Chapter 39
A Comparative Analysis of Sukuk and Conventional Bonds

Abdurahman Jemal Yesuf

Abstract Sukuk and bonds are two kinds of financial instruments; despite their differences, they share similar responsibility of fund mobilizing from surplus (spending) units to shortage units. Sukuk can resemble conventional bonds by some of its features, but it is technically neither debt nor equity. It is complex to understand the exact nature of Sukuk and differentiating them from bonds. Conventional bonds are structured on the basis of debt whereas sukuk are basically investment certificates consisting of ownership claims in a pool of assets. Thus, claim embodied in sukuk is not simply a claim to cash flow but also an ownership claim. Although there are various fundamental differences between the sukuk and conventional bonds, both instruments try to solve the same common financial problem of raising capital for needed entities. They offer solutions in different ways to the same financial problem. Therefore, in this chapter an attempt is made to raise the awareness and knowledge base of those who have had little or no exposure to the Islamic financial instrument, such as sukuk, its complex nature and functions in today's global financial market. The chapter has compared sukuk instruments with conventional bonds based on the basic fundamental variables such as risks, return, and correlation variables. It has also shown the risk diversification potential of sukuk in a portfolio.

39.1 Introduction

In business, religion plays a significant role in determining the structure of financing and investing activities. Religions, like Islam, impose some restriction or prohibit some acts in any forms of business activities. The Islamic law (*Shariah*), for example, prohibits the charging and paying of interest. Accordingly, conventional bonds that yield interest are prohibited under the Shari'ah law. Furthermore, those who buy and sell conventional bonds are rarely interested in what is actually being financed through the bond issue, which could include activities and industries that

A.J. Yesuf (✉)
Department of Business Administration, Marmara University, İstanbul, Turkey
e-mail: abdu_5570@yahoo.com

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are deemed haram (forbidden) such as the production or sale of alcohol. Companies that are highly leveraged with bank debt may seek refinancing through issuing bonds, but such companies are not regarded as suitable for Muslim investors.

As a result, in countries where Muslim populations constitute an important segment of the society, considerations for Islamic law have recently hampered the advancement of competent systems for monetary control [1]. Governments of those countries are now understanding the needs for developing an equivalent means of financing and investing opportunities for these segments of their society. Among such alternative instruments introduced in Islamic finance to resemble conventional bonds are sukuk.

Sukuk, sometimes referred to as Islamic bonds, are better described as Islamic investment certificates. This distinction is crucial, as sukuk should not merely be regarded as a substitute for conventional interest-based securities. The aim is not simply to engineer financial products that mimic fixed-rate bills and bonds and floating-rate notes as understood in the west, but rather to develop innovative types of assets that comply with Shari'ah Islamic law [2].

The aim of conventional bond traders usually is to make capital gains as fixed-interest bond prices raise when variable market interest rates fall. Bond trading is therefore largely about exploiting interest rate developments and trading in paper that is usually unrelated to the value of any underlying asset. The major risk for holders of conventional bonds is of payments default, but this risk is usually assessed solely on the basis of credit ratings, with the ratings agency rather than the bond purchaser estimating the risk. Hence the bonds are regarded as mere pieces of paper with third parties estimating the risk and the purchaser, at best, only making a risk/return calculation without any reference to the business being financed [2].

As Islamic finance is by nature participatory, purchasers of sukuk securities arguably have the right to information on the purposes for which their monies are to be allocated. In other words, the funding raised through Islamic bond issues should be hypothecated or earmarked rather than used for general unspecified purposes, whether by a sovereign or corporate issuer. This implies that identifiable assets should back Islamic bonds.

Therefore, it is the aim of this paper to raise awareness and knowledge base of those who have had little or no exposure to the Islamic finance and its functions in today's global financial market. It compares sukuk instruments with conventional bonds based on basic fundamentals such as risks, return, and correlation variables.

The paper has eight sections. The first and second sections give short and brief descriptions to highlight the Islamic financial system and its features; the third part introduces the motives of doing this study and the methodologies used. The fourth section concentrates on sukuk. The fifth and sixth sections compare sukuk with conventional bonds based on their risks, yields, some other characters. The last two sections show the correlation of sukuk with other asset classes and its advantages in portfolio formation and risk diversification. The study also has a conclusion and possible recommendations that are given based on the analysis and discussions made.

39.2 Literature Review

39.2.1 Islamic vs. Conventional Finance

Islamic finance, despite its name, is not a religious product. It is however a growing series of financial products developed to meet the requirements of a specific group of people [3]. Islamic finance is a term that reflects financial business that is not contradictory to the principles of Shari'ah. On the other hand, under conventional finance, conventional products and services, such as insurance and capital markets could be based on elements that are not approved by Shari'ah principles such as uncertainty (Gharar) in insurance and interest in conventional bonds or securities. In the case of insurance, the protection provided by the insurer in exchange for a premium is always uncertain as to its amount as well as its actual time of happening. A conventional bond normally pays the holder of the bond the principal and interest.

Conventional practices could also involve selling or buying goods and services that are not lawful from a Shari'ah perspective. These might be *haram* (forbidden) foods such as pork, non-slaughtered animals or animals not slaughtered according to Islamic principles, alcohol or services related to gambling, pornography and entertainment. In short, conventional business practices could be non-compliant from a contractual structure perspective (if they are based on interest and uncertainty) and/or from a transactional perspective when they are involved in producing, selling or distributing goods and services that are not lawful according to Shari'ah ([3]: 5).

39.2.2 Components and Salient Features of Islamic Finance

As a financial system that functions on the principles of Islamic Law, called Shari'ah, Islamic financial practice has three broad components. Such as: banking, insurance and capital markets.

Islamic banking is a branch of Islamic finance that has seen the most growth to date. It is also a branch of finance that needs to be viewed from a different perspective as it cannot replicate conventional banking. This is because the most important underlying principle of conventional banking is that money creates money or that money has a premium, known as interest or usury. In the Islamic insurance, better known as Takaful, the insurer, that is the insurance company, is prohibited from providing indemnity to the insured, that is, the policyholders, as this is not acceptable to Shari'ah principles. This is because both the premium paid by policyholders and the indemnity paid by the insurer are uncertain and therefore not permissible as they contain the element of uncertainty or Gharar.

Islamic capital markets that consist of both equity investments and fixed income instruments must avoid some conventional elements and principles from both contractual and transactional perspectives. In addition to interest and uncertainty, issues such as gambling, which is a zero-sum game, investments in unlawful

activities and capital guarantee elements in equity-based products are to be avoided ([3]: p. 7).

Regardless of the above classification, the main principles of Islamic finance are that[1]:

- Wealth must be generated from legitimate trade and asset-based investment. (*The use of money for the purposes of making money is expressly forbidden*).
- Investment should also have a social and an ethical benefit to wider society beyond pure return.
- Risk should be shared.
- All harmful activities (*haram*) should be avoided.

Thus, based on the above principles, Islamic finance, especially Islamic banking, enjoys certain peculiar features that are not found in conventional finance. These features are:

Avoidance any form of Interest: The payment or acceptance of interest (Riba) for a loan is absolutely forbidden. Thus, Islamic financial activities, like banking and other business activities must prima facie be free from any element of interest.

The Avoidance of Uncertainty (Gharar) or Gambling: Trading under uncertainty (Gharar) in financial transactions must be eliminated. This is because Gharar might lead to disputes caused by an unjustified term in the contract arising from misrepresentation and fraud. Accordingly, undertaking transactions with insufficient knowledge of the market or product and thereby incurring an excessive risk or interest is forbidden.

The Need for Underlying Assets: Islamic finance requires that all banking business based on sale or lease must have an underlying asset. An individual or an institution should not be able to generate income from money. This self generation of money from money is "Riba", which is absolutely forbidden in Islam. Accordingly, the trading/selling of debts or receivables (without the underlying asset) for anything other than its par is not permissible ([17], p. 7).

Profit and Loss Sharing: Instead of charging interest, profit and loss sharing is possible in some Islamic banking activities. The bank will share the profit made with its customers either on a proportionate basis or on an agreed profit sharing ratio. In the case of a loss, the loss will be borne by the bank under a Mudarabah contract or by both parties proportionately in the case of a Musharakah contract. This concept is in direct contrast to fixed-income-based products.

Unlawful Goods or Services: Any transactions (buying, selling, and distribution) that involve alcoholic beverages, pork, prohibited drugs, gambling, pornography, and weapons are forbidden. Non-involvement is not only limited to buying or selling but also includes all chains of production and distribution, such as the packaging, transportation, warehousing and marketing of these prohibited goods and services.

[1] ACCA (2011): Studying Paper F9, Section 3: Islamic Finance.

39.3 Objectives and Methodology

39.3.1 Objectives of the Paper

The main purpose of this paper is to give a short and brief description and awareness about Islamic 'bond' (sukuk) and to compare its performance and risks with conventional bonds. Thus, the purpose of this paper is twofolds: first, it presents overall features, characteristics, kinds and basic structure of sukuk. Generally, an attempt is made to give general picture of sukuk to readers of this part.

The second part of the paper attempts to compare sukuk with conventional bonds by taking into account some fundamental variables, such as yield and risk. In the comparison process, the main objective is to identify and show risks that affect the two financial instruments in general and sukuk and/or bonds in particular. The other objective of the study is to show the risk reducing and profit maximizing potential of sukuk in a portfolio.

39.3.2 Data Sources and Methods of Presentation

By taking into account the above objectives to achieve the predetermined goals of the study, the research is conducted based on secondary data and existing literatures only. In order to collect the data needed for the analysis in this paper, different sources have used. One of these sources is the Dow Jones Sukuk Index.

The Dow Jones Sukuk Index is designed to measure the performance of Global Islamic Fixed-Income Securities—also known as sukuk. The index includes U.S. dollar-denominated investment-grade sukuk issued in the global markets that have been screened for Shari'ah compliance according to the index methodology. The index was created as a benchmark for investors seeking exposure to Shari'ah-compliant fixed-income investments. The Dow Jones Sukuk Index follows the same consistent, quantitative methodology as the Dow Jones Islamic Market™ (DJIM) Indices, which are monitored to ensure their continued adherence to Shari'ah principles.

To be included in the index, a bond must pass screens for Shari'ah compliance and meet the standards issued by the [24]. It also must have a minimum maturity of 1 year, a minimum size outstanding of USD 200 million, and an explicit or implicit rating of at least BBB-/Baa3 by leading rating agencies.

In addition to the DJIM indices, some important sources of data have widely referred. Among these Bloomberg, HSBC, NASDAQ, S&P, FactSet, J.P. Morgan asset management and other institutions' reports have provided an impressive source of data about the topic on hand. The data collected from these sources are organized and presented in the form of table, graphs, charts and figures.

39.3.3 Methods of Data Analysis

The methods of data analysis used for this particular study is descriptive statistics for describing the general characteristics of the Islamic 'bonds' and conventional bonds. To describe the earning potential and risk characteristics of Sukuk as compared to conventional bond, mainly three variables are used; such as risks of the instruments (volatility ratios), risk adjusted returns, and their correlations with other asset groups and indices. Based on these variables, simple comparative analyses have made to compare the potentials and the riskiness of Sukuk as compared to their conventional market peers. In the analysis Sharpe ratio is also used to evaluate the Islamic bond rewards to investor per unit of risks investors willing to accept as compared to conventional bonds.

Sharpe's measure divides average portfolio excess return over the sample period by the standard deviation of returns over that period. It measures the reward to (total) volatility trade-off [4]. Sharpe rations are computed by using the William Sharpe's formula of:

$$S(x) = \left(r_{(x)} - R_{(f)}\right) \div \delta^2_{(x)}$$

Where x is the investment; $r_{(x)}$ is the average rate of return on x; R_f is the best available rate of return of a risk-free security (i.e. T-Bill); δ^2 is the Standard deviation of $r_{(x)}$. Therefore, in order to evaluate and compare the returns (risk adjusted returns) of Sukuk with other financial instruments, the Sharpe risk adjusted model has used. The credit quality of debts and its progress were also taken in to account.

The other figure used in the analysis to describe emerging market debt and compare them with the other asset classes is their correlation with these asset classes. Correlation is a statistical measure (between 1 and −1) that describes the relationship between two variables. The closer a correlation coefficient is to 1 indicates the likelihood that each variable will move in tandem. A negative correlation indicates that each variable will move in the opposite direction.

The correlation of return and volatility between two assets, or asset classes, refers to the degree to which the two move in step with each other and the direction of that relationship. Importantly, in this case, it does not mean that the movement of one asset causes the movement of another. Instead it is just measuring how two assets respond similarly to the same external conditions.

39.4 Sukuk

39.4.1 Concepts and Brief History

Sukuk, in general, may be understood as a Shari'ah compliant 'Bond'. Sukuk (plural of sakk) are referred to as'Islamic bonds' but the correct translation of

the Arabic word of Sukuk is 'Islamic Investment Certificates'. The name sukuk is sometimes translated as certificates, or as Islamic bonds. Islamic bonds sounds a bit like a contradiction, and of course no predetermined interest rate is promised on these so-called bonds. Still, they may offer investors a steady stream of income [5]. Sukuk were extensively used by Muslims in the middle Ages as papers representing financial obligations originating from trade and other commercial activities. However, the present structure of sukuk are different from the sukuk originally used and are akin to the conventional concept of securitization, a process in which ownership of the underlying assets is transferred to a large number of investors through certificates representing proportionate value of the relevant assets.

Sukuk are essentially asset-backed instruments representing a beneficial ownership interest in the underlying asset. In its simplest form sukuk represents ownership of an asset or its usufruct. Sukuk resembles in many respects a traditional bond or asset-backed security, but is technically neither debt nor equity [6]. Under Sukuk structure, the Sukuk holders (investors) each hold an undivided beneficial ownership in the 'Sukuk assets' ([7]:154). The claim embodied in sukuk is not simply a claim to cash flow but an ownership claim. This also differentiates sukuk from conventional bonds as the latter proceed over interest bearing securities, whereas sukuk are basically investment certificates consisting of ownership claims in a pool of assets.

Unlike conventional bonds, sukuk is a recently-developed Islamic investment product that first appeared in 2002, when Malaysia issued a government-backed Sukuk, the first of its kind. According to Hans [5], first Islamic global bond issue, therefore, was floated in 2002 by the Malaysian government. The lead manager of the issue was HSBC Bank Malaysia and the sukuk paid a spread over 6-months LIBOR. Sukuk are mainly aimed at institutional investors, though there have been issues with a minimum value of each sukuk below the equivalent of €2000. Sukuk are not only issued by or on behalf of governments and quasi-sovereign agencies, but also on behalf of corporations. Sukuk issues are regularly heavily oversubscribed and the volume issued shows a steep rise. The restricting factor is supply, not demand [8].

Despite its name as Islamic, these financial instruments seem to be attractive not only to wealthy Middle East investors, but also to non-Muslim Western investors as well. They enter them in their books as their allocation of emerging market debt. Sukuk flotations are not restricted to Islamic issuers either. Borrowers in non-Islamic countries, from Germany to China, are also interested in tapping the Middle Eastern capital markets. As indicated by Hans [5], the German state of Saxony-Anhalt issued a €100 million sukuk in 2004, with Citigroup as the lead manager, and the World Bank also issued its first sukuk for 760 million Malaysian Ringgit ($202 million) in 2005. In 2006 a US private firm, East Cameron Partners, issued a sukuk for $166 million to finance off shore gas drilling in Louisiana. In his 2007 budget, the then British Chancellor of the Exchequer, Gordon Brown, announced plans to develop London as an international centre for Islamic financial products, including a secondary market for sukuk. One measure concerned offsetting the coupon payments on the securities against the company's profits for corporation tax purposes, similar to interest on conventional bonds. The first sukuk was listed on the London Stock Exchange in July 2006.

39.4.2 Salient Features of Sukuk

Sukuk can resemble conventional bonds by some of its features, but it has different underlying structure and provision. It is the trust certificate, which gives its holder an undivided proportion of ownership in the underlying project/asset and right to receive cash flows from this underlying. Returns on sukuk derive either from performance of an underlying asset or contractual agreement based on this asset. According to Wilson [9] main principles underlying sukuk issuance can be defined as follows:

all rights and obligation should be clearly defined;
the income from sukuk should be related to the project, which was financed by this issue;
Sukuk should be backed by a real asset.

The different forms of sukuk have different characteristics. Apart from the legal guise they adopt, sukuk can be fixed-rate or flexible-rate, in the latter case usually coupled to LIBOR or Euro Interbank Offered Rate (EURIBOR). They further differ as to liquidity. Murabaha and Istisna sukuk score low on liquidity, Musharakah, Mudarabah and Ijara sukuk are more attractive in this respect [5].

39.4.3 Main Sukuk Structure

The structure of Sukuk varies based on the type of contract it's based on. However, in all forms of sukuk there are three main parties involved in the Sukuk arrangement: the originator of the Sukuk who is the obligator, the issuer of the certificates who is the Special purpose vehicle (SPV) and the investors or the subscribers who invest on the Sukuk.

In general, according to Zhamal K [10], all type of sukuk structures categorized in to four types (forms). These are:

1. *Debt-Based Sukuk*: it is based on Murabahah, Ijaraa or Istisnaa contracts. This type of sukuk highly resembles conventional bonds. Unless the underlying asset is taken as collateral, rating of these bonds should be based on credit rating of an obligor.
2. *Asset-Based Sukuk*: in this case sukuk holder has some claims on assets, which were used to facilitate sukuk issuance. Rating of sukuk should be based on the credit rating of the issuer.
3. *Project-Based Sukuk*: is a new form of sukuk structure, using real projects as a base. Sukuk holder gets paid according to the profitability of the project. In this case, rating of sukuk should be based more on risks of the project, rather than rating of the obligor.

4. *Asset-Backed Sukuk*: it is the type of sukuk where all payments are solely based on performance of an asset. Rating of such sukuk should be based on the rating of the back asset.

39.4.4 Major Modes of Sukuk Issues

Based on the above structures, there will be different types of sukuk arrangements or modes. However, the major modes of sukuk arrangements are as follows:

39.4.4.1 Pure Sukuk al-Ijarah

These types of Sukuk can be used for the mobilization of funds for the development of long term infrastructure projects. This happens through the securitization of tangible assets. These tangible assets can be real state such as factory or fixed assets to be leased such as aircraft, buildings, and ships. The parties' involved in Sukuk al-Ijarah are the issuer (SPV) as issuer and as trustee, the originator as seller, lessee and obligator (under purchase undertaking and under sale undertaking) and as servicing agent as well as the subscribers whom invest in the Sukuk. The rental rates of returns on this type of Sukuk can either be fixed or floating depending on the originator.

39.4.4.2 Sukuk al-Mudarabah

These types of Sukuk are certificates that represent projects or activities managed on the Mudarabah contract principle by appointing any of the partners involved in the deal as Mudarib for the management of the business. The parties involved in the Mudarabah are the Mudarib who is the issuer, the subscribers are the investors in the Sukuk and the realized funds are the Mudarabah capital. Moreover, the Mudarabah Sukuk holders own the assets of the Mudarabah and the agreed upon share of the profits belongs to the owners of capital and they bear any loss occurred.

39.4.4.3 Sukuk al-Musharakah

These are certificates of equal value issued for the mobilization of funds to be used on the basis of partnership, were their holders become owners of the relevant project or asset as per their shares that are part of their asset portfolios.

Musharakah Sukuk is mode which can serve for the securitization of assets in big projects where huge amount of capital are required. The parties involved in the Sukuk al-Musharakah are the issuer who is the inviter to a partnership in a specific project or activity. The subscribers are the investors in the Sukuk partners in the Musharakah contract. The mobilized funds are the share contribution of

the subscribers in the capital. And the certificate holders own the assets of the partnership and they are entitled to any profit realized.

39.4.4.4 Sukuk al-Salam

These types of Sukuk are based on Salam principle in which advance payment of price are made for goods to be delivered in a certain time in the future. It is certificates of equal value issued for the sale of mobilized capital that is paid in advance in the shape of price of the asset to be delivered in a certain time in the future. A Salam purchase can onward sell the Salam asset by another contract which is parallel to the first contract. Parties involved in Sukuk al-Salam are the issuer who sells the Salam asset, the subscribers are the buyers of that asset, the mobilized funds which are the purchase price of the asset, which the Salam capital and certificate holders whom are the entitled to the Salam asset, the Salam price or the price of selling on parallel Salam basis, if any.

39.4.4.5 Sukuk al-Istisna

These types of Sukuk are based on Istisna principle in which an agreement for manufacturing goods and allowing cash payment in advance and delivery at a certain time in the future. In Istisna full ownership of the constructed item is immediately transferred upon delivery of the item to the purchaser, against the differed sale price that might also include any profits which legitimately covers the cost of tying funds for the period of the repayment. It is certificates of equal value and is issued with the aim of mobilizing funds required for producing a certain item or asset.

39.5 Risk Exposure Possibilities of Sukuk and Bonds

Risks are uncertain future events that could influence the achievement of the financial institution's objectives, including strategic, operational, financial and compliance objectives (Mohamad n.d: 5). The most important thing is to identify manageable risks and try to avoid or reduce the possibilities of exposure to them. The novelty of sukuk inherently entails a higher exposure to certain market and financial risks. In conventional financial system bonds are also subject to various types of risk and some of these risks are shared by the Sukuk. On the other hand, there are also risks which are specifically related to conventional bonds or sukuk instruments only.

Thus, in this section, we will compare conventional bonds with sukuk instruments in terms of their confrontation to different types of risks. These risks have grouped into three categories as those affect both instruments, those specifically related to bond instruments, and those that are specifically affect sukuk only. According to Tahmoures [11], some of the risks that affect both conventional and Islamic bonds or either of these instruments are as follows:

39.5.1 Risks That Affect Both Sukuk and Bonds

Business/Financial Risk risk that the bond issuer will default on interest and/or face value or both. The same risk can happen in the Sukuk. However, their remedial methods are quite different. In the conventional bond, bondholders have no choice but to recourse to the issuer for unpaid amount. This often is done by a lawsuit against bond issuer and it is not clear how much of the unpaid cash flow can collected and within how long. In the Sukuk case, the Sukuk holders have recourse to the asset not to a bankrupted individual. Accordingly, more comfort is offered to the Sukuk holders than bond holders.

Liquidity Risk it is a risk that the bond is not saleable at reasonable price and reasonable time due to lack or inefficient secondary market. Liquidity risk is also vital for Islamic finance in general and sukuk in particular. This is because Islamic financial institutions have limited instruments to manage their liquidity, due to Shari'ah restriction on trade of debt and other securities. This type of risk is applicable to the non-tradable Sukuk.

Conventional bond market, while more liquid than sukuk market, is still considered as less liquid than equity market. Bond investors face the risk of not been able to trade their securities due to lack of potential buyers. Most of the trading in bond market is done "over-the-counter" rather than in organized exchanges. While traditional financial institutions have various instruments to manage their liquidity, sukuk remains one of very few options available to Islamic financial institutions. Thus, development of appropriate secondary market is crucial for sukuk more than for conventional bonds.

Inflation Risk This type of risk has opposite impact for the two instruments. Due to its fixed-income nature of conventional bonds, the investor bears the risk that inflation can be higher than the coupon payment. Thus, high inflation rate can cause the conventional bond yields to lag behind inflation rate. High inflation rate, however, has positive effect Sukuk instruments. As inflation rate goes up so does the market price of the Sukuk assets at maturity. This is indeed a return than a loss.

Foreign Exchange Risk This risk is the same for both conventional bonds and the Sukuk. It can affect bonds issued in a foreign currency, other than the issuer currency, when the unfavorable currency fluctuation decreases the initial value of investments. However, according to Tariq [12], those Sukuk which are liquid or which are relatively short term in nature will be less exposed to foreign exchange risk.

Default Risk There is a risk that the issuer would not be able to make regular payments (coupons) or to repay the principal amount. According to Tariq and Dar [13], due to the fact that Shari'ah prohibits debt trading, any rescheduling of debt for higher markup is forbidden under sukuk. This prohibition makes risk of default higher for sukuk as compared to conventional bonds, since sukuk issuers "would be more inclined to default".

Moreover, while conventional bond represents a debt obligation, sukuk is a certificate of ownership, so in case of default sukuk holders have a very limited possibility to retrieve their initial investment. The managers of sukuk can bear responsibility for any sukuk default only within the limits of their control and capabilities. Therefore, in case if default occurs due to external factors, such as "force major" or global financial crisis, all losses under sukuk will be borne by sukuk holders [14].

39.5.2 Risks Specific to Conventional Bonds

Call Risk The conventional bonds are usually subject to this risk when a big market interest rate occurs. This creates a big problem for bondholders since they will be deprived from the higher original interest rate. The Sukuk are not susceptive to the fluctuation in market interest rates as the conventional bonds.

Interest Rate Risk (Risk of Return) this type of risk is a major cause of price volatility in the bond market. As a fixed-income instrument, bond yield has an inverse relation with interest rate movement. For any change in market interest rates, two opposite changes/risks are created for existing bonds: first, there is an inverse relationship between market interest rate and price of bonds; When market interest rates grow, bond price decreases and vice versa. Second, as a market rate change so does the return bond investors will receive from reinvesting their interest/coupon. With the right duration, these risks can be eliminated. The longer is the maturity of the bond, the higher is the potential of interest rate growth and, therefore, the higher is its interest rate risk.

Downgrade Risk This is the risk that a bond price will decline due to a downgrade in its credit rating. Downgrades can come from a variety of sources; however, debt downgrades generally come from ratings agencies such as Moody's or Standard & Poor's (S&P). Thus, investor, who is willing to trade bonds on the secondary market, bears downgrade risk.

39.5.3 Risks Applied Only to Sukuk

Price Risk also known as asset redemption risk. All sukuk issues should be backed by tangible assets. At the end, the originator has to buy back the underlying assets from the certificate holder. Thus, this is the risk that the value of an asset at maturity dates will be different from market price due to fast depreciation, over usage of the asset and/or damage. The principal amount paid may not be equal to the sukuk issuance amount and, as a result, there is the risk that the assets may not be fully redeemed [12].

Shari'ah Compliance Risk This risk results from the violation of Shari'ah provisions in the Sukuk case. Shari'ah compliance is described by Tariq and Dar [13] as a risk of loss of asset value due to sukuk incompliance with Shari'ah principles. Each issue of sukuk should be approved by Shari'ah board as compliant to Islamic rulings. This type of risk became very important in light of recent criticism by some Shari'ah scholars about non-Islamic nature of most of the modern sukuk.

Consequences of issuing financial instruments non-compliant with Shari'ah can be very damaging to the reputation of issuer and may require extensive efforts to regain investors' confidence. It is also worth mentioning that some Shari'ah scholars impede development of sukuk market. One of the problems with Shari'ah boards, as mentioned by Usmani [14], is the fact that some scholars are active only at the first stage of sukuk structuring process. They issue fatwa (decision) on permissibility of issue in accordance with proposed structure and ignore remaining stages of sukuk performance. However, the new standards issued by AAOIFI [15], declares as Shari'ah boards should be active during all stages of sukuk operation, ensuring Shari'ah compliance of entire life span of sukuk.

Operational Risk it is the risk of revenue loss due to delaying in getting the benefits of the underlying assets under the lease agreement. Conventional bonds are free from the direct effect of this type of risks. Since the structures of the tradable Islamic sukuk must be based on assets and the return on these sukuk originates from these assets, then the operational risks of these assets must be carefully studied.[2]

Legal Risks Lack of standardized regulations governing the Islamic finance is a major impediment to further development of the whole market, including sukuk. Several international institutions have been established to produce the standards and regulations, including AAOIFI and IFSB. Sukuk faces regulatory risk as there is a conflict between the provisions of Shari'ah with the regulations of the country in which the Sukuk were initiated.

However, as far as Sukuk is concerned, Goldman's [16], the major risk is the violation of the six standards that were set by the AAIOFI in 2008. One of the credit rating agencies has recommended that Shari'ah scholars should take into account both a priori and posteriori compliance process carefully in order to avoid invalidation of the Sukuk over its life time.

SPV Specific Risks The Special Purpose vehicle is generally designated to be a standalone institute that is bankruptcy remote from the originator. However, there may be a notion of settlement risk involved with the SPV in that the originator will have to channel the payments through a clearinghouse. The certificate holders will then be reimbursed through the clearinghouse. It is the notion of settlement risk involved with the SPV where the originator will have to reimburse the certificate holders through a clearinghouse [17].

[2]The "Sukuk" Risks. Memri Economic Blog, 2008, p. 1: Available on: http://www.memrieconomicblog.org/bin/content.cgi?article=119 accessed on 21st of April, 2014.

Risks Related to the Asset The underlying assets of the sukuk certificates are subject to numerous risks such as risk of loss of an asset. This risk is minimal in case of sukuk ijarah, but it can be significant in case of construction. Furthermore, another aspect of risk is the need to maintain the structures of assets. Proper maintenance will ensure adequate returns to the certificate holder. According to Shari'ah principles, the SPV will usually be required to bear the responsibilities on ensuring asset structure maintenance.

39.6 Comparison of Yield and Risks of Sukuk and Conventional Bonds

One of the most common questions that market participants nowadays ask is whether it makes sense to buy developed countries' government bonds now that their valuations have been driven up by the market (as their yields have been driven down by the market). Developed market interest rates are at all-time low, and may remain so far longer than investors currently expect, as governments, companies and households continue to cut their borrowing, restricting potential economic growth. As a result, there is an increasing need for investors to diversify away from their traditional concentration in developed markets, and to look further afield for yield [18].

Regardless of the above mentioned unique risks, Sukuk as Shari'ah-compliant instruments provide medium to long- term fixed or variable rates of return. As compared to the global and other conventional bonds, sukuk certificates provide a better risk adjusted returns to its holders. Unlike emerging market bonds, that have a relatively high return with high volatility rate, the outperformance of sukuk is not as a result of too much volatility in its returns. Their volatility ration is also relatively low. Based on 3 year data, it is attempted to make some comparison between global sukuk and global conventional bond. The result, as depicted below (Fig. 39.1), indicates that the global sukuk outperformed with less volatility than conventional bonds. When we compare the indexes of Global Sukuk, as represented by Dow Jones Sukuk Index, with JP Morgan's GBI Broad index during the past 3 years ended December 2013, we can see how Sukuk performed better than global bonds. The volatility was also low during the periods as compared to that of GBI's.

Sukuk is still better in terms of profitability and risk when compared with the global bond market based on 2 year data from June 2011 to June 2013. Based on this analysis, during the 2-year period ended 30th of June 2013; the global Sukuk market outperformed the Global Bond market (as represented by the CITI World Broad Investment Grade (WorldBIG) Bond Index with average annualized returns of 3.71 % versus 0.57 % respectively. That means, sukuk has more than six times profitable as compared to the World Broad Investment Grade Bonds. Similar to the above comparison, this performance was also attained with less volatility. When we look at the volatility rate, as shown below (Table 39.1), the returns volatility rate of the global Sukuk market, 2.24 %, was less than half of that of the world BIG bond index which was 4.66 %.

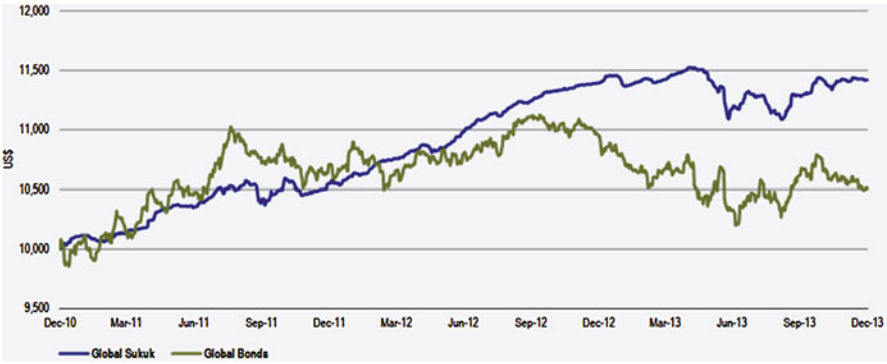

Fig. 39.1 Three-year period return ended December 31st 2013 (Source: S&P and J.P. Morgan as of 31 December 2013. Global Sukuk are represented by the Dow Jones Sukuk Index. Global Bonds are represented by the J.P. Morgan GBI Broad Index. Returns are in USD. The computation is made by FactSet Research Systems Inc)

Table 39.1 Two years annualized returns, returns volatility and Sharpe ratio of DJSI and World BIG

	Annualized returns (%)	Returns volatility (%)	Sharpe ratio
Dow Jones Sukuk Total Return Index	3.71	2.24	1.61
Citi World Broad Investment Grade (WorldBIG) Bond Index	0.57	4.66	0.10

Source: Bloomberg and CIMB-Principal Islamic Asset Management as at the 30th June 2013

Higher profitability ratio may not always give full information about an investment's performance unless it takes into account the risks attached with it. Investors always need to be properly compensated for the additional risk they take for not holding a risk-free asset. Therefore, the most important thing is that whether those investors are properly compensated for each unit of risks they are willing to accept or not. To see this, in the Table 39.1, the Sharpe ratios, as it measures the excess return (or risk premium) per unit of deviation in an investment vehicle, is also computed. Since it measures the excess return (or risk premium) per unit of risk in an investment, the ratio tells how much excess return investors are receiving for the extra volatility that they endure for holding a riskier asset. Accordingly, in examining the quality of the global Sukuk market performance, it can be compared with conventional bonds based on its risk adjusted rate of returns.

As shown above (Table 39.1), the DJ sukuk return index had 16 times higher annualized Sharpe ratio as compared to World BIG. It tells as the sukuk superior earning performance and lower volatility is further enhanced with a higher Sharpe ratio. The global sukuk have earned better average excess return per unit of risk during the periods as compared to World BIG. The world broad investment grade bond holders receive annualized return of only 0.10 per unit of extra volatility risks

Table 39.2 Returns volatility of DJSI and JP Morgan EMBIG Index for 2-year period

	Returns volatility (%)
Dow Jones Sukuk Total Return Index	2.24
JP Morgan Emerging Market Bond Index (EMBI) Global Total Return Index	7.21

Source: Bloomberg and CIMB-Principal Islamic Asset Management as at the 30th June 2013

whereas sukuk certificates offered average excess return of 1.61 per unit of extra volatility that investors endure for holding it. The improvement in the Sharpe ratio shows that the sukuk strategy can generate alpha or additional returns that better compensate for risk.

The volatility of Sukuk return is still much less as compared to the volatility of emerging market bonds. Over the 2-year period (ending the 30th June 2013), the global Sukuk market exhibited lower returns volatility compared to the emerging market bond (represented by JP Morgan Emerging Market Bond Index (EMBI) Global Total Return Index).

As indicated above (Table 39.2), the 7.21 volatility ratio of EMBI is more than twice higher than the 2.24 volatility on Sukuk returns. This signifies that global Sukuk as an asset class is relatively insulated compared to the emerging and the global bond markets. Therefore, from this data anyone can expect an increase in demand for global Sukuk portfolios since the asset class remains relatively insulated from most of the volatility in other financial markets.

39.7 Correlation of Sukuk with Other Asset Classes

Fund managers and international investors are interested to know about the relationship among investment vehicle before they invest their money and form a portfolio. Accordingly, in addition to its return and risk character, the other point that takes into account by international investors who are interested in investing on fixed income instruments to form the best combination of these vehicles is its correlation with one another. The correlation nature of an asset enables them to decide as what type of portfolio should they form and how to manage their portfolio risks. Analyzing a vehicle's correlation profiles with other asset classes is also another way of judging how effectively it can bring diversification to a portfolio.

With low correlation to other asset classes, Sukuk are a good compliment in Shari'ah compliant and conventional portfolios. As indicated in the below (Table 39.3), the correlation coefficient between the global sukuk and conventional bonds and other asset classes are relatively low which is attractive to portfolio managers. This is because given their relatively low correlations to other asset classes sukuk certificates have historically exhibited attractive diversification benefits.

As shown in the table, global sukuk has a relatively low to moderate correlation with other securities. Its relatively strong correlation was with global equity, which

Table 39.3 Three-year correlation of global sukuk with other asset classes (as of December 31st 2013)

	Global Sukuk
Global Sukuk	**1.00**
Global Shari'ah equity	0.39
Global equity	0.54
Global bonds	0.43
Commodities	0.28

Source: S&P, MSCI, J.P. Morgan, FTSE, Dow Jones as of 31 December 2013. The calculation is made by FactSet Research Systems Inc
Global Sukuk are the Dow Jones Sukuk Index. Shari'ah Global Equities are represented by the MSCI AC World Islamic Index. Global Equities are represented by the MSCI World Index. Global Bonds are the J.P. Morgan GBI Index. Commodities are represented by the Dow Jones UBS Commodity Index-Total Return

was 0.54. The weakest correlation was with the commodities, 0.28, which are represented by the Dow Jones USB Commodity index. It had also a 0.39 and 0.43 correlation with global Shari'ah equity and global bonds respectively. In general, its low correlation with these and other major asset classes provides diversification opportunities to global investors.

39.8 Portfolio Diversification Potential of Sukuk

The regular periodic income streams during the investment period with easy and efficient settlement and a possibility of capital appreciation gives unique qualities to sukuk certificates that in-turn provide diversification for those with bond portfolios that have more of a developed market assets and equities. Sukuk have an important role to play in the search for diversification, offering a significant yield premium over developed market debt, along with superior fundamentals.

In addition to providing income opportunities, an allocation of resource to sukuk offers potential diversification benefits. Among several of the most-notable features of sukuk certificates that investors motivate for considering them in asset allocation (forming portfolio) are their currency diversification benefits, attractive correlations with other assets, yields, credit quality, and wide geographical diversification.

Investing in sukuk offers strong international diversification. Since the issuer of sukuk comprises many countries from different areas of the glob more opportunities are expected from investments in these markets. Importantly, as the number of investable countries has increased, so has the regional diversification. When the DJSI formed in 2004, it represents the sukuk index of geographically diversified countries. Despite political unrest in pockets of the Middle East, the performance

Table 39.4 Principal Islamic Asset Management

Country	Percentage (%)
Malaysia	17.08
Saudi Arabia	16.21
Qatar	13.60
Indonesia	6.04
Dubai	5.53
Abu Dhabi	3.60
Total	62.06

Source: Bloomberg and CIMB-Principal Islamic Asset Management, October 2012

of the DJSI has remained resilient. This stability of the index is a reflection of the geographical diversification it offers. The sovereign representation of Sukuk issuers in the DJSI leads with Malaysia, and is followed by Saudi Arabia, Qatar, and Indonesia. According to some experts, these jurisdictions have strong macroeconomic fundamentals and offer exposure to oil- and gas related revenue streams, which offer deep reserves support to issuers (Table 39.4).

According to Islamic Finance Outlook report [19], faced with scarcity of funds in international markets, a growing number of new and emerging jurisdictions in Asia, Africa and Europe are seeking to attract Islamic finance investors, particularly from the oil-rich GCC countries, by issuing sukuk to fund their infrastructural development projects and other budgetary and corporate financial needs. In recent years, jurisdictions that have tap the global sukuk market include Azerbaijan, Turkey and United Kingdom in 2010; Hong Kong, Jordan and Yemen in 2011; France, Germany and Kazakhstan in 2012; and Luxembourg, Mauritius, Nigeria and Oman in 2013 (Table 39.5).

Since 2004 a number of debut sovereign issuance have been made by different countries. The global sukuk industry is also expected to continue its upward trajectory in 2014 as a number of high profile debut sovereign issuances are expected to take place this year. The sovereign sukuk including the United Kingdom, Ireland, South Africa, Tunisia, Mauritania, Senegal and Oman are expected to debut sovereign issuances in 2014.

The issuance of sukuk in different local currencies in addition to USD or other hard currencies also brings an advantage of reducing portfolio risks. As mentioned in the previous part of this paper, one of the risks of sukuk is related to exchange rates among currencies. Thus, the composition of assets denominated in various currencies in the pool will contribute to reduce foreign exchange risks in different ways. Hence this can be very useful tool to overcome the foreign exchange risk by diversifying the pool with sukuk of different currencies (Fig. 39.2).

Within the sukuk issuance, investors have also an alternative to form a portfolio with different sukuk structures. Investors may have a pool of Musharakah, Ijarah and some Murabaha, Salam, Istisna'a, and Ju'alah contracts. The return and risk on such securities well be depends on the chosen mix of the contracts. In general, within the sukuk issuance, the diversity by region, currency and sukuk structure should help

Table 39.5 Kuwait Finance House Research, 31st March 2014

Issuer name	Sukuk name	Structure	Domicile	Currency	Issue size (USD in Mil)
Banque Centrale de Tunisie	Tunisia Sovereign Sukuk	Unknown	Tunisia	TND	Unknown
Central Bank of Mauritania	Mauritania Sukuk	Unknown	Mauritania	–	300
Central Bank of Nigeria	Nigeria Sovereign Sukuk	Unknown	Nigeria	–	200
Government of Ireland	Ireland Sovereign Sukuk	Unknown	Ireland	–	19.493
Government of South Africa	South Africa Sovereign Sukuk	Ijarah	South Africa	USD	148.723
Republic of Tatarstan	Tatarstan Sovereign Sukuk	Unknown	Russian Federation	USD	Unknown
UK Sovereign Sukuk	UK Sovereign Sukuk		United Kingdom	GBP	328.22

Source: IFIS, Zawya, KFHR

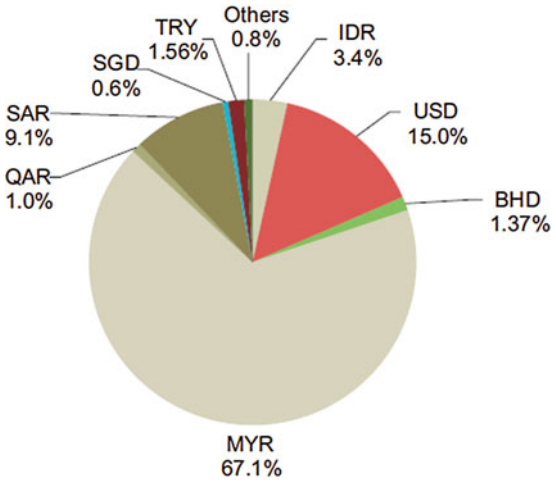

Fig. 39.2 Kuwait Finance House Research, 2013

manage volatility because the various regions and countries do not all tend to rise and fall at the same time.

We can see a case to strength the above discussion as the benefits of diversification with Sukuk securities are not just theoretical, they are demonstrable. For this, let us see two scenarios of a portfolio in CIMB Principal Islamic Asset Management. After looking in to these scenarios, one can examine the outcomes to determine whether investing in Sukuk serves as a good diversification strategy without compromising investment returns:

1. One portfolio tracks the conventional index completely.
2. A second portfolio is split, whereby 20 % tracks the DJSI and 80 % tracks the conventional index.

	Annualized returns (%)	Sharpe ratio
Portfolio 1: 100 % tracking the World Broad Investment Grade Bond Index	4.52	0.87
Portfolio 2: 20 % tracking the Dow Jones Sukuk Index and 80 % tracking the World Broad Investment Grade Broad Index	4.88	1.14

Source: Bloomberg and CIMB (**C**ommerce **I**nvestment **M**erchant **B**ank)-Principal Islamic Asset Management Sdn Bhd as of September 2012

For the 2-year period ending September 28, 2012, the annualized returns of the second portfolio resulted in a slightly enhanced return of 4.88%, which is above the 4.52 % of the first portfolio. In addition, the second portfolio's Sharpe ratio was increased significantly to 1.14 from its 0.87. Therefore, from the second portfolio, investors have not only earned better return; they have also received excess reward (1.14) per unit of every extra volatility that they endure by holding 20 % sukuk in their portfolio.

39.9 Conclusion

The nature of this study is descriptive and has intended to describe the features and the risk other characteristics of Sukuk. It is also attempted to compare and contrast Sukuk instruments with conventional bonds. Accordingly, the two instruments have compared based on the variables such as risks, returns, and volatility ration. Apart from this the diversification potentials of sukuk instruments have also discussed. Thus, from this study a number of conclusions can be drawn.

First, the two instruments are not quite identical. Although there are various fundamental differences between the sukuk and conventional bonds, both instruments tried to solve the same common financial problem of raising capital for needed entities. They offer quite different solutions to the same financial problem. Therefore, their differences are not originated from financial interests but it is from the religious backgrounds.

Second, sukuk instruments are a good mechanism to attract those investors who are away from participating in conventional system due to their religion. The Sukuk issues are available to all financial institutions and investors regardless of their religious background and believe. Which method of financing should be considered, is a matter of choice and whether the bond issuer and/or bondholder would like to benefit from the growing market share of the religiously conscientious financial market.

Third, the two financial instruments are exposed to some specific risks. Certain risks will affect only either conventional bonds or sukuk instruments. Some events which can bring a risk to conventional bonds will have a gain to sukuk instruments. One reason for this is their dissimilarities in nature. Therefore,

- If there is an active management approach supported by deep research, it can help investors to avoid undue risk.
- One of the most important risks for Sukuk is Shari'ah compliance risk. Therefore, institutions and governments should have proper Shari'ah advisory board before issuing any forms of Sukuk.
- To overcome the liquidity problem, conventional financial institutions have various instruments to manage their liquidity. However, there are only very few options available to Islamic financial institutions. Therefore, development of appropriate secondary market is crucial for Sukuk instruments.

Fourth, based on the analysis Global Sukuk has shown relatively strong performance with lesser volatility compared to conventional bonds. Sukuk were effective in achieving high returns as compared to conventional bonds. They offer better risk adjusted returns than other conventional bonds.

Fifth, Sukuk also provides diversification benefits gained from their diversity by region and currency, attractive correlation with major asset classes, and their diversity sukuk structure. Therefore, an active portfolio management can change exposures to individual countries or currency that are performing poorly, overweight countries or particular market sectors that are performing well, and may help investors expand their income opportunities by allowing them to take advantage of the diversification attributes sukuk instruments have to offer.

Sixth, the use of Sukuk instruments along with conventional bonds will create a business opportunity for bond issuers. Therefore, creating suitable regulatory environment for sukuk instruments will make easy the issuance and trading of sukuk. Creating proper Islamic financial regulatory bodies (like IIFS) in every country will be difficult, but it is possible to establish a dedicated department within existing government structures that will do at least the basic tasks of Islamic financial regulatory bodies. It will be also important to create cooperation among different regulatory bodies to form institutional frame work for sukuk within the existing system.

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