuk*.

The latest issue of CAS for *sukuk* (issued on January 2009) on the other hand, applies for those IFIs's *sukuk* holders that do not represent the proportionate ownership to assume all rights and obligations in a

⁶ Market risk is defined as the risk of losses in on and off-balance sheet position due to unfavorable movements in market prices.

⁷ Credit risk, also known as counterparty risk, is the probability that a debtor or issuer of a financial instrument will default in paying principal and other investment related cash flows according to the terms agreed in the contract.

designated asset or pool of assets. This single supplementary CAS document basically deals with an asset-based *sukuk* structure, where in the case of default by the originator of *sukuk*, the ownership rights over the underlying asset may not reliably result in an effective right of the *sukuk* holder's possession. In other words, the underlying assets to the *sukuk* cannot be considered as collateral. Therefore, the *sukuk* holders may need to have a right of recourse (i.e. repurchase undertaking) to the originator in the case of default.

The capital requirements discussed in this paper will apply from both preceding and latest CAS document in order to cover market and credit risk exposure faced by the IFIs as a *sukuk* holders, according to different type of underlying contracts involved.

3.1 *Sukuk held in investment portfolio (banking book)*

The capital adequacy requirements for *sukuk* held in investment portfolio generally based on the underlying type of contract and the counterparty rating:

- *Salam sukuk*

The credit risk in *salam sukuk* exists from the very beginning of the subscription of the *sukuk* until the delivery and sale of the particular asset involved in the contract. It is basically similar to the underlying *salam* contract. Thus, the risk weight for *salam sukuk* is based on the counterparty or guarantor rating. The unrated counterparty on the other hand, attracts a 100% risk weight in order to cater for credit risk in the banking book. For market risk, the IFIs can use either the maturity ladder approach or the simplified approach for the purpose of calculating the capital charge for *salam sukuk* that relates to commodities risk which falls under this type of risk (refer to Appendix 1). Market risk however does not apply for *salam sukuk* that is structured in such a way that the underlying commodity will be sold to the third party at a specified selling price. Therefore, no capital charge for market risk is applicable for this type of *salam sukuk* structure as it is mitigated by the inclusion of parallel *salam* contract as a hedging mechanism.

- *Istisna' sukuk*

IFIs that hold *istisna' sukuk* in their investment portfolio are subject to risk weight of 100% which based on the counterparty rating. An additional of 20% of risk weight will be applied to cater for the underlying *istisna'* that is exposed to the price risk.

- *Ijarah sukuk*

For *ijarah* of finance lease, the risk weight that is applicable to the IFIs as a *sukuk* holder is based on the rating of the lessee (i.e. government) since the remaining value risk of the underlying asset is not borne by them.

Asset-based *sukuk* with a repurchase undertaking (binding promise) and pass-through structures are often being used in the case of *ijarah sukuk* issues such as sovereign *sukuk* issued by certain national monetary authorities. Where a repurchase undertaking exists, the *sukuk* holders have a credit exposure to the sovereign or corporate entity that provides the undertaking. Hence, the applicable credit risk weights for these types of *sukuk* structures are based on the credit ratings issued by a recognized external credit assessment institution (ECAI) to the originators of such *sukuk*.

Table 2 below illustrated that the highest rated sovereigns ranging from AAA to AA- achieve a 0% risk weight and governments that are assessed by the external credit assessment institutions as lower than B-

obtain a 150% risk weight, while unrated sovereign borrowers would be assigned a flat 100% risk weight regardless of their credit quality.

Table 2: Risk Weights Based on Counterparty's Rating.

Rating/Risk Score	AAA to AA-	A+ to A-	BBB to BB-	BB+ to B-	Below B-	Unrated
ECA Country Risk Score	1	2	3	4	4 to 6	7
Counterparty	Risk Weights (RW)					
Sovereigns and Central Banks ^(a)	0% ^(b)	20%	50%	100%	150%	100%
Non-Central Government Public Sector Entities (PSEs) ^(c)	Subject to supervisory authorities' discretion to treat as either IFIs, banks and securities firms (Option 1 or Option 2a) or as Sovereigns					
Multilateral Development Banks (MDBs) ^(d)	20% ^(b)	50%	50%	100%	150%	50%
IIFs, banks and securities firms						
Option 1*	20%	50%	100%	100%	150%	100%
Option 2a**	20%	50%	50%	100%	150%	50%
Option 2a** ^(e)	20%	20%	20%	50%	150%	20%
Rating/Risk Score (contd.)	AAA to AA-	A+ to A-	BBB+ to BB-	Below BB-	Unrated	
Corporates ^(f)	20%	50%	100%	150%	100%	

* Credit assessment based on ECAI of sovereigns

** Credit assessment based on a ECAI of the IFIs, banks and securities firms

@ Applicable for original maturity 3 months which is not rolled over

Note:

- (a) Supervisory authorities have the discretion to reduce the RW for exposures to the sovereigns and central banks that are denominated and funded in domestic currency.
- (b) Inclusive of official entities that will receive a 0% RW as determined by supervisory authorities.
- (c) PSEs, such as regional government and local authorities, may be risk-weighted as sovereigns if they have the power of raising revenue and a specific institutional arrangement to reduce their default risk. An administrative body owned by the government or a local authority may be treated in the same manner as IIFs even though it has sovereign immunity but has no power of raising revenue or a specific institutional arrangement.
- (d) Certain MDBs are eligible for a 0% RW as determined by the supervisory authorities.
- (e) Under Option 2b, the RW are one category less favourable than that assigned to claims on the sovereign subject to a floor of 20% when the exposure is denominated and funded in domestic currency.
- (f) An unrated corporate shall not be given a preferential RW compared to its sovereign. Supervisory authorities have discretion to require a RW higher than 100% or to allow all corporates to be risk-weighted at 100%.

- Musharakah *sukuk*

The risk weight for this type of *sukuk* is depends on the intent of the underlying transaction in musharakah as categorized by the followings:

- Private commercial enterprise to carry out trading activities
In this type of transaction there is identifiable underlying asset (i.e. foreign exchange, shares or commodities). In the event of default, they will be paid out from the sales proceeds of the asset. If the proceeds are below from their original investment, they will face an exposure to the counterparty for the residual of their investment. The risk weight thus is determined based on the market risk of the underlying asset.
- Private commercial enterprise to carry out a business venture or project
Since there is no identifiable underlying asset in this transaction, the risk weight is based on the equity exposure in the underlying business venture or project. Hence, this type of *sukuk* is treated as an equity investment which attracts a risk weight of 400%.
- Joint ownership of real estate or movable assets
These transactions are generally structured as diminishing musharakah. The partnership involved a specific timeframe and has an identifiable underlying asset (i.e. car). The investor's initial exposure is to the asset. In the event of default, the *sukuk* holder will be paid out of the sales proceeds of the asset. In the case where the proceeds of the asset are below the original investment, the *sukuk* holder has an exposure to the counterparty for the residual. Thus, the risk weight is based on the counterparty rating and applicable risk weight for unrated counterparty is 100%.

- Mudarabah *sukuk*

The risk weight for mudarabah *sukuk* is based on the equity position of the underlying asset. This type of *sukuk* is considered as an equity investment, where the applicable risk weight is 400%.

3.2 *Sukuk* held in trading portfolio (trading book)

The capital adequacy requirements for *sukuk* held in trading portfolio on the contrary, is treated parallel as conventional bond positions, where they are subject specific risk and general market risk. These two charges are calculated separately based on the marked to market basis of long and short equity positions. The provision for specific risk charge for *sukuk* will depend on the risk weight of the issuer and the term to maturity of the *Sukuk*, as shown in Table 3.

Table 3: Specific Risk Provision for *Sukuk* in the Trading Book

Issuer type	Term to Maturity	Risk Weight
Government		0.00%
Investment Grade	6 months or less	0.25%
	6 to 24 months	1.00%
	exceeding 24 months	1.60%
Others		8%

There is important finding that can be derived from the above schedule specifically for *sukuk* holders. Since the specific risk charge on investment grade follows the ‘diminishing return to scale’, it would encourage the IFIs to hold *sukuk* from investment grade’s issuer with maturity less than 6 months. The lesser risk-weighted assets would then have an implication in the measurement of denominator of the capital adequacy ratio (CAR) formula, where the lower the denominator, the higher the CAR achieved in fulfilling the minimum total capital requirement. Thus, it serves as an incentive to reduce the specific risk charge to the *sukuk* holder’s trading portfolio.

The provision for general market risk depends on the residual term to maturity or to the next repricing date. It varies according to the maturity, where a higher residual to maturity would be given a higher risk weighs. Furthermore, the incremental of risk weighs becomes higher over a longer residual term to maturity, as illustrated in Table 4 below:

Table 4: General Market Risk Provision for *Sukuk* in the Trading Book

Residual term to maturity	Risk Weight
1 month or less	0.00%
1-3 months	0.20%
3-6 months	0.40%
6-12 months	0.70%
1-2 years	1.25%
2-3 years	1.75%
3-4 years	2.25%
4-5 years	2.75%
5-7 years	3.25%
7-10 years	3.75%
10-15 years	4.50%
15-20 years	5.25%
> 20 years	6.00%

4. RISK MANAGEMENT PRACTICES OF IFIs IN FULFILLING CAPITAL ADEQUACY REQUIREMENTS FOR *SUKUK*.

The stated objective of the Basel Accord’s supervisory review is “to ensure that banks have adequate capital to support all the risks in their business and to encourage banks to develop and use better risk management techniques in monitoring and managing risks,” (Section 678). Along the line, this requirements are also apply to IFIs. This is due to the fact that an adequate base of capital serves as one of the key factors in assessing the safety and soundness of a particular IFI. This section will discuss some of the risk management practices by IFIs in order to be sure of their capital adequacy in confronting all risks’ specifically related to *sukuk* activity.

By its very nature, market and credit risk exposure requires consistent attention and adequate analysis by the IFI’s management team. Prudent and competent management should be aware of the risk behavior and how it relates to their capital. The amount of capital held by IFIs must be commensurate with its level of risk. In carrying out responsibilities of investment function on behalf of depositors, investment account holders as well as shareholders, the management team and the board have to ensure that their funds should be invested profitability for the benefit of shareholders and the protection of depositors.

In the case of *sukuk*, a review on various perspectives including details on the underlying asset to the contract involved, term of maturities, credit ratings of the issuers as well as credit enhancement (if applicable) are

necessary especially in analyzing credit risk for *sukuk* that held as investment portfolio. A well structured on the details of assets could provide a good picture or trend of a particular IFIs' business profile and priorities. In particular, it shows the type of risks (credit or market) that the IFI is expected and be willing to take as well as the structure of capital in relation to their investing operations. For example, a decline in the percentage of capital ratio could be due to the changes of the IFI's risk profile, where they could decide to invest more on equity-based *sukuk* that requires them to set aside higher capital for risk coverage as compared to debt-based *sukuk*.

Market risk particularly is based on probabilistic events. In an effort to protect and meet the capital requirements for *sukuk*, IFIs should include a system of check and control that depends essentially on 'marking to market' system on a monthly and daily basis to maintain the real value of positions in the investment and trading portfolio respectively. An IFI should routinely acquire the latest information on the price and performance of *sukuk* held in its portfolios. Thus, the report on this process should be reviewed on an ongoing basis by the IFI's senior managers who are responsible for the asset-liability, investment, and risk management.

The market risk management policy on position limits for purchasing and selling securities (*sukuk*) could also help IFIs in maintaining adequate level of capital. The decision of position limits normally will be based to the amount of capital that is available to cover market risk in the investment and trading portfolios. Parallel with position limits, stop-loss exposure limit should be considered by the management when losses in the IFI's portfolio positions have reach to the unacceptable levels. This type of policy should be undertaken in an effort to protect the capital structure of IFIs. Finally, IFIs should put a limit on their trading participation especially in the new financial instruments released. The limits subsequently can be adjustable according to the nature of the instruments as it becomes established or matured. This policy is to prevent the uncertainties of the return and variance of the new *sukuk* instrument, which could eventually affect its capital charges since it may not have been tested in an appropriate market setting.

In addition to the above policies, the risk management system must incorporate regular back-testing as well as stress testing to supplement the risk analysis on the *sukuk* trading/investment activities. The results of both tests should be reviewed by senior management and act as a reference for them to continue structuring policies and limits regarding the risk exposure.

In the nutshell, the integrity and credibility of the board and the management team of IFIs on the implementation of the above risk management policies will ensure that the capital adequacy standard (specifically for *sukuk*) to cover credit and market risk could be fulfilled as required by the IFSB.

5. CONCLUSION

Shariah-compliant investment certificates or *sukuk*, invites a comparison of both Islamic and conventional finance principles as to their capacity to sustain efficient capital allocation and financial stability. While *sukuk* are structured in a similar way to conventional asset-backed securities, they can have significantly different underlying structures and provisions and *shariah*-compliant. In fact, *sukuk* are subjected to by virtue of their structure (whether lease, equity or debt based) are revealed; the risks inherent in *mudharabah*, *musharakah*, *ijarah*, *salam* and *istisna'* *sukuk* are different from one another. Therefore, all the issuer and investor must take into serious consideration towards the risk involved in structuring and investing their fund for *sukuk*. A discussion on the design of *sukuk* structure, with an emphasis on lease, debt-based and equity-based, its pricing mechanism and the various risks underlying the *sukuk* structure would provides a clear picture to the IFIs as a *sukuk* holder for their investment guidelines. The capital requirements for IFIs as a *sukuk* holder in an effort to cover the underlying risks arising from the holding of *sukuk* in their trading and banking book are also explored to further enhance the understanding on the capital charges as determined by the risk involved. Finally, the highlight on some of the risk management practices by IFIs in fulfilling the capital requirements for *sukuk* as required by CAS (Capital Adequacy Standard) could help to improve the integrity of IFIs

towards maintaining an adequate base of capital and thus providing a basis for maintaining the confidence of depositors.

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APPENDIX 1

The netting of positions for different commodities is subject to the supervisory authorities' approval. Under the maturity ladder approach, the net positions are entered into seven time-bands as shown in Table 5 below:

Table 5: Maturity Ladder Approach for Commodities Risk

Category	Time-band
1	0 – 1 month
2	1 – 3 months
3	3 – 6 months
4	6 – 12 months
5	1 – 2 years
6	2 – 3 years
7	Over 3 years

As shown in Table 5, a bigger time band is assigned for higher category. It implies that the short position could dominate the impact on the risks of holding positions for different commodities.

IFIs may also consider a separate maturity ladder for each type of commodities, while the physical stocks are allocated to the first time-band. Then, the calculation of capital charge is made in the following three steps:

- (i) the sum of short and long positions that are matched will be multiplied by the spot price for the commodity and then by the appropriate spread rate of 1.5% for each time band.
- (ii) the residual or unmatched net positions from nearer time bands may be carried forward to offset exposures in a more distant time-band, subject to a surcharge of 0.6% of the net position carried forward in respect of each time-band that the net position is carried forward.
- (iii) any net position at the end of the carrying forward and offsetting will attract a capital charge of 15%.

The summation three capital charges represent the total capital charge for commodities risk based on the maturity ladder approach.

While, under the simplified approach, the net position, long or shot, in each commodity requires a capital charge of 15% to cater for directional risk plus an additional capital charge of 3% of the gross positions, i.e. long plus short positions, to cater for basis risk. For inventory exposures, assets held in the IFI's possession shall attract a capital charge of 8% (equivalent to a 100% RW). In the case of the balance of unbilled work in process inventory under *Istisna'*, without parallel *Istisna`*, in addition to the RW for credit risk a capital charge of 1.6% is applied (equivalent to a 20% RW) to cater for market risk exposure. The IFIs may also get the funding of a commodities position in foreign currency. Therefore, the IFIs is also exposed to foreign exchange risk which is subject to capital charge as measured under the foreign exchange risk.