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LIFE-CYCLE HYPOTHESIS OF HYBRID SUKUK

Lutvia Monda
Durham University Business School
Email: moondavie@gmail.com

Abstract

The development of financial system recently has been contributing to Indonesian economic growth. Its main role is to help many financial institutions advancing their financial services, particularly in investment systems e.g. Sukuk. As seen in recent years, Sukuk involvement in many industries ranges from sovereigns to corporates for both Muslim and non-Muslim world companies. Despite the increasing fame, the insufficient structures of Sukuk become a significant challenge to serve public needs complying with Sharia principles. Attempting to fulfil many financial companies in issuing Sukuk and the needs of Muslim world, this study aims at providing the new structure of Sukuk. The study proposes a design of securitization by combining two contracts of Sukuk into one structure. The constructed idea will use 'life cycle hypothesis' model to support the Sukuk issuing companies in maintaining their incomes. It also explains the cycle cash flow and asset movement as well as the calculation of Net Present Value (NPV) of the project.

Perkembangan sistem keuangan baru-baru ini telah berkontribusi pada pertumbuhan ekonomi bangsa. Peran vitalnya membantu banyak lembaga keuangan untuk memajukan layanan keuangan mereka, khususnya dalam sistem investasi seperti Sukuk. Seperti yang terlihat dalam beberapa tahun terakhir, keterlibatan Sukuk dalam banyak industri bervariasi mulai dari yang berdaulat hingga korporasi untuk perusahaan dunia Muslim dan non-Muslim. Meskipun popularitasnya meningkat, tampaknya diterima secara luas bahwa struktur Sukuk yang tidak memadai menjadi tantangan yang signifikan untuk melayani kebutuhan publik untuk mematuhi prinsip-prinsip Syariah. Dalam upaya untuk memenuhi banyak perusahaan keuangan dalam menerbitkan Sukuk dan kebutuhan dunia Muslim, penelitian ini bertujuan untuk menyediakan struktur Sukuk yang baru. Studi ini mengusulkan desain sekuritisasi dengan menggabungkan dua kontrak Sukuk ke dalam satu struktur Sukuk. Gagasan yang dibangun akan menggunakan model 'Life-Cycle Hypothesis' untuk mendukung perusahaan penerbit Sukuk dalam mempertahankan pendapatan mereka. Ini juga *menjelaskan siklus arus kas dan pergerakan aset serta perhitungan Net Present Value (NPV) dari proyek tersebut.*

Keywords: *ijarah sukuk, istishna' sukuk, hybrid sukuk, Islamic securitization, life cycle hypothesis*

Introduction

The consistency of economic malaise in the Muslim world have a tendency to be more unquestionably apprehensive.[1] The evidence of this retrogression can be found in some literature demonstrating its veracity. For some, it seems to be broadly realized that Islam is less supportive of the economic improvement contrasted with the Westerners. Early Islamic world and its Arab propagators were malicious to science and philosophy.[2] While the mass education in the West was more than achievable, the Muslims, interestingly, were overwhelmed with the low ratio of illiteracy.[3]

In the current economic and financial world, the Islamic finance has attempted to revive the intellectual desire of Muslim to redevelop their sciences by embedding the Islamic value in every transaction in their daily economic activities. However, Islam still necessitates more efforts to reach that goal. That because Islam still stand in its unchangeability and scarcely any Muslim increased in value, and even less were trying to capitalize on the disclosures and innovations that, in the West, were transfiguring creation forms, introducing new products, and boosting expectation for everyday comforts.[4]

In the Islamic contractual system, the essential prohibition is the sale of the non-existent object and deferred payment. However, Islam has dependably been responsive to people's needs and will never burden them in terms of economic and contractual freedom, whether it is in the past, current or future era. Conversely, Islam will permit and legitimate all transactions based on the justice and fair compensation in their commutative transactions. Therefore, in some cases, Islam allows a few contracts to ease individuals in their financial contracts.[5]

1 Thomas, A. S., *Interest in Islamic Economics: Understanding Riba* (London: New York Routledge, 2006), p. 124.

2 Renan, E., 1883. *Islam and Science* (Sorbonne: A Lecture presented at La Sorbonne, 1883), p. 2-11.

3 Kuran, T., "Islam and Underdevelopment: An Old Puzzle Revisited." *Journal of Institutional and Theoritical,* (1997): 41-50.

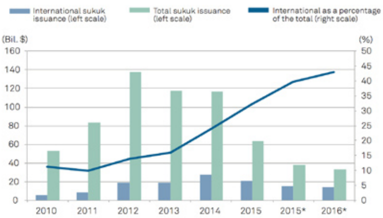
4 Kuran, T., "Islam and Underdevelopment: An Old Puzzle Revisited." *Journal of Institutional and Theoritical,* (1997): 41-50.

5 Thomas, A. S., *Interest in Islamic Economics......*, p.126.

Innovation in capital market is one of the essential element to increase the development of Muslim world which will provide better fund mobilization as well as offer better portfolio proposition to the investors. The fixed income instrument has longed become a genuine need for particular investors, especially for the risk neutral investors who expecting for value investment. *Sukuk,* which is categorized as Islamic fixed income securities, has emerged as an innovation in the Islamic finance realm to accommodate this need as its growth become more significant in these days (see figure-1). However, most of study related to *Sukuk,* focus on the debate on the asset-backed and asset-based *Sukuk.* Only few studies pertaining to hybrid *Sukuk.*

The phenomenon of *Sukuk* growth in recent years can be seen in the picture below:

Figure 1. International and Total Sukuk Issuance 2010-2016



*As of June 30.
Source: Eikon and S&P Global Ratings

Started from 2010, the total *Sukuk* issuance increased more than 20$ Billion dollars every year until 2012, as well as the development in the international *Sukuk* issuance. And it was even seen a boom in *Sukuk* issuance in 2012 for the total *Sukuk* issuance. Although that trend was not continuously occurred from 2013, neither total nor international *Sukuk* issuance, but the percentage of the total issuance surged significantly until the last period.

Based on the above explanation, this study attempts to improve the financial architecture in the Muslims world by combining two classical *Sukuk* structures into one combination of hybrid *Sukuk.* The combination is specialized on the *Istishna'* (manufacturing contract) and *salam* (forward sale) contracts in the initiation time, whilst they will be combined with other contracts such as *mudarabah* (silent partnership), *murabahah* (cost-plus financing), *musharakah* (partnership), and *Ijarah* (leasing) structures until the maturity time.

However, this study will specialize the research into one combination of *Sukuk Istishna'* and *Sukuk Ijarah.* The structure is built from the classical *Istishna'*

Sukuk structure and *Ijarahmawsufah fi dzimmah* (forward leasing) contract. The structure will set up a genuine design within a classical Islamic structure that emphasizes on the modern design of economic development that complies with *Shari'ah* principles and avoids '*hilah*[6]' in structuring the Islamic financial architecture.

Research Method

This study utilises model development as methodology. This model development method provides a logical guideline as an evaluation process that can be more tractable to the reader. To describe the model, the research started with explaining the underdevelopment of Muslim economic world and the need for financial architecture, followed with the understanding the key legal and shariah issues in sukuk structuring. Then, the model description is explained along with the sukuk and its hybrid.

The Underdevelopment of Muslim Economic World and the Need for Financial Architecture

Dealing with many questions of law in term of solving the contractual problem of the Muslim world in these recent days, it is unsatisfactory to merely rely on the opinions and interpretations of past generations. This is due to the fact that it will bring the Muslim economy into an inertia that Islamic *Shari'ah* is not appropriate for all ages and places for Muslim and non-Muslim alike.

Likewise, Lewis (1955) perceived that some religious codes have a heavy correlation with economic growth compared to others. If religion emphasises more on material values rather than concerns to work value, thrift and dynamic investment, trustworthiness in commercial relations, experimentation and risk bearing, as well as on equality of opportunities, although it plays a significant role in their growth, it is in fact becomes inimical to their development.[7]

Ebrahim et al. (2014) outlined the factors which seem likely have contributed to the issue of economic underdevelopment of the Arab or Muslim world in the evolvement over the years[8] as follows:

6 A trick that in commercial or financial transactions that is used to avoid the fundamental prohibitions of *Shari'ah* principles

7 Lewis, Shari'ah. A. *The Theory of Economic* Growth (London: Allen & Unwin, 1955), p.96-102.

8 Kuran, T., "Islam and Underdevelopment: An Old Puzzle Revisited." *Journal of Institutional and Theoritical,* (1997): 41-50..

First, the development of commercial transaction by using the juristic interpretation *(ijtihad)* has failed to advance Islamic law. The current *ijtihad* remains static while in contrast, the progression of the Western world has left Islam far behind.

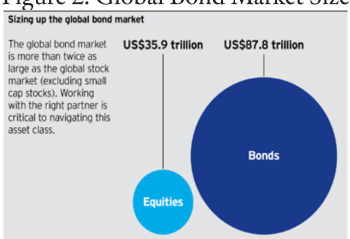
Second, the evolvement of financial intermediation in the twenty-first century, although not perfect, has surpassed pre-modern forms involving financial economics from various management sciences.

In the even that in managing inquiries of law, Islamic financial institutions restrict their perspectives by relying only on the opinions and interpretation of past eras. Consequently, people will face the defenceless and inactive notwithstanding life which knows neither dormancy nor ceasing and would not have the capacity to announce that the Islamic *Shari'ah* is suitable for all ages and for long periods.

As a consequence, the increasingly important role of bond markets as a source of funds coincides with the more general paradigm shift from bank-intermediated finance to disintermediated market finance.

Innovation in capital market is one of the essential element to increase the development of Muslim world which will provide better fund mobilization as well as offer better portfolio proposition to the investors. The fixed income instrument has longed become a genuine need for particular investors, especially for the risk neutral investors who expecting for value investment. Sukuk has emerged as one of innovation in the Islamic finance realm to accommodate this need as its growth become more significant in these days (see figure-1). However, most of study related to Sukuk focus on the debate on asset-backed and asset-based Sukuk. Only few studies pertaining to hybrid Sukuk.

Figure 2. Global Bond Market Size



Source: Bonds – BIS total debt securities (2015); FTSE All-World Index (2016).

The discussion on Sukuk is strongly relevant while sizing up the global bond market valued more than twice compare to equities in 2016. This due to consideration of bond that it is (1) a high liquid asset than traditional bank loans, and (2) very 'mobile' form of capital[9] which implies for its role as a mode of financing. Given the large global demand of the bond as a fixed income instrument, innovation of Sukuk will attract investor in the Islamic capital instrument.

Understanding the Key Legal and Shari'ah Issues in *Sukuk Structuring*

The legalization of *Sukuk* is not clearly stated neither in Quran nor *Sunnah*, but it was derived from *ijtihad*[10] from *Shari'ah* scholars due to the emergence needs of Islamic finance instruments to take part in financing the large enterprises of the Muslim world. An obvious soaring demand for infrastructure to increase the quality of standard living has become evidence for the emergence of *Sukuk* instruments.[11] However, the theoretical and legal aspects of *Sukuk* still become an ongoing debate among Islamic scholars until the recent period.[12] Although this new economic system brings dispute among Islamic jurists, this disagreement is naturally accepted in Islam because of the legal texts in the Quran and *sunnah*.[13]

In November 2008, Syeikh Muhammad Taqi Usmani, the chairman of the AAOIFI *Shari'ah* council, gave a shockwave statement to the global Islamic capital markets. He stated that most of *sukuk* structures were breaching the *Shari'ah* principle because of their similarities with a conventional system and its agreement. Moreover, they provide an agreement to buy back the underlying assets from investors at face value, regardless of its true market value at the time of maturity.[14]

The statement from Taqi Usmani is a crucial thing that needs to be seriously considered in Islamic finance. It can be reflected as a root source of the current *Sukuk* default, such as Dana Gas *Sukuk*, which has been announced as a non-*Shari'ah* compliant *Sukuk*. Thus, in February 2008, AAOIFI published the *Shari'ah* standards for investment *Sukuk* and issued six recommendations on proper *Sukuk* to respond the issue of *mudarabah* and *musharakah* structures that were not *Shari'ah* compliant.

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9 Watson, M., The Political Economy of International Capital Mobility, Basingstoke: Palgrave Macmillan, 2007, p.63-90.

10 *Ijtihad* means an effort and endeavour of something to achieve presumption *(dzan)* in regards to Shariah Law.

11 Al-Amine, M. a.-B. M., *Gloabal Sukuk and Islamic Securitization Market.* (Leide, Boston: Brill, 2011), p.57-100.

12 Zulkhibri, M., "A Synthesis of Theoritical and Empirical research on *Sukuk*." *Borsa Istanbul Review,* (2015): 237-248.

13 Saeed, A. & Salah, O., Development of *Sukuk*: Pragmatic and Idealist Approaches to *Sukuk* Structures. *Journal of International Banking Law and Regulation,* Volume 1: 2014, p.41-52.

14 Usmani, T., Sukuk and Their Contemporary Applications, (2008), p.2-14.

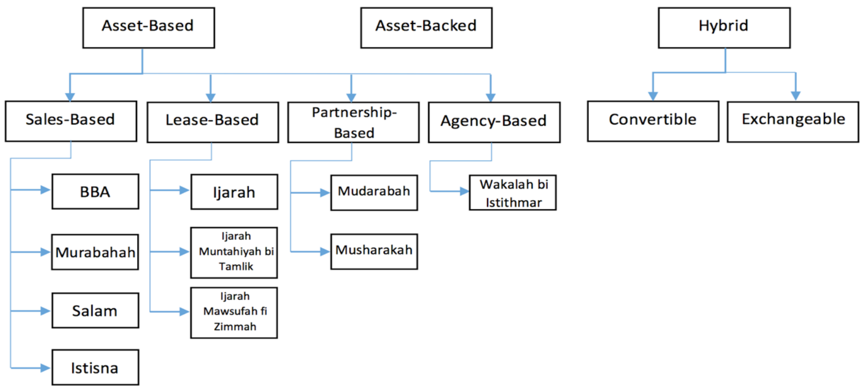
The purpose of AAOIFI in publishing the regulation of *Sukuk* investment was to ensure the ownership legality in the sale of the assets to the *Sukuk* holders.[15] AAOIFI highlighted the differences between 'substance' and 'form', where most of the Islamic instruments were issued merely concern about the form to be 'Islamic' but still far from its real substance.

Types of *Sukuk*

Different kinds of literature classify the types of *Sukuk* in various ways. For instance, Ariff[16] in his book divides *Sukuk* into 6 classes based on cash flow payoff patterns of *Sukuk* securities. However, based on the Sharia standards published by AAOIFI in the standard of *Sukuk* investments No. 17, it has 14 eligible asset classes but only several structures that have commonly been used in the capital markets.

Figure 3. Types of Sukuk

Figure 1 – Types of Sukuk



Source: Securities Commission Malaysia (2009)

Sukuk Challenges: Harmonization of Asset-Backed vs Asset-Based

In the course of the most recent decade, *Sukuk* has turned into an undeniably prominent debt instrument in the worldwide capital markets. Issuers ranging from sovereigns, quasi-sovereign substances and corporates as well as supranational associations in the Muslim and non-Muslim world have interested in *Sukuk,* and

15 Ahmed, SHARI'AH., Islamic Finance at a Crossroad: The Dominance of the Asset-Based *Sukuk. Butterworth's Journal of International Banking and Financial Law,* 25, 6: 2010, p. 366-367.

16 Ariff, M. *Sukuk Securities, New Ways of Debt Contracting* (Singapore: John Wiley & Sons Singapore Pte. Ltd.), 145-150.

some have already issued this certificate.[17]

Regardless of that development and improvement of the *Sukuk* showcase, a few obstacles emerged, for instance, the absence of cross-border standards for *Sukuk*. Such as, while some *Sukuk* structures might be worthy in one nation, they may not be satisfactory in another ward from a lawful and *Shari'ah* viewpoint. Others have blamed *Sukuk* for mimicking on ordinary bonds and neglecting the spirit of the *Shari'ah* principles of Riba, Gharar, and Maysar.[18] Thus, many investors put a big concern in the challenges over the matter of underlying assets of *Sukuk*.

The overwhelming domination of asset-based *Sukuk* structures in the global market also becomes a source of dispute in Islamic finance. This is due to the fact that asset-backed *Sukuk* cures *gharar* because of its sanctity, whilst asset-based *Sukuk* aggravates it. Many kinds of literature have discussed the problem of assed based *Sukuk* structures, for instance, Dusuki[19] deliberates the issue of asset-based *Sukuk* from the *Shari'ah* perspectives:

1. Legal documentation on *Sukuk* contradicts the requirements of *Shari'ah* principles.
2. The certificate holders have no right in selling the underlying asset of *Sukuk* as it represents undivided assets.
3. The involvement of purchase undertaking agreement in the asset-based contracts replicates the substance of debt based instrument.
4. The independence of the SPV (Special Purpose Vehicle).

Although there is a raising issue in asset-based *Sukuk*, Hidayat[20] stated that the *Sukuk* legal framework based on common law is more suitable to be applicated in the asset based rather than in asset backed structure. As a result, it affects the market preferences in using the asset-based structure than another one. However, the wide spreading utilisation of this structure depicts the indication of the unwell-

17 Jivraj, "Sukuk Structures, Faith in Finance - An Introduction to Sukuk Structures", *Debtwire Magazine,* January 2017, p.1-6.

18 Jivraj, "Sukuk Structures, Faith in Finance - An Introduction to Sukuk Structures", *Debtwire Magazine,* January 2017, p.1-6.

19 Dusuki, A. P. D. A. SHARI'AH. & Mokhtar, S., Critical Appraisal of Shari'ah Issues on Ownership in Asset-based *Sukuk* as Implemented in the Islamic Debt Market. *Research Paper ISRA No.* 8: 2010, p.1-32.

20 Hidayat, S. E., "A Comparative Analysis between Asset Based and Asset Backed *Sukuk*: Which One is More *Shari'ah* Compliant?". *International SAMANM Journal of Finance and Accounting,* Vo. 1, Issue 2, (2013): 24-31.

performing of *Shari'ah* Supervisory Boards to oversee the growth of industry[21] as many issues in *Sukuk* default using asset-based arose in these recent days.

In addition, the *Sukuk* trend in the global market is overwhelmed by the asset-based structure, which triggered some *Sukuk* into defaults. Those defaults are derived from the unreliable classical *Sukuk* structures which cannot guarantee the investors in investing their money. Moreover, the insufficient *Sukuk* structures in providing the Muslim needs related to investment becomes another factors in developing the new *Sukuk* structure, where in this case by combining two *Sukuk* structures into one contract.

The Application of Hybrid Contracts in *Sukuk*

Hybrid *Sukuk* is a combination of two elements of debt and equity using two contracts or more to be put into one structure. This type of *Sukuk* is also called mixed-asset *Sukuk*, which, naturally, can comprise various *Sukuk* structures including *Istishna', murabahah, mudarabah, musharakah* and *Ijarah*at the same time.The hybrid structure offers the company or originator to take into account the diversity of investors' demands,[22] allowing the portfolio of assets in involving different assets which beneficially brings a better fund mobilization as the previous *murabaha* and *Istishna'* are not able to approach.[23] In other words, the issuing company can utilize hybrid *Sukuk* when the possibility range of investors become wider, and the hopes of raising money are higher.

Since the *Sukuk* issuance grows significantly in the financial market, it becomes the vital means in the investment area. This growth is even expected to have a probable domination of the *Sukuk* structures in the future[24] considering that its practice has been widely accepted by almost all Islamic jurists. There are so many companies and originators who have practiced which hybrid structure in issuing their *Sukuk,* such as Saudi Aramco, Tabreed *Sukuk*. Nevertheless, the insufficient of *Sukuk* structures such as *Ijarah Sukuk* to provide its services limits the originator to issue *Sukuk* without holding enough tangible assets. Consequently, the emergence

21 Ahmed, SHARI'AH., 2010. Islamic Finance at a Crossroad: The Dominance of the Asset-Based *Sukuk. Butterworth's Journal of International Banking and Financial Law,* 25(6): 2010, p. 366-367.

22 Maierbrugger, A., *Innovative Approach in Islamic Finance: Hybrid Sukuk Issuance,* Gulf Times 28 March (2017).

23 Tariq, A., "Managing Financial Risks of Sukuk Structures", (Msc diss., Loughborough University, 2004).

24 Adilla, F., "'Hybrid Sukuk' Set to Dominate Future Sukuk Issuances.", *New StraitsTimes*, May 29, 2017.

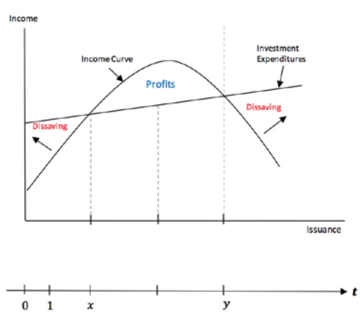
of hybrid *Sukuk* is heavily needed to fulfil the demands of investors.

Accordingly, by providing the equity features and beneficial ownership, it allows the investors to obtain the periodic distribution amount of income as well as receiving the right to convert or exchange their *Sukuk* certificates into equity in the future date under certain predetermined conditions. In the figure-3, it is depicted that hybrid *Sukuk* has two types as stated in the Securities Commission Malaysia (2009). As the time went by, there are three main types of hybrid *Sukuk* that currently exist in the Islamic financial institutions:

1. **Convertible *Sukuk*:**
   This type of *Sukuk* gives the certificate holders the right to exchange their *Sukuk* into new equity share in the issuing entity with the provision of certain conditional date in the future.
2. **Exchangeable *Sukuk*:**
   Similar to the former type of *Sukuk,* it also gives the same right to the *Sukuk* holders but only allowing to convert their *Sukuk* in the company rather than the issuing entity. The *Sukuk* can be exchanged to share of a third party at a specific ration conversion and under certain conditions.
3. **Perpetual *Sukuk***
   Acting differently from the other types, this *Sukuk* has the equity features and bestows their investors a return in perpetuity (regular, perpetual return). Moreover, this *Sukuk* does not clearly specify the prefixed maturity date but allowing the Issuer to exercise the price by call option.

The conceptual framework of the life cycle of *Sukuk* is based on the Modigliani's theory of life cycle hypothesis. Although there are many possibilities of hybrid *Sukuk* that can be invented, this paper will focus only on *Istishna"* and *Ijarah*hybrid *Sukuk*, where both contractsare combined into one hybrid contract.

Figure 4. Diagram Model of Life cycle of Sukuk



Source: Modified version of Modigliani (1986)

In constructing the model, the following assumptions are preserved:

At $t = 0$, the investors pay the issue price in respect the certificates to the issuer or trustee and give some amount to the contractor to build the particular manufactured asset under *Istishna"* agreement. At the same time, the issuer makes another agreement with the lessee under forward leasing *(Ijarah mawsufah fi dzimmah)*.

$t = 1$ is the period where the contractor starts to construct the asset.

$t = x$ is the periodic payment by the issuer or periodic distribution amounts to the certificate holders. While the contractor is building the manufactured asset, the lessee will pay the issuer a rental amount for the asset leased to it by the issuer and pay the received amount to the seller for the second and subsequent phase of purchasing commodities, as long as it has obligations to perform under *Istishna"* agreement. Along with this, the issueruses these amounts to fund the periodic distribution amounts to the certificate holders.

When the construction of an asset is complete at $t = Shari'ah$, the contractor hand over the asset to the issuer and the issuer will sell the commodities to the counterparty and the issuer will use the exercise price to fund the dissolution payment to the certificate holders on the scheduled dissolution date.

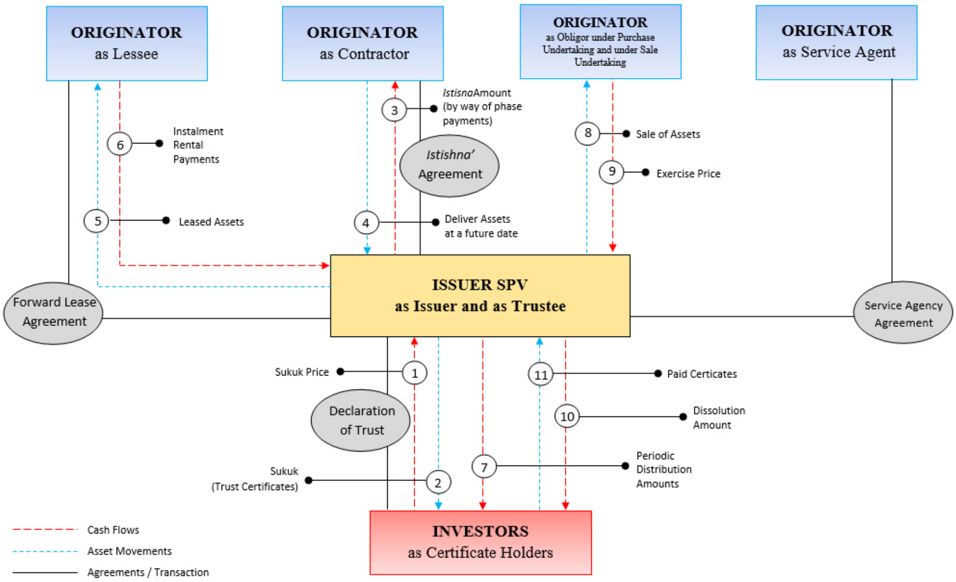
The basic proposition of my model is to preserve the investment expenditures at a smooth curve in line with the theory of life cycle hypothesis purposed to maintain the life consumption even after retirement ages. To do this, the structure of *Istishna'* and *Ijarah* contracts are combined under one *Sukuk* contract. This contract is segregated into three components: (i) the periodic payments by the certificate holders and the issuer, (ii) the periodic payments by the originator, and (iii) the dissolution payments.

Description of the Model

In this model, *Istishna'* and *Ijarah Sukuk* contract are combined into one hybrid *Sukuk*, where *Istishna'* is used to facilitate the manufacturing product when the originator needs capital for their production. Meanwhile, the *Ijarah Sukuk* is more focused on using the *Ijarah mawsufah fi dzimmah* rather than using *Ijarah muhaddadah mu'ayyanah* due to the non-existent of an asset in the event of the contract. The forward leasing *(Ijarah mawsufah di dzimmah)* has a role in binding the promise between the lessor and lessee to lease the asset in the future. The application of *Istishna'* is compatible when it is combined with forward leasing due to the fact that both contractshave no an existent asset in the event of contract.

Initially, the originator or the company will act as four parties in the contract, as lessee, contractor, seller, and sometimes as counterparty to undertake the purchase commodities and will be helped by the issuer or SPV (Special Purpose Vehicle).

Figure 5. Hybrid Istisna Ijarah Sukuk Structure



Cash Flow Analysis of the Project

The cash flow of the project will be analysed from the phase where the SPV issued *Sukuk* certificates in regard of the paid price by the investor on the issuance date until the last distribution of the dissolution asset at the maturity time.

First, the Issuer or SPV, on behalf of the originator, will issue the *Sukuk* certificates with respect to the paid price of *Sukuk* by the investors. Under the *Istishna'* and forward lease contracts, the Issuer (on behalf of the investors) will enter into an agreement with the Originator for the pre-agreed terms to construct and deliver the asset (*Istishna'* contract) and to lease the asset (forward lease contract) on the issuance date.

After all those invested money are collected from the investors, the Issuer then will pay the *Istishna'* amount to the Contractor (the Originator acts as a contractor) by way of instalments on the Closing Date. Then the contractor can start to build the project. In some cases, the balance amount of the issue price will be invested by the Issuer in authorised investments on the same date. After the Contractor has completed the first phase of the project, it will be delivered to the

Issuer to obtain the second payment from the Issuer.

At the first periodic Distribution date, upon completion and delivery of the asset at each stage, the Lessee (the Originator as a Lessee) will pay the rental amount for the leased asset to the Issuer for so long as it has an obligation to perform under *Istishna'* agreement. The rental amount, then, will be given to the investors to fund the Periodic Distribution amounts under the certificates as per pre-agreed ratio.

The rental amount payment, given by Lessee in each relevant Payment Period, is calculated according to the following formula:

$$A \times (L + M) \times \frac{D}{360} \, where$$

A : The issued 'Trust Certificate' price
L : LIBOR
M : Margin rates per annum
D : The actual number of days in each Payment Period

In each period, the distribution amount is equal to the margin percentages per annum plus LIBOR calculated on the outstanding face amount of the *Sukuk* certificates as at the commencement of pertinent return of the period accumulation on an actual/360 basis. At the same time, the Issuer also pays the subsequent instalment payment to the Contractor to continue the constructing project and as the second and the next delivery assets.

On the scheduled maturity date, the Issuer will receive the paid amounts of selling the asset to the Originator under the exercise price. These amounts then will be paid by the Issuer to the investors to fund the dissolution distribution amount at the end agreement under the certificates.

In term of certificate tradability purposes, the company or originator will face some restrictions to make the *Sukuk* certificates be tradable in secondary trading since this agreement involved assets under construction. This is also related to the probability of default during the construction *(Istishna')* stage. To tackle this issue, the originator is required to have one third for a minimum tangible asset of the *Sukuk*, which will be explained further below.

Asset Ownership Movement Analysis

Ownership in *Sukuk* certificates refers to undivided shares in genuine possession and sets up offers guarantee over the rights and commitments related to the certificates. The matter of asset ownership could be a primary source of dispute in case of *Sukuk* default if the transfer of the asset is not enforced legally. According to AAOIFI,[25] the meaning of ownership is related to the true sale that complies with *Shari'ah* principles by these following requirements:

1. A legitimate purchaser buys the specified asset from the seller who legally holed the ownership.
2. The purchased items are transferred from the seller's balance sheet to that of the buyer.
3. The purchaser has his/her rights to exercise the asset, and there is no condition or statement that keeps them from practicing the rights to sell the asset or discard it.
4. The returns of the *Sukuk* certificate are derived from the actual performance of the underlying asset of the *Sukuk*.
5. The buyer has direct authorities in recoursing the asset in term of default.

In the case of *Istishna' Ijarah Sukuk*, the asset movement between parties is very often since it needs to conform with the *Shari'ah* standards. Thus, it needs to be clearly specified regarding moving projected asset during the construction until the maturity time in relation to the taxation in each movement of the items. As stated by Cross, et al. (2012) that the Islamic securitization structures can conceivably trigger multiple tax expenses (for instance, stamp duties) in selling and transferring the assets. Although many Islamic jurisdictions have acquainted particular enactment to avoid these tax burdens, every transaction ought to be painstakingly surveyed by tax advisors. It might be conceivable to deal with these issues using vehicles in tax neutral jurisdictions.

In this case, all payments regarding the transaction archives and any documents in the contracts of *Istishna' Ijarah Sukuk* will be made without deduction under any circumstances, including tax withholdings, unless the tax deduction is obligated by law. In other words, in the event of asset movement from one party to another party in delivering projected asset, the taxation will become the Originator's responsibility, with the exception if the law requires the deduction of the taxes. Accordingly, if the tax reduction is compulsory by law, then:

1. The Originator or the company will pay to the Issuer in term of deduction under the certificates,
2. The Issuer needs to pay under the certificates the additional amounts which will be applied in the certificate payment.

25 AAOIFI, *Shari's Standard No. (21), Financial Paper (Shares and Bonds),* s.l.: Accounting and Auditing Organization for Islamic Financial Institutions, (2007), p.18.

Tradability Issue in *Istishna' Ijarah Sukuk*

The tradable *Sukuk* refers to the certificate that can be sold and purchased by either investors and/or other intrigued people. The *Istishna' Ijarah*hybrid contract can generate the *Sukuk* structure without the mobilization of asset existences. However, this type of *Sukuk* certificate would not promptly be tradable due to *Shari'ah* restrictions. The primary resource pools to be created would be by using the justification of *Istishna'* and instalment trading contracts that would generate debt obligations. The essential resource pools to be produced would be of the nature justified by *Istishna',* and portion buy/deal gets that would make obligation commitments. The declaration on these obligation courses of action can be named as settled rate zero coupon *Sukuk*.[26]

Relating to the tradability issues of *Sukuk* certificates, AAOIFI stipulated some requirements as follow[27]:

1. The *Sukuk* holder must have the real ownership of the asset, which comprises the rights and its obligations in the form of real assets whether it is in tangible, usufructs or services. Moreover, those assets must be capably owned and can be traded legally according to the *Shari'ah* rules, as stated by AAOIFI in *Shari'ah* Standard on Investment *Sukuk* (2007).
2. There is no presence of debt or receivables in the *Sukuk* certificates, aside from one account of a trading or financial entity.
3. Therefore, in the case of the tradability issue in the hybrid *Istishna' Ijarah Sukuk,* the *Shari'ah* board advised the issuing company to have at least on third of the tangible asset in *Sukuk*. At the first partial construction payment to the Contractor, the payment must represents one third of the *Sukuk*. if the first instalment payment could not reach the required benchmark, there must be an additional tangible asset in the asset pool from the company as can be seen in the Tabreed*Sukuk*, whereas Tabreed bought palladium worth US$26 million from a third party, then sold it to the SPV in the same price.[28]

26 Tariq, A. A., *Managing Financial Risks of Sukuk Structures,* Loughborough, UK: Submitted dissertation of Masters of Science, Loughborough University, (2004), p.21.

27 AAOIFI, *Shari's Standard No. (21), Financial Paper (Shares and Bonds),* s.l.: Accounting and Auditing Organization for Islamic Financial Institutions, (2007), p.21.

28 Tabreed, *Tabreed 06 Financing Corporation (incorporated in the Cayman Islands with limited liability),* Abu Dhabi: Tabreed, (2006), p.4-5.

Net Present Value Calculation

The infrastructure firms need to calculate the net present value (NPV) of each investment in order to make a precise of fund allocation. The following topic illustrates the concept of NPV. The net present value of the project could be found by determining the present value of net cash inflows subtracted by the initial investment on the project (Brealey, et al., 2011).

Net Present Value Calculation

$$C_0 - NPV = \sum_{t=1}^{T} \frac{C_t}{(1+r)^t}$$

$$+ \ldots\ldots\ldots\ldots\ldots\ldots + \frac{CF_2}{(1+r_N)^2} + NPV_n = -CF_0 + \frac{CF_1}{(1+r_N)^1} \frac{CF_{NT}}{(1+r_N)^T}$$

where:

$C_t = project's income at time t$

$C_o = cost of project at time\ 0$

$r = discount rate$

$t = time$

$T = maturity date$

The value of NPV could be either positive or negative. The positive NPV tells that the investment is feasible and vice versa.

In addition, the firm needs to ensure to select the projects that generate the highest profit of each one £ invested. It does so by determining the Profitability index (PI) ratio. The following formula of PI is written as follows:

$$Profitability Index = \frac{NPV}{Total Investment}$$

To illustrate, the firm has to choose among the several projects, which offer higher profit but with the budget constraint of (ω). Assume that the ω of the firm is equal to £ 30 m. Thus, the PI ratio could be calculated using the information provided in the following table as follows:

Projects	Cash Flows (£ millions)	R	N P V (t=1)	Total investment (in £ million)	PI
Project 1	10	4%	1.61	15	10.73%

Project 2	12	2.5%	1.70	12	14.1%
Project 3	11	2%	-1.21	10	(12.1%)

Therefore, the company could undertake the investment on project 2, which offers 14.1% as well as the project 1, which offers 10.73%. It concluded that PI ratio of Project 1 < Project 2.

Sukuk Pricing Illustration

Assume that at $t = 1$, we have only two potential investments in the portfolio. Project A and Project B with the consecutive expected returns of E (r_1) 16% = and E $(r_2) = 12\%.$ The cash flows are forecasted in the following:

At period t = 1

£8 = $CF_{1,t=1}$ m

5 £ = $CF_{2,t=1}$ m

Thus, the PV of the portfolio at t =1 equal to:

$$\frac{5}{(1+0.12)^1} + \frac{8}{(1+0.16)^1} = PV_{p,1}$$

£11.35 $PV_{p,1} =$

If the firms raise capital by issuing *Istishna'Sukuk* certificate of 100,000 units. Thus the value will be:

$$\frac{PV_{p,1}}{Number of outstanding sukuk}$$

The value per unit will be: £113.5 = $\frac{£11.35}{100{,}000}$ / unit.

At period t = 2

£10 = $1. CF_{1,t=2}$ m

7 £ = $2. CF_{2,t=2}$ m

$$\frac{7}{(1+0.12)^1} + \frac{10}{(1+0.16)^1} = PV_{p,2}$$

£13.01 $PV_{p,2} =$

The value per unit will be: £130.01 = $\frac{£13.01}{100{,}000}$ / unit.

At period t= 10

30 £ = $CF_{1,t=10}$ m

25 £ = $2.CF_{2,t=2}$ m

$\frac{25}{(1+0.12)^{10}} + \frac{30}{(1+0.16)^{10}} = PV_{p,2}$

14.84 £ $PV_{p,2} =$

The value per unit will be: £148.40 = $\frac{£14.84}{100,000}$ / unit.

Conclusion

This study provides needs of Muslim and Islamic financial institutions in structuring their Islamic securities due to the lack of former and classical structures which is insufficient to fulfil the Islamic economic requirements, as the development of financial system in the present era has developed even further and in some cases has left Muslim world behind.

The hybrid structure of *Sukuk* provides the company or originator to take into account the diversity of investor demands which beneficially generates better fund mobilization. This study constructed an innovation in the hybrid structure combining the forward leasing/*Ijarah* and *Istishna' Sukuk* by modifying the life cycle hypothesis of Ando and Modigliani (1964). The life cycle *Sukuk* aim to preserve the investment expenditures at a smooth curve by constructing the project which implies to the realm of the economy while able to generate income in the time through the lease payment of *Ijarah*. Hence, in the long run until maturity, the hybrid structure will able to generate better fund mobilization. Generally, this paper resulted in the structure of the contract and moderately simulate the case flow generated by the project.

Thus, it can be concluded by with an advice of the model extension in other structures of *Sukuk* such as *Istishna'* with *mudarabah*or *musharakah*as well as the *salam* with *murabahah* structures.

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