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Sukuk and Bond spreads and global factors

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Abstract

Sukuks are considered as alternative instrument in Islamic finance. However, the structures and provisions make sukuks dissimilar to the conventional bonds. Literature is having difficulty in comparing the performance and integration of the sukuks with conventional bonds issued at the same time. In this paper, we have employed sukuks and bonds data that are issued by same company, and issued at the same period and market. Accordingly, we are able to minimize factors that raised from sukuks and bonds structure differences. We have used 123 firms that issued both sukuks and bond at the same period for the years between 2013 and 2018. We have found that global factors, such as US government yield bonds make significant impact on the sukuk-bond differences. In particular, the negative returns create more significant differences. However, on the other hand, the global shocks in sukuk markets, proxied by DJ sukuk index, are highly limited.

1. Introduction

In terms of trends in the Islamic financial markets, the total nominal value of global Sukuk outstanding reached $295 billion in 2014. There is a greater international recognition of Sukuk that Reuters (2016) expected that the total value of global Sukuk outstanding will have to reach $395 billion by the year of 2020. The Islamic investment market offers bonds called the Sukuk which is identified as issued by a Shariah-compliant financial institution. The increasing demand for Sukuk market has created a flourishing Islamic financial system. Sukuk is a particular type of investment issued by sovereign corporate agencies. While, the volatility in oil prices may impact negatively the Islamic investment markets, but it still be that for instance the GCC countries can decide for Sukuk to achieve their economic development plans. According to Reuters Sukuk market outlook (Reuters, Sukuk revival 2018), the historical trend of global Sukuk issuance indicates a negative trend from 2013 to 2016 and a revival in the issuing value from the third quarter 2017, due partly to the latest Saudi Arabia international and domestic sovereign sukuk issuances. Record amounts of $137.14 billion Sukuk were issued in 2012, but in 2014 the Sukuk issuance was $101.75 billion. In 2015 only $65.43 billion Sukuk were issued, showing a massive fall compared to 2014. Nevertheless, a large component of the following drop because of BNM (Bank Negara Malaysia) policy decision to terminate issuance of short-term Sukuk investment.[1] In 2014 the Malaysian Sukuk issuances reached $26.4 billion and $38.9 billion in 2016 (ICD-Reuters 2017, pages 54-55), indicating that the Malaysian Sukuk market was and remains the highest ever value of recorded issuances. Additionally, there were quite a few longer-term Sukuks that matured in 2014 that were not re-issued in 2015 for instance. Those came from General Electric ($500 million), Government of Dubai ($1,250 million), and UAE-based Tourism Development Investment Company ($1,000 million). In 2016 the UAE is among the top countries with $6.9 billion of issued sukuk after Malaysia and Indonesia with $38.9 and $14.3, respectively. However, Sukuk issuance is growing rapidly and investors prefer to invest in Islamic bonds because of the unique benefits to corporate issuers that are not offered by conventional bonds.

The fall in international Sukuk volume can mainly be attributed to economic uncertainties such as inflation uncertainties, negative economic growth, devaluation in currency and economic structure in the global financial system. For example, Nagano (2016) mentioned that Sukuks are

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[1] According to Ahmad and Radzi (2011) both Sukuk and conventional bond issuers in Malaysia consider foreign exchange fluctuations as being the significant factor affecting bond issuance.

preferred along with market timing, once the pecking-order conditions of market accessibility are satisfied. The global Sukuk market had experienced sharp growth as annual Sukuk issuances increased from $1.17 billion in 2001 to $138 billion in 2013 and $344.8 billion in 2016 (IIFM 2016, ICD-Reuters 2017, page 11). As opposed to Sukuk bonds, conventional bond issuance doesn't necessarily require evaluation of the economic condition as represented by GDP and market liquidity. Considering current economic circumstances, GDP and market liquidity indicators imply insensitivity in the issuance of conventional bonds compared to Sukuks.

Mohamed et al. (2015) mentioned that Malaysia is one of the world's largest Sukuk markets up to the year 2012, where 70% of the total global Sukuk were issued in Malaysia. Indeed, the Malaysian sukuk market is made up of 96% (USD $431,65 bill) local currency issues (Malaysia Islamic Finance Report, 2015). The fact is, for around 2020, the federal government has set an objective for Islamic banking utilities to attain 40% of the entire industry. The latest data demonstrates this: Islamic banks used across seventy-five nations own assets worth around $300 billion dollars and revel in a yearly growth rate of more than 15%. The significance of this is related to a whole market worth of around $1 trillion.

Sukuk can be specified as an issuance within the purview of Islamic investment markets. As a Shariah-compliant financial instrument, it is an alternative to conventional bonds. The Sukuk represents a share in the project and its value at maturity has to reflect the current market value of the underlying investment, while bonds constitute a nominal debt that the issuer has to repay at maturity. According to Islamic Financial Services Board (IFSB, 2009, pages 3 and 20), sukuk are "certificates with each Sakk representing a proportional undivided ownership right in tangible assets, or a pool of predominantly tangible assets, or a business venture" that are Shariah-compliant. The sukuk certificates, corresponding to mechanisms of liquidity management, set up an original asset-based securities (ABS) structure. The success of sovereign sukuk issues has incited the corporate issues which now comprise over 90% of the total volume of global sukuk issuances (Tariq et al. 2007). The Sukuk debate is mainly concerned with how the bonds are similar to or different from the conventional bonds. The major distinguishing features of Sukuks compared to conventional bonds are the prohibition of a fixed interest payment and the exclusion of

transactions involving extreme uncertainty, deliberate lack of transparency (Gharar), gambling (Maysir), short selling, arbitrage, and excessive speculation (Aloui et al. 2015).[2]

Al-Khazali et al. (2014) proposed that sukuk investment is the most ethical investment. Ethical investing provides shareholders an opportunity to buy shares that will be consistent with their particular opinions, be they derived from the environment, spiritual or political principles. There is a simple standard conception among the opposing team from ethical investing that ethical investing could underperform traditional investing. Primary, ethical portfolios are subsets within the market portfolio, and thus these investors experience a possible lack of diversity. Following, choosing and supervising stocks based on moral control is claimed to be a costly process that will adversely affect the net profit (Bauer et al. 2006). There are many Sukuk structure types such as asset-based, debt-based, equity-based and agency-based in addition to hybrid structures; the risk factors of Sukuk depend on the Sukuk structure types. The Institutions offering Islamic financial services (IIFS) deal in detail with risk weights on sukuk exposures when the sukuk are asset-based securities involving full transfer of legal ownership of the underlying assets.

The Islamic Financial Services Board (IFSB) issued its Capital Adequacy Standard in December 2005 for institutions offering only Islamic financial services (IIFS). The IIFS' exposure to risks may be similar to that of the conventional securitization; however, Shariah rules and principles may add an extra dimension to the existing risk exposures and may have a material effect on the risk profile of sukuk holders. The risk exposures of sukuk are from various perspectives: risks of the originator or obligor, default risk of the issuer i.e. Special Purpose Entity (SPE), bankruptcy managed by SPE's instruments, risks of the holder i.e. investor. This latter is subject to sukuk liquidity risk in the primary and mostly secondary markets of sukuk,[3] rate of return risk since their investment account holders (IAH) expect returns reflecting a floating rate benchmark, and impairment of assets in the absence of the lessee negligence (for more details see IFSB 2009, pages 6 and 7, and Tariq et al. 2007).

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[2] The Islamic bond has similar functions as the bond which is issued to finance businesses. However, bond investors have the primary purpose of generating capital gains with fixed interest payments. Bond trading can be not related to the value of any underlying assets while bond buying and selling mostly utilizes interest rate improvements. Sukuks, unlike conventional bonds, do not operate based on interest rate improvements.

[3] Most of the Sukuk certificates are held until their maturity. The maturities of Sukuk are medium to long term, their success depends on their capacity to evolve into highly liquid resources of fund investment.

Our paper fills the existing literature gap, because there are very few empirical papers on the topic of the sukuk yield spreads (such as Fathurahman and Fitriati 2013, Safari et al. 2013, Rauf and Ibrahim 2014, Ayturk et al. 2017, Hassan et al. 2018, Saad et al. 2019). In this paper, we focus on the yield spread by comparing the sukuk yield to bond yield through their main determinants; such difference is a sign of the risk premium for investing in sukuks over bonds. By definition, the greater risk an asset class is, the greater its yield spread. We explore the GCC, Turkey, Malaysia, Indonesia and Singapore bond markets in a broader sense to observe how the global conventional and Islamic bond markets affect the countries' financial markets. We investigate the sukuk and bond spreads taking into account the macroeconomic announcements published in the U.S. in addition to the global economic policy uncertainty. To apprehend the effects of global shocks on sukuk and bond markets in each country, we use the data of financial and non-financial firms at weekly level.

Mainly, we have investigated the reactions of the sukuks and bond spreads to global risk factors. For the sake of minimizing the structural differences between Sukuks and bonds, we have created sukuk and bond spreads and main determinants database by collecting data from the same companies. In other words, the sukuks and bond spreads in our dataset are issued by same companies. We have found that bonds are more integrated with the global markets and they react to global uncertainties including like EPU, VIX or US interest rates more significantly, compared to Sukuks. When we have done Quantile analysis, we have observed that or higher or lower bond spreads, the results do not change. However, for higher sukuk spreads we have observed that Sukuks react more to the global uncertainties.

In Section 2 of the paper, we present a detailed literature review that focuses on the yield spreads to exhibit our contribution to such literature. Section 3 describes the data and points out our research methodology. Section 4 discusses the empirical findings, and Section 5 concludes with the main outcomes and related implications for risk managers.

2. Literature review

Using monthly returns data of the Center for Research in Security Prices (CRSP), Lesmond et al. (2004) find that stocks with high trading costs generate large momentum returns. Lesmond et al. (1999) provide an alternative indirect method for estimating trading costs based on earlier limited

dependent variable (LDV) procedures initiated by Tobin (1958), Rosett (1959), and Maddala (1983). The LDV method considers region pieces of the underlying variable when it is less, in-between or more than a threshold. After defining the region pieces, and by assuming that returns are normally distributed, we construct the associated estimable log-likelihood function (For more details, see Appendix A in Lesmond et al., 2004 and Section I in Chen et al. 2007). Lesmond et al. (2004) display that the returns associated with relative strength investing strategies, consisting in buying past winners and selling past losers, do not exceed trading costs. This outcome means that there is no market trend, casting doubt on the earnings from any momentum strategy.

Chen et al. (2007) analyze a panel covering around 4000 corporate bonds by considering common bond-specific, firm-specific and macroeconomic variables. By using fixed effects regressions and simultaneous equation model, they find that liquidity is priced in corporate yield spreads and that more illiquid bonds earn higher yield spreads, but liquid bonds cause a significant decrease in yield spreads. Chen et al. (2007) conclude that the default risk determinants cannot fully explain the level or the dynamic of yield spreads. To have more credible information on spread prices, they use three liquidity estimates: (i) the bid-ask spread which is the most utilized measure of liquidity costs, (ii) the proportion of zero returns as liquidity proxy which is indicative of illiquidity, (iii) the limited dependent variable model proposed in Lesmond et al. (1999). They find a significant link between corporate bond liquidity and the yield spread with each of the three liquidity measures. The suggested LDV model relies on the daily closing returns, which contain the costs, to estimate liquidity costs. By considering the true value of the bond is governed by lots of stochastic factors, the assumption behinds the LDV model (named also Lot model) is that measured prices of bonds would reflect new information only if the information value of the marginal trader exceeds the total liquidity costs (Chen et al. 2007). This reveals that there is a liquidity cost threshold for each bond. The probability of observing a zero return is higher within the liquidity costs thresholds than outside the liquidity costs threshold. Chen et al. (2007) use the maximum likelihood method to jointly estimate the risk factors related to market-wide information and the upper and lower liquidity thresholds that represent the whole intervals of liquidity costs.

By considering the only conventional yield spreads for emerging markets (Latin America, South America, Europe, Asia and Africa), during the period 1998-2009, Siklos (2011) examines its domestic and external determinants. He also includes a volatility index of stocks (known as

VIX) and forward-looking variables (such inflation and current account balance forecasts) as potential determinants of spreads behavior. Siklos shows that the global financial crisis raised yield spreads only in Latin America, South America and Europe. He indicates that the changes in risk aversion (VIX 30 days ahead) are significant determinants of yield spreads.

Afonso et al. (2015) analyze the structural instability in the relation between euro area sovereign bond yield spreads against the benchmark of Germany bond yield and their causal determinants over the period January 1999 and August 2011 and the European panel of Economic and Monetary Union (EMU) countries.[4] They use a dynamic General to Specific (GS) modeling technique, which consists to algorithmically select terminal models where the explanatory variables are statistically significant and based-theoretically (Hendry and Krolzig 2001 and 2005, Doornik 2009). They contribute to the related literature by showing the significant specificity of each country i.e. intra-EMU heterogeneity in terms of risk factors explaining yield spreads of government bond over time and their impact-magnitude. They expect that the improvement of the global risk conditions will not help to resolve the European debt crisis, the necessary condition consists in improving the national fundamentals.[5] In the same vein, to detect the core of the contagion that leads to more financial markets instability, by using a robust semiparametric copula method based on the tail-dependence (Kim et al., 2008), Silvapulle et al. (2016) construct models for the daily sovereign bond yield spreads of the EU peripheral countries against the German daily sovereign bond yield in terms of potential determinants. They exhibit the contagion effect revealed by a significant increase in the tail dependence from pre-crisis 1999 to 2008 to post-crisis period 2008 to 2013. They agree that this type of spread necessitates a continuous government monitoring and the European central bank should address the contagion risk by ensuring a sufficient liquidity in the markets.

From the London Stock Exchange and the Luxembourg Stock Exchange data, Febi et al. (2018) explore at firm-level the effect of liquidity risk on 64 labeled green bonds' yield spreads and 54 conventional bonds' relative to government bond yield after controlling for credit risk, bond-specific characteristics and macroeconomic variables. By using two measures of liquidity

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[4] This definition of the yield spread is consistent with Yu (2005) who measures yield spreads as difference between the yield on a corporate bond and the yield on a U.S. treasury bond of the same maturity.

[5] We suggest that the specific sukuk which are linked to fundamentals would be a potential solution for the debt burden in Europe.

namely bid-ask spread and limited dependent variable (LDV) model, and applying the pooled OLS model, which supposes independence in the panel, and the fixed-effects panel regressions, they find that LDV liquidity and bid-ask measures have positive explanatory power for the yield spread of green bonds. Febi et al. also find that the LDV effect vanishes over time, meaning that the impact of liquidity risk on green bond yield spread becomes negligible in most recent years.

There are several studies relating to Sukuks, Islamic investment returns, and conventional bond returns. There had been much progress in Islamic bond market returns and the Islamic financial system has become especially active. Fathurahman and Fitriati (2013) showed that the average mean of Islamic bond's yield to maturity (YTM) 0.33088 is larger than the conventional bond returns 0.24279. A study conducted on the Malaysian Sukuk market found that the yield of Sukuk certificates is higher compared to yield of bond issued by same issuers as the Bank Negara Malaysia & Cagamas Berhad (Safari et al., 2013). However, Sukuk securities provide a predictable level of return which can be fixed or floating. Sukuks also have a lower level of return compared to conventional bonds in the secondary market. In 2008, the Islamic bonds made acceptable returns compared to conventional bonds because of their content. However, in 2009, Islamic bonds had weaknesses in risk management, which led to a large decline in profitability as compared to conventional bonds.

Additionally, oil, economic, and stock market uncertainties, coupled with the rise of the global financial distress index impacted Sukuk returns significantly (Naifar and Hammoudeh, 2016). Moreover, Rauf and Ibrahim (2014) found that maturity, Shariah compliance, interest rate, reinvestment, and dollar rate risks affect the relationship between Islamic and conventional bond returns. Diversification may also reduce the risk of investment. A study by Cakir and Raei (2007) showed that Sukuk and conventional bonds had different types of instruments, as evidenced by their different price behaviors. If an investor allocates a specific amount of capital in the bonds of a certain issuer, diversification through including Sukuks in their investment portfolio can substantially reduce that portfolio's value at risk (VaR) as compared to a technique of investing only in the conventional bonds of that issuer. Even now, the reduced VaR is not just a result of adding instruments to the portfolio, but alternatively it is because of the varying Sukuk prices in the secondary market as compared to conventional bonds. For example, in Bahrain, when Sukuk

and conventional bonds have corresponding durations, the correlation of returns is still high (Hasan and Dridi, 2010).

According to Majdouba, Mansour and Jouini (2016), by exploring the market integration between conventional and Islamic stock prices during September 2008 to September 2013 with the panel of France, Indonesia, UK and US, that from the correlation perspective, there is evidence of weak linkages between the Indonesian market and the developed markets for both conventional and Islamic stock prices. Such outcomes suggest that investors can diversify their portfolios at the international level to minimize risk. But there is high connection between the developed markets for both conventional and Islamic indexes. The structural break analysis, conducted on the inter-market linkages, reveals common change points for several cross correlations, reflecting their similar evolution patterns. According to Naifar et al. (2017) by using data of corporate indexes from January 2010 to December 2014, the conventional bond market (Dow Jones Asia Bond Index, Malaysia Corporate Bond Index) displays co-movement with global financial and economic uncertainties, while the sukuk market (Dow Jones Sukuk Index, Malaysian Sukuk Index) appears largely less sensitive to the regional and global financial and macroeconomic factors.

Ayturk et al. (2017) investigate the determining factors of 63 international corporate sukuk pricing in the primary market from 2004 to 2015 and panel of nine countries (Bahrain, United Arab Emirates, Qatar, Saudi Arabia, Turkey, Indonesia, Malaysia, Luxembourg, and United States). By defining the yield spread as the difference between corporate sukuk yield and US treasury bond yield as a direct sign of credit risk, and following a classification of Gabbi and Sironi (2005), Ayturk et al. (2017) candidate some basic independent variables such Default, Liquidity, Tax, Efficiency, Shariah, Volatility index (VIX), political risk score and other dummies. They indicate that both credit rating and liquidity affect significantly and negatively the sukuk spreads, whereas sukuk margin rating has a positive effect on the sukuk spreads. Also, they explain the insignificance of Shariah factor on the spreads by the limited number of reputable Shariah scholars.[6]

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[6] Ayturk et al. (2017) do not take into account the heterogeneity in their panel, the exogeneity of the explanatory variables and the heteroscedasticity of residuals, this weakness and due to applying OLS estimation method, their findings remain not robustly conclusive.

More recently, considering the secondary market and using 405 sukuk and 256 conventional bonds of companies registered in Bursa Malaysia from 2000 to 2014 and the annual report of such companies, Saad et al. (2019) explore the mean-difference between conventional yield and sukuk spreads, and also the relationship between yield spreads and corporate monitoring mechanisms. Saad et al. discuss the multiplicity of the yield spreads definition. For instance, Manconi et al. (2012) measure the spread as the difference between the bond yield and the yield of a treasury bond of comparable maturity. Ghouma (2017) calculates the corporate bond yield spreads by the difference between the yield-to-maturity (YTM) on the corporate debt and the YTM on a US treasury bonds with similar maturity. Saad et al. adopt another definition and consider the yield spreads as the difference between the range of yield-to-maturity of bonds or sukuk for each tranche and the Malaysian Treasury Bills (MTB) for the matching year. As defined, Saad et al. compare the long-term and medium-term debts to short-term debt, this manner transgresses the importance of matching the maturity. Using yearly data and the estimation methods of pooled OLS, robust LS controlling for autocorrelation and heteroscedasticity, random effect, and GLS models, Saad et al. find that the factors such institutional ownership, board of directors (BOD) features comprising director's religion, and BOD size affect significantly and negatively the yield spreads of bonds and sukuk. They also indicate that in Malaysia the yield spreads of conventional bonds and sukuk are significantly different, meaning that it matters when the institutional and monitoring factors are operated or not in accordance with the Shariah rules and principles. Also, the sukuk has a different underlying structure and provision compared to conventional bonds. Nevertheless, as showed by Ahmed and Elsayed (2018) despite the specificities of these legal regimes and contractual instruments, there are robust interlinkages and connectedness between sukuk and conventional bonds.

Using data from January 2010 to December 2014 of corporate bond indexes for Europe, United States and Emerging markets, and by constructing an index on sukuk instruments (Bursa Malaysia, Nasdaq Dubai, London Stock Exchange), Hassan et al. (2018) find that international bonds and sukuk are cointegrated, meaning that in the long-run there is a cross-market co-movement between bonds and sukuks. After that, they find significant behavioral shifts in the sukuk-bonds relationship, they explain such shifting by market liquidity, crude oil prices, U.S. credit information, and stock market uncertainty.

According to Paltrinieri et al. (2019), there are very few papers on the topic of sukuk and stock market behavior, and more less on the sukuk yield spreads which is the focus of our paper. We expect that the outcomes of our paper would have important implications for investors as regards international portfolio diversification earnings and for policy makers regarding contagion risks and sukuk market policies. Also, we can highlight if the sukuk products versus the benchmark conventional bonds provide to the investor's better payoffs and less risk.

The corporate firm or government as an issuer has to decide between issuing Sukuk rather than conventional bonds. If the issuer chooses sukuk instead of debt, a second stage is to select which the type of sukuk (Azmat and Skully 2014). There are many options of sukuk such as debt sukuk (Sukuk Al-Murabahah), Islamic joint venture Sukuk (Sukuk Al-Musharakah, Sukuk Al-Mudarabah), Secured against real asset (Ijarah Sukuk), or agency certificates i.e. principal-agent contract sukuk (Sukuk Al-Wakalah). This latter is not a popular structure of sukuk.[7] By exploring the impact of interest rate announcement news on sukuk, conventional bond market, Akhtar et al. (2017) find that news on interest rates have a negligible impact on sukuk market compared to their conventional counterpart.

Our contribution consists on analyzing Sukuk and bonds markets in the GCC, Turkey, Malaysia, Indonesia and Singapore. We investigate, through panel generalized least squares (GLS)[8] modeling, and previously the dynamic general to specific (GS) modeling procedure, the determinant of y spreads considering the sukuks and bonds liquidity, maturity default risk over time as well as in terms of the magnitude of their impact on spreads. We consider also in this modeling the global economic policy uncertainty index, and the U.S. macroeconomic announcements via its interest rate and stock market index. Through such modeling, we expect to find strong evidence of sukuk and bond markets effects from developed markets to Islamic economies.[9]

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[7] For more details, see the link: https://www.investment-and-finance.net/islamic-finance/w/wakalah-sukuk.html

[8] Such methods of estimation are commonly used by Siklos (2011) and Klepsch et al. (2011). Afonso et al. (2015) uses General to Specific (GS) methodology applying different rolling estimation to their autoregressive fundamental equation.

[9] Given that cross-section observations are less than the time series observations ($N < T$), and assuming the existence of serial correlation between spreads' data between sukuk and bond returns of firms, the unobserved random errors are expected to have variance covariance matrix $\Omega \otimes T$, with $\Omega = (\sigma_{ij})$, $i, j = 1, \dots, N$ where σ_{ij} is not necessarily equal to zero (Heij et al. 2004). These features require using GLS models by controlling for firm-specific heterogeneity and providing more efficient point-estimates.