

# The Influence of Macroeconomics Factors and Political Risk on the Sukuk Market Development in Selected GCC Countries: A Panel Data Analysis

*(Pengaruh Faktor Makroekonomi dan Risiko Politik ke atas Pembangunan Pasaran Sukuk di Negara GCC Terpilih: Analisis Data Panel)*

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## ABSTRACT

*In light of the countries' attempt to develop their economies and follow stable macroeconomic policies that stimulate the sukuk markets and the stress placed on the political stability of the countries, investigating the role of political risk and macroeconomic factors is crucial to sustain a country's Islamic financial development. Therefore, this study used the panel data to examine the influence of the macroeconomic factors and political risk on the sukuk market development in the selected GCC countries, namely Saudi Arabia, United Arab Emirate, Bahrain, Qatar and Kuwait from 2001 to 2016. The model of sukuk market development is extended by incorporating the six specific characteristics of GCC countries. The diagnostic tests affirm that the most preferred model to explain the determinants of sukuk market development is by using the Pooled Ordinary Least Square (POLS) Model. The findings reveal that the banking sector and exchange rates are negative and have significant effects on the sukuk market development. The consideration of the increasing level of trade openness is vital due to its major contribution to enhance the sukuk market development. Interestingly, this study finds a positive significant association between the political risk and the sukuk market development. In order to promote the sukuk market development in the region, it is important to develop strategies for integrating and linking the banking sector and the sukuk market in order to promote the sukuk market by creating a scale economy and the required financial market infrastructure.*

*Keywords: Sukuk market; Islamic finance; Political risk; Panel data; GCC countries*

## ABSTRAK

*Dengan mengambil kira percubaan negara-negara tersebut untuk membangunkan ekonomi mereka dan menuruti polisi makroekonomi yang stabil yang menggalakkan pasaran sukuk serta tekanan ke atas kestabilan politik negara-negara tersebut, penyiasatan terhadap peranan risiko politik dan faktor-faktor makroekonomi adalah penting bagi memperkukuhkan pembangunan kewangan Islam sesebuah negara. Oleh itu, kajian ini menggunakan data panel untuk memeriksa pengaruh faktor-faktor makroekonomi dan risiko politik ke atas pembangunan pasaran sukuk di negara-negara GCC terpilih, iaitu Arab Saudi, Emiriah Arab Bersatu, Bahrain, Qatar dan Kuwait dari tahun 2001 hingga 2016. Model pembangunan pasaran sukuk diperkembangkan dengan memasukkan enam ciri-ciri khusus negara GCC. Ujian diagnostik mengesahkan bahawa model yang paling sesuai untuk menjelaskan penentu pembangunan pasaran sukuk ialah dengan menggunakan Model Pooled OLS. Dapatan kajian mendedahkan bahawa sektor perbankan dan kadar pertukaran asing adalah negatif dan mempunyai kesan yang signifikan ke atas pembangunan pasaran sukuk. Pertimbangan untuk meningkatkan kadar keterbukaan perdagangan adalah penting kerana ianya adalah penyumbang utama terhadap pengukuhan pembangunan pasaran sukuk. Menariknya, kajian ini menemui bahawa terdapat hubungan yang signifikan dan positif antara risiko politik dan pembangunan pasaran sukuk. Bagi menggalakkan pembangunan pasaran sukuk di wilayah ini, adalah penting untuk membangunkan strategi bagi mengintegrasikan dan menghubungkan sektor perbankan dan pasaran sukuk bagi menggalakkan pasaran sukuk dengan mencipta ekonomi skala dan infrastruktur pasaran kewangan yang diperlukan.*

*Kata Kunci: Pasaran sukuk; Kewangan Islam; Risiko politik; Data panel; Negara GCC*

## INTRODUCTION

In last decade, the Islamic financial services industry has witnessed an unprecedented growth to become part of the global financial system, reaching USD1.88 trillion

by the end of 2015 (Islamic Financial Services Industry Report 2016). According to Smaoui and Nechi (2017), many recent studies have argued that the industry of the Islamic finance exhibited a better performance, less risks and more stability than its conventional counterpart

during the recent global financial crisis of 2008. Much of this expansion has been affected by the extensive issuance of sukuk, that are investment certificates which comply with Islamic law, as an alternative to the issuance of fixed income securities or interest-based bonds. This strategy serves both as a mean of raising the government funding through sovereign sukuk and as a way of companies obtaining external financing through the issuance of corporate sukuk. In this regard, the sukuk imply that the Islamic bonds that can be accurately known as Islamic investment certificates. In May 2003, the Accounting and Auditing Organization for Islamic Financial Institution (AAOIFI) defined sukuk as “*certificates of equal value representing undivided shares in ownership of tangible asset, usufructs and services, assets of particular projects or special investment activity*”. In other words, sukuk are asset-backed securities that provide the holders with an ownership in the underlying asset as well as any profits in accordance with this ownership.

In terms of trends in the sukuk market, recent statistics have indicated an increase in the total amount of global sukuk outstanding to the best ever USD349.1 billion as at December 2016; this shows an increase of 8.7% from USD321.2 billion at the end of 2015 (Malaysia Islamic Financial Center Report 2017). This implies that after Islamic banking, sukuk are the second largest financial asset in the Islamic financial industry, thereby representing 16% of the total Islamic assets.

Even though the Gulf Cooperation Council (GCC) countries comprise the largest region in terms of the Islamic financial assets, the GCC region (of six countries) is the second largest sukuk market, representing 22% of the global sukuk issuance. In this regard, the sukuk markets in the GCC countries have witnessed a

considerable development since 2001, from USD100 million to more than USD1,538 billion by the end of 2016. Consequently, the sukuk market has experienced a huge jump to reach USD1,563 billion in 2011, which was the highest issuance recorded since the inception of the GCC sukuk market. According to the Thomson Reuters report (2016), there has been deterioration in the percentage of the GCC's total sukuk issuance since the end of 2013. As a result, by using the sukuk market capitalization ratio, the development level of the sukuk market has increased from 3% in 2001 to 19.3% in 2016. The highest level of development was in 2011, which was about 21.2% of GDP. However, the GCC sukuk market was influenced by the financial crisis 2008 and dropped to 4.9% from 13.4% at the end of 2007 (see Figure 1).

The sukuk market, as financial intermediaries, plays positive important roles in the country's economic growth by stimulating the capital accumulation and promoting the efficient allocation of resources (Smaoui & Nechi 2017; Ben Jedidia Khoutem 2014; Kusuma & Silva 2014). In this regard, the sukuk markets make financing available to long-term debtors by mobilizing the savings, thereby contributing to the efficient functioning of the capital markets. Besides, the sukuk markets enhance the capital allocation by providing alternative financing sources and assist the risk management by the distribution of the risk between the diverse groups of investors. Studies by Aziz (2014) and Dawson (2013) have indicated the important role of sukuk as a financing mechanism in GCC countries due to the infrastructure needs of this region. Accordingly, the sukuk markets development is stated as the main force to obtain funds for financing the infrastructure in the Muslim world and other countries. Hence, it is an alternative to the conventional debt market.

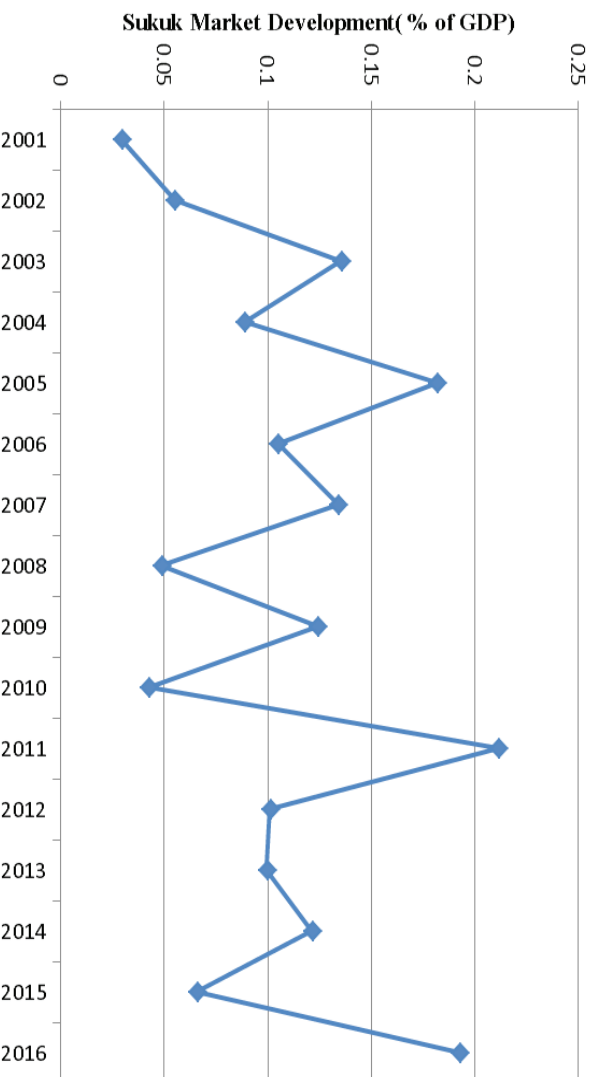


FIGURE 1 Sukuk market capitalization in 5 GCC countries (2001-2016)

Source: Bloomberg Database and author's calculations

Since the GCC economies are highly dependent on oil, these GCC countries need to diversify their economies by looking for alternative sources of financing. The parameters indicate that in order to cope with the deficit of the budget, the countries of the GCC may select sukuk for the development of their infrastructure, which is likely to deliver added incentive to expand the Islamic stock market (Ayturk et al. 2017). According to International Islamic Financial Market and Thomson Reuters reports (2015), there were expectations that oil-exporting countries (particularly those of the GCC) could be affected by low oil prices which, thereby affecting the sukuk markets to raise funding. However, these expectations have not been achieved.

Indeed, many countries are extremely involved in the efforts to expand their domestic sukuk markets with dissimilar degrees of success. However, Kusuma and Silva (2014) point out that the current approaches adopted for the development of the domestic sukuk market vary significantly across countries due to country-specific circumstances. In addition, Samoui and Khowaja (2016) illustrate that countries looking for promotion in their sukuk markets should struggle hard to increase their economy and adopt stable macroeconomic policies to make it attractive for investors to hold sukuk securities. They also suggest that no single class of variables is fully responsible for the development of sukuk markets. As a result, the question of what determines sukuk market development has become important and attracted the interest of several studies.

Both political and macroeconomic factors are important in the development of the financial markets. For instance, Cherif and Gazdar (2010) state that the institutional factors such as the political risk may influence the efficient functioning of the financial markets. In addition, the political factors are directly reflected in the macroeconomic factors. In this regard, Awartani and Maghyreh (2013) demonstrate that the financial markets in the GCC region are very sensitive to the regional political event. In this vein, the GCC region has been unstable and constantly changing due to the U.S. invasion of Iraq in 2003, the wide regional disturbance that started in 2011 (Arab spring), the worsening relations between Saudi Arabia and the interference of Iran in Bahrain, Iraq, Lebanon, Qatar, Syria, and Yemen, the ongoing trade embargo of Qatar and, the civil war in Yemen that started in 2013. All these events may decrease the investment and the speed of the development in the economy by increasing the risks at every level and create a sort of uncertainty associated with an unstable political environment. Akkaş (2017) points out that since the Arab Spring the GCC countries have attempted to invest in the Islamic finance through the state investment, such as their own sovereign wealth fund, in order to develop their domestic economies. Hence, examining the sukuk market development in the GCC region is theoretically important since after the events of the Arab Spring

accompanied by the political conflicts a significant rise in the volatility of the Islamic indices has been noted (Chau et al. 2014).

In contrast, Grassa and Gazdar (2014) found that the sukuk markets do not contribute to the economic growth in the GCC countries, and these findings may be justified by the fact that sukuk markets are a small share of the capital market in the GCC countries. Since the banking system and the stock market are the dominant sectors in the GCC countries and sukuk markets remain a small part of the overall financial system, the huge supply of the savings and the strong investment demand might be supported through the banking system and the stock market rather than the sukuk market. A study by Adelegan and Radzewicz-bak (2009) noted that countries having more established banking sectors depend less on bonds, thus resulting in a less developed market of bonds. In this context, Smaoui et al. (2017) suggest that the sukuk market's development is dependent on the environment in which they are executed and on whether the credit market is market-oriented or bank-oriented. Accordingly, a negative relationship was found between the sukuk market development and the banking system, but a positive relationship was found with the stock market capitalization. On the contrary, Said and Grassa (2013) indicate that the banking size has no significant effect on the sukuk market development. Hence, further empirical investigations arise to examine this aspect.

The findings of this study are significant for the policymakers, the governments and the regulators in formulating policies to improve the current state of the sukuk market. The development of the sukuk market is influenced by a combination of factors that can be classified into two levels, namely the firm level and country level factors. Although the firms' characteristics determinants of the sukuk issuances have been discussed widely, few studies have examined the effect of the country's characteristics on the sukuk market development. Hence, this study attempts to fill the gap by examining the impacts of the macroeconomic determinants and the political risk on the sukuk market development in the GCC countries. This study employs several macroeconomic factors that characterize the GCC economies which could affect the sukuk market growth, namely the savings rate, the exchange rate, the trade openness, the banking system size, and the stock market capitalization. Since a study by Al-raeai et al. (2018b) insisted that the relationship between political risk and the sukuk market development remains ambiguous, this study extends previous studies by examining the political risk and its effect on the GCC sukuk market development. Thus, the findings could contribute to the GCC markets which are very sensitive to the regional political event. Further, this study enriches the literature by examining the influence of the domestic savings rate, the banking sector, and the stock market capitalization on the sukuk market in the GCC countries.

The rest of this study is structured as follows. In Section 2, the relevant literature is briefly discussed, followed by Section 3 that explains the data and the methodology used in this study. Section 4 describes the analysis of the empirical results, and Section 5 concludes the study.

## LITERATURE REVIEW

The corporate financing studies have highlighted that the major factors of the capital structure of the firms are the Pecking Order Theory and the Trade-off Theory. The pecking order theory was suggested by Myers and Majluf (1984) and indicates that firms prioritize their sources of financing which are from the internal financing to equity with the principle of least effort or of least resistance, preferring to raise equity as a financing means of last resort. According to this theory, the selection of funding by sukuk is subordinated to the normal debt financing, but it is prior to the issuance of the equity. Regarding the trade-off theory, it indicates that firms try to optimize the level of debt financing that balance the tax benefits of an additional debt against the bankruptcy costs (Myers 1984) and it is often set up as a competitor theory to the pecking order theory. An important purpose of this theory is to explain the fact that firms are usually financed partly by the debt and partly by the equity since financing by the debt has advantages. According to Shahida and Saharah (2013), the marginal benefit of further increases in the debt declines as debt increases, whereas the marginal cost increases, so that a firm that optimizes its overall value focuses on this trade-off when choosing the quantity of debt and equity to use for financing. Therefore, the selection of funding by sukuk based on this theory is achieved before the external financing when the financial scheme offers managerial merits to the issuer (Nagano 2010). Some studies reveal that sukuk issuance follows the pecking order and trade-off theories. Accordingly, Mohamed et al. (2015) demonstrate two major conclusions using sukuk and conventional debt securities data. First, the sukuk issuers choose sukuk issuance to optimize the cost and benefit balance for the issuers. Hence, the sukuk issuance is in accordance with the trade-off theory in this regard. Second, the degree of information asymmetry of issuers influences the choice of sukuk issuance as well, which is in accordance with the pecking order theory.

The traditional finance theories focus mainly on finding the optimal debt-to-equity ratio. On the other hand, the innovation, asset-based securities such as sukuk, is concerned with finding the optimal form of contract structure that allows firms to increase leverage while minimizing the impact of the market imperfections (Halim et al. 2016). The corporate finance literature proposes that information asymmetry is a significant factor of the securities choice. According to Shahida

and Saharah (2013), the asymmetric information affects the choice between the internal and external financing and between the issue of debt or equity. In the Islamic capital markets, particularly in the sukuk markets, getting the transaction is by applying the principle of avoiding excessive uncertainty and decreasing the information asymmetry among different parties in the sukuk contract, whereby the disclosure of specific information is obligatory by the Islamic law authorities. Definitely, this disclosure is the first layer to save the investor and the consumer. In addition, the disclosure of information concerning sukuk investment is not only done at the time of issue but also afterward. Consequently, comprehensive information disclosure before, within, and after the presentation of instruments is significant to decrease uncertainty and manage the risk. In this regard, Halim et al. (2016) and Klein and Weill (2016) conclude that the higher is the degree of information asymmetry, the more frequently the firm issues sukuk. Further, Nagano (2017, 2010) concludes that firms prefer to issue sukuk compared to equity and debt issuance in case of a high level of information asymmetry. Since the issuance of sukuk contributes to a rise in the stock returns of the issuer, the issuance of sukuk is given preference over bonds.

Most prior studies have found that both political and macroeconomic factors are important in the development of the financial markets (both equity and debt). A study by Eichengreen and Luengnaruemitchai (2004) identified that strong institutions, large country size, less volatile exchange rates, and a competitive banking sector are factors fostering the Asian bond market. An extension of their study by Eichengreen et al. (2008) found that trade openness positively impacts the bond markets development in Latin America. In other words, a developed economy has a developed export market that attracts investors; therefore, there is more appreciation of the bonds issuance. The results are concurrent with previous empirical studies by Rajan and Zingales (2001) and Bhattacharyay (2013). A pioneering study by Adelegan and Radzewicz-Bak (2009) attracted the attention to the bond market in Sub-Saharan Africa (SSA), concluding that among the key factors which lead to the development of the bond market are the economic development, the banking sectors' size, the investment profile, the structure of the economy and law and order. The savings constraint was identified as a unique factor, whereby low savings lead to lower financial intermediation by banks, thus affecting the bond market negatively. Strong empirical evidence by Bhattacharyay (2013) examined certain economic factors of the bond market in ten Asian countries. The results suggest that the stage of growth of the economy, the economy's size, the currency's exchange rate, the interest rate variability and the size of the banking system are the main determinants associated with the development of the bond market.

Similar to the financial intermediaries and banks, the sukuk market represents one way of pooling the



savings from surplus units and channeling them into productive investments. The savings rate is assumed to have a significant influence on the stock and bond markets, whereby a positive relationship was found (Garcia & Liu 1999a; Naceur et al. 2007; Yartey 2008). Another study by Adelegan and Radzewicz-bak (2009) supports that the savings constriction is a key obstruction for deepening and developing the financial and domestic bond markets because a large amount of savings is directed through the bond markets. As a result, the bond market liquidity is improved to develop the financial intermediaries and control the inflation. Nevertheless, Mukherjee (2006) argues that high Asian savings rates discourage the bond market development by giving banks ample deposits to lend. In other words, if the banking sector is more developed, the savings might be channeled through the banking system rather than the sukuk market, thus reflecting the greater ability of the banks to fund themselves and also corporates through deposits in high-saving countries. In addition, Sidek and Ahmed (2016) state that higher savings diminish the urge to raise finance in debt form because companies can use their retained earnings for further investments. In contrast, low domestic savings increase the dependence on alternative sources to finance the investment activities including financing by sukuk.

Eichengreen and Luengnaruemitchai (2004) suggest that the stable exchange rate enhances the development of the bond market, and a higher exchange rate volatility results in lower progression of the bond market. Studies by Bhattacharyay (2013), Adelegan and Radzewicz-bak (2009) and Mu et al. (2013) have documented that the exchange rate is negatively related to the bond market development. Generally, the sukuk trading has been listed in the US dollar rate since the change in the US dollar rate creates a change in the sukuk return, which influences the volume of sukuk issuances. In case of a divergence among the unit of currency in which the assets in the sukuk pool are denominated and the currency of denomination in which the sukuk funds are accumulated, the sukuk investors are rendered to a dollar rate risk. In this context, Ahmad and Radzi (2011) found that both sukuk and conventional bond issuance in Malaysia consider foreign exchange the major cause of bond and sukuk issuance. In contrast, Smaoui and Khawaja (2016) found no significant relationship between the volatility of exchange rates and sukuk market development in 13 countries.

Numerous studies have suggested that openness improves the growth performance via its positive influences on the capital flows, foreign direct and portfolio investments, and the development of the domestic financial markets. In this regard, Rajan and Zingales (2001), Eichengreen and Luengnaruemitchai (2004) and Bhattacharyay (2013) found the significant positive effect of the trade openness on the bond market development in developed and Asian markets. That is,

a high level of economic openness facilitates the easy access to external financing, which could improve the sukuk market. The results of the concurrent studies supported by recent studies by Smaoui et al. (2017) and Said and Grassa (2013) have found a positive relationship between the sukuk market development and the trade openness and concluded that corporations in open economies requires more sources of capital to remain in a competition. Nevertheless, this result is inconsistent with Adelegan and Radzewicz-bak (2009) who claimed that when the economy has lack of access to external financing, the local bond market can grow better.

The banking system and the stock market capitalization are an important participant in the economic development process and improve the need for Islamic securities products. Aziz (2007) and Kusuma and Silva (2014) point out that another important aspect of the development of the sukuk market is the development of the other key components of the Islamic financial system, the money market, and the banking sector. An important implication of banks in the sukuk markets is both as issuers and buyers, and thus the presence of both Islamic and conventional banks as dealers and market makers is required. In contrast, Adelegan and Radzewicz-bak (2009) note that countries with highly developed banking sectors show less dependence on bonds, thus resulting in a less developed bond market, which supports the findings by Bhattacharyay (2013), Nkwede et al. (2016) and Raghavan and Sarwono (2012). This indicates a competition between the banks and sukuk markets to provide finance, and well-established banking system can rob the sukuk of their market share. In this regard, Smaoui et al. (2017) found that sukuk and bank financing are substitutes and economies, whereby the banks play a key role in providing a private credit issue less than sukuk. Nevertheless, Said and Grassa (2013) demonstrate that the banking size has no significant effect on the sukuk market development in 10 countries. On the other hand, Smaoui et al., (2017) found a strong positive significance between the stock market capitalization and the sukuk market development. Consequently, the stock market and the sukuk market are complements rather than substitutes. Hence, well-functioning stock markets reduce asymmetric information, enhance the corporate governance, and lower the cost of external equity and the cost of issuing debt (Demirgüç Kunt & Maksimovic 1996). In this regard, Nagano (2010) found that the issuance of sukuk improves the stock returns of the issuers and the total factor of productivity. This empirical finding recommends that preference is given to sukuk issuance due to this exclusive benefit and because the standard external finance is unable to provide. In another study by Ibrahim and Minai (2009), it was found that sukuk issuance increases the issuers' share price. However, the stock market is more developed more than the sukuk market in GCC countries, compete with sukuk,

and might deprive the sukuk of market share and hinder their development.

The development of the financial market is discouraged by the political risk. This is because the political risk directs the consequences on the economic growth and the income level via damaging the productive capacity. Therefore, it does not assist to create the business environment compulsory for the prosperity of any economy. In this regard, Yartey (2010) describes the political risk as one of the most important risks facing investors when they decide to invest in the emerging markets. As a result, the majority of the studies have determined a negative significant association between the political risk and the financial market development (Kim & Mei 2001; Roubini 1991; Cherif & Gazdar 2010; Garcia & Liu 1999a; Yartey 2008 2010). The resolution of the political risk can enhance the confidence of the investor and boost the progress of the bond markets in the emerging economies (Cherif & Gazdar 2010). According to Al-raeai et al. (2018b), when the political risk increases, uncertainty about the future policies of the government also tends to rise, thus resulting in increasing the information asymmetry problems in the financial market and leading to great swings in the investment and financing decisions. Nagano (2017) and Klein and Weill (2016) indicate that firms with a high degree of information asymmetry prefer sukuk to equity and debt issuance because sukuk lead to less efficient monitoring of the shareholders and management compared to bonds. Recently, Akkaş (2017) points out that since the Arab Spring, the GCC countries particularly have attempted to invest in the Islamic finance through the state investment as their own sovereign wealth fund in order to develop their domestic economies. Therefore, it seems that the Arab Spring did not have a negative impact on the sukuk issuance.

In the GCC region, the financial markets are still immature and remain small and behind their potential abilities (Mansour 2014). In other words, these markets are in an unstable region. Thus, the business environment is more likely to have greater information asymmetry, which consequently could influence the propensity to prefer a specific type of financing. Hence, this study fills the gap in the existing literature related to three main aspects. First, unlike the two studies that examine the issues of sukuk market development in 13 countries from different regions (See: Smaoui & Khawaja 2016; Said & Grassa 2013), this study focuses on sukuk market development in 5 GCC countries since the GCC region is the largest one in terms of the Islamic financial assets, but with a less developed sukuk market. Second, the GCC countries are typified by several characteristics such as a high ratio of domestic savings due to the oil revenues and the high rate of income, as well as a more developed banking system and a stock market. Thus, the huge supply of savings and strong investment demand in GCC might do mostly through the local banking system and stock

market, thus affecting the sukuk market development. Since a study by Al-raeai et al. (2018a) suggested that the role of macroeconomic factors on the GCC sukuk market needs further empirical investigation. Hence, this study analyzes the influencing role of the savings rate, the banking system and the stock market on the development of sukuk market. Since the GCC markets are very sensitive to the regional political event, this study further elucidates the impacts of the political risk on the sukuk market development.

## DATA AND METHODOLOGY

This study employed the panel data analysis to examine the selected macroeconomic, financial and political determinants of sukuk market development in five GCC countries (Bahrain, Qatar, Kuwait, Emirates and Saudi Arabia) during the period from 2001 to 2016. This study excludes the country of Oman from the analysis because its capital market authority started the process of sukuk issuance in October 2012. The year 2001 was chosen because it was the first stage of the beginning of the sukuk issuances in the GCC region. The motivation of this analysis also arises because of an argument by Samoui and Khowaja (2016) that suggests that in order to promote sukuk markets the countries should strive to develop their economies and follow stable macroeconomic policies to make them attractive for investors to hold sukuk securities. Kusuma and Silva (2014) point out that the current approaches adopted for the development of the domestic sukuk market vary significantly across countries due to country-specific circumstances. Consequently, this analysis selects the GCC region which is the largest region in terms of the Islamic financial assets and is very sensitive to the regional political event as noted in previous studies.

The data were gathered from various sources. For the sukuk market development, the data were collected from the Bloomberg Database. Other information related to the characteristics of countries, including the domestic savings rate, the exchange rate, the trade openness, the banking system size, and the stock market capitalization were collected from the World Development Indicators (World Bank) database. In addition, the data of the political risk were collected from the International Country Risk Guide (ICRG) database. The variables and their expected indicators are listed in Table 1.

This study employed the sukuk market capitalization, which equals the total value of the sukuk issuances as the percentage of GDP to measure the sukuk market development (Smaoui & Khawaja 2016; Grassa & Gazdar 2014; Said & Grassa 2013). The notion backing this measure is that the complete market size is positively correlated with the ability to mobilize the capital and diversify the risk in the economy (Yartey 2008). Concerning the independent variables, the sukuk

market, like financial intermediaries and banks, represent one way to pooling the savings from surplus units and channeling them into productive investments. Typically, better savings metamorphoses to a better capital flow through the sukuk markets. To represent the savings rate, the ratio of gross domestic saving as a percentage of GDP is used as a proxy applied in previous studies. The sukuk trading is listed at the US dollar rate, since a change in the US dollar rate results in a change in the sukuk return, which in its turn influences the volume of sukuk issuances. Our proxy for exchange rate is the nominal exchange rate for units of local currency per US dollar. The empirical financial market literature has shown that openness to the international trade is an important determinant of the financial market development (Adelegan & Radzewicz-bak 2009; Bhattacharyay 2013; Smaoui & Khawaja 2016). Our proxy for the trade openness is the ratio of the total imports plus exports as a proportion of the GDP. The domestic credit provided by the banking sector to GDP is in common use to measure the banking system size (Adelegan & Radzewicz-bak 2009; Cherif & Gazdar 2010; Smaoui & Khawaja 2016) and it shows the amount of external resources channeled via the banking sector to private firms (Yartey 2008). The stock market capitalization is measured by the total value of all listed shares in a stock market as a percentage of GDP.

Finally, the institutional factors, such as the political risk may influence the efficient functioning of the financial markets and its development because the political factors are directly reflected in the macroeconomic factors (Cherif & Gazdar 2010; La Porta et al. 1997). Hence, this study adopted the direction followed by previous studies (Al-Jaifi 2016; Cherif & Gazdar 2010; El-Wassal 2005; Erb et al. 1996; Gelos et al. 2004) and utilized the political risk index of ICRG, a composite index provided by the International Country Risk Guide (ICRG), to measure the political risk. The ICRG agency provides ratings which reflect the risk inherent in a country and are a reliable method of risk assessment. This index ranges from zero to 100 points, with 100 indicating the lowest risk and zero indicating the highest (higher score, lowest risk). Consequently, a change in this index will have an influence on the sukuk market.

The general function of sukuk market development is as bellow:

$$SMD = f(SR, EXR, TO, BSS, SMC, PR) \quad (1)$$

where:

$SMD$  = sukuk market development  
 $SR$  = savings rate  
 $EXR$  = exchange rate  
 $TO$  = trade openness  
 $BSS$  = banking system size  
 $SMC$  = stock market capitalization  
 $PR$  = political risk

The data are annual,  $T=16$  and  $N=5$ , whereby the number of panel's cross-sectional dimension  $N$  in this analysis is smaller than its time dimension  $T$  or a long panel data analysis. Following the models by Grassa and Gazdar (2014), Said and Grassa (2013) and Adelegan and Radzewicz-bak (2009), the panel data regression in this study is examined through three models, namely the Pooled OLS model, the Fixed Effect model (FEM), and the Random Effect model (REM). If the individual effects do not exist, the ordinary least squares (OLS) produce an efficient and consistent parameters estimate. The pooled OLS model is expressed as:

$$SMD_{it} = \beta_0 + \beta_1 SR_{it} + \beta_2 EXR_{it} + \beta_3 TO_{it} + \beta_4 BSS_{it} + \beta_5 SMC_{it} + \beta_6 PR_{it} + \varepsilon_{it} \quad (2)$$

where:

$i$  = the cross sectional dimension for states  
 $t$  = the time series dimension

The individual effects and the time effects are not equal to zero since an individual specific effect is time invariant. Hence, the FEM model is expressed as:

$$SMD_{it} = \beta_{0it} + \beta_1 SR_{it} + \beta_2 EXR_{it} + \beta_3 TO_{it} + \beta_4 BSS_{it} + \beta_5 SMC_{it} + \beta_6 PR_{it} + u_{it} \quad (3)$$

$$; \beta_{0it} = \alpha + \mu_i + \lambda_t \text{ for each entity}$$

Where:

$u_{it}$  = random error term  
 $\mu_{it}$  = individual effects  
 $\lambda_t$  = time effects

TABLE 1 Descriptions of the Variables

Data	Measurements	Source
Sukuk data	Annual sukuk market capitalization to GDP	Bloomberg Terminal
Savings rate	The ratio of gross domestic saving as a percentage of GDP.	World Development Indicators, WB
Exchange rate	Nominal exchange rate (units of local currency per US dollar).	World Development Indicators, WB
Trade openness	Ratio of exports and imports to GDP	World Development Indicators, WB
Banking system size	Domestic credit from banking sector (% of GDP)	World Development Indicators, WB
Stock market Capitalization	Total value of all listed shares in a stock market as a percentage of GDP.	World Development Indicators, WB
Political risk	The ICRG political risk index.	International Country Risk Guide (ICRG).

The Random Effect Model (REM) assumes that the individual effects or heterogeneity are not correlated with any regressor, and estimate error variance specific to groups or times. Thus,  $\mu_i$  is an individual specific random heterogeneity (component of the composite error term). In other words, the individual effects ( $\mu_i$ ) and time effects ( $\lambda_t$ ) behave randomly. Hence, the REM model is expressed as:

$$SMD_{it} = \beta_0 + \beta_1 SR_{it} + \beta_2 EXR_{it} + \beta_3 TO_{it} + \beta_4 BSS_{it} + \beta_5 SMC_{it} + \beta_6 PR_{it} + (\mu_i + \lambda_t) + u_{it} \quad (4)$$

After running all the analyses, the appropriate model among Pooled OLS, FEM and REM was selected. To select the appropriate model between the Pooled OLS and FEM, the partial *F*-test are needed. The null hypothesis is that all the dummy variable parameters are equal to zero or in other words, the POLS model is preferred. To choose the best model between Pooled OLS and REM, the Breusch-Pagan Lagrange Multiplier test (BP LM-test) was used on testing the assumptions of variance of the individual effect. The null hypothesis refers that the the individual effect does not exist (POLS are preferred) versus the alternative hypothesis refers to ( REM is preferred). The Hausman test was used in order to detect the significance of the difference between two estimators, which are FEM and REM. If the Hausman test rejects the null hypothesis that the individual effects are not correlated with the explanatory variables, the most suitable estimation would be then the FEM model. Since our data is long panel data ( $N < T$ ), and to achieve the robustness of the results and to remedy for the possible heteroskedasticity and serial correlation problems, the Generalized Least Squares (GLS) method of estimations was used.

## EMPIRICAL RESULTS AND DISCUSSION

The summary statistics for the sukuk market development (SMD), the savings rate (SR), the exchange rate (EXR), the trade openness (TO), the banking system size (BSS), the stock market capitalization (SMC), and the political risk (PR) are presented in Table 2. Regarding the explanatory variables, the percentage of savings rate varies from high 64.7% to low 16.1% with an average 40.8% of the GDP and a standard deviation 12.53. The average of the

exchange rate reported in this study is 2.4 with a standard deviation 1.654, ranging from 0.269 to 3.75, which indicates that the fluctuation of the local currency against the US dollar is small during the period. The percentage of the trade openness ranges from 60.9% to 205.3% of the GDP, with an average of 112.3% and a standard deviation 35.92, thus indicating that the GCC economy is open to trading with others. The domestic credit is given by the banking sector to the private sector as long-term financing, varying from a minimum value of 27.1% for Saudi Arabia to a maximum value of 99.3% of GDP for Kuwait, with an average 52.6%. This is similar to the findings of Khediri et al. (2015). The level of stock market development varies from a minimum value of 20.38% for the UAE to a maximum of 156.25% of GDP for Qatar, with an average 73.68%. Finally, the percentage of the political risk varies from the highest value (lowest risk) of 79.3 to the lowest (highest risk) of 61.8 with an average 72.5 and a standard deviation 4.6. The level of sukuk market development (SMD) varies from as low as 0 (no sukuk issuance) to a maximum of 17.6% with an average 2.17% and a standard deviation 0.041, which indicates that the volume of the sukuk market is very small relative to the GDP in the GCC countries.

Finally, the results of the descriptive statistics indicate that the data of the variables during the study period were normal distribution. The value of the Skewness did not exceed 3 for all the variables, whereas the value of the kurtosis for all the variables was less than 10, thereby leading to the conclusion that the dataset has no serious violation of the normality assumption.

Besides, the correlation values between the variables are low (see Table 3). In this regard, Gujarati and Porter (2009) assert that the coefficient correlation that is less than 0.8 may not be subjected to a serious multicollinearity problem. Overall, there is a negative correlation between the sukuk market development, the savings rate, the exchange rate, and the political risk score. However, a positive correlation exists with the trade openness, the banking system size, and the stock market capitalization.

The result in Table 4 represents the sukuk market development estimation model based on the Pooled OLS (POLS), FEM and REM discussed in section 3. Regardless of

TABLE 2 Descriptive Statistics

Variables	Min	Max	Mean	Std. Dev.	skewness	kurtosis
SMD	0	0.176126	0.021728	0.041003	2.151108	6.851313
Savings rate	16.12	64.717	40.80827	12.53246	.1422257	1.844962
Exchange rate	0.268914	3.75119	2.346261	1.654346	-.4076889	1.169378
Trade openness	60.856	205.261	112.3092	35.91925	.9911187	2.919466
Banking system size	27.09	99.26	52.58837	17.10884	.5894461	2.716134
Stock market capitalization	20.38	156.25	73.67538	29.736	.4811017	2.830544
Political risk	61.83	79.33	72.44888	4.60031	-.3227004	2.082266



TABLE 3 Correlation Matrix between Variables

	SMD	SR	EXR	TO	BSS	SMC	PR
SMD	1.00						
SR	-0.359	1.00					
EXR	-0.509	0.138	1.00				
TO	0.422	-0.366	-0.182	1.00			
BSS	0.137	-0.278	-0.449	0.477	1.00		
SMC	0.090	0.428	-0.249	-0.286	-0.081	1.00	
PR	-0.215	0.043	0.134	0.219	-0.023	-0.069	1.00

the *F*-test and Hausman test results, the most appropriate model is pooled OLS because the null hypothesis in BPLM test cannot be rejected at 1 per cent (see Table 4) and it is concluded that the individual effect does not exist and the POLS are preferred. To ensure the validity of the statistical results, the Breusch-Pagan/Cook-Weisberg test is conducted for the heteroskedasticity in the POLS model by using the *hettest* command. The serial correlation test is also conducted by using the *xtserial* command. Both statistical tests confirm a serial correlation and a heteroskedasticity problem in the POLS model. To rectify the above problems, the POLS regression is implemented with clusters of the country to control the potential heteroscedasticity and autocorrelation problems, as in previous studies (Al-Jaifi 2017; Ali et al. 2016).

Based on the POLS results, four variables, namely the exchange rate, the trade openness, the banking system size, and the political risk score demonstrate significant results. The savings rate and the stock market capitalization do not show a significant impact on the sukuk market development. The exchange rate suggests a negative relationship with the sukuk market development at 10 per cent and the result proposes that when the dollar rate increases, the rate of the return declines or vice versa. It is also indicated that the high currency volatility creates uncertainty for the real value of the sukuk, thus creating an impediment to the sukuk market development, support the findings by Bhattacharyay (2013) and Adelegan and Radzewicz-bak (2009), whereby the exchange rate has a negative relationship with the bond market development. The risk related to the dollar rate arises as the sukuk payments are denominated in a foreign currency with uncertainty in the cash flows. On the contrary, Smaoui and Khawaja (2016) found no significant relationship between the volatility of change in the exchange rates and the sukuk market development in 11 countries from different regions.

The trade openness illustrates a positive relationship at 5 per cent with the sukuk market development. This suggests that the corporations in open economies need more sources of capital to remain competitive, thereby supporting the findings by Smaoui et al. (2017) and Said and Grassa (2013). This might explain why the UAE is considered the leader in the sukuk issuance in

GCC countries in terms of value, due to the high level of trade openness with other economies. Countries which are more integrated with external economies have more motivations to grow a domestic sukuk market to cope with their financing requirement and control the information asymmetry caused by the instability in the financial market. Unfortunately, the banking system of the country which is proxied by the domestic credit given by the banking sector to the private sector relative to the GDP showed an adverse effect on the sukuk market development at 5 per cent. The negative result indicates that the banks and sukuk markets in GCC countries compete in providing an external finance to companies, and thus the overriding system of the banking hinders the sukuk market's development, thereby supporting the findings by Smaoui et al. (2017). For instance, among the GCC countries, Kuwait has the largest average number of external resources channelled through the banking sector to private firms, and thus is considered the smallest country in terms of the sukuk issuances. The findings are consistent with Adelegan and Radzewicz-bak (2009) and Bhattacharyay (2013) who reported that countries with a more developed banking sector show less reliance on bonds, thus resulting in a less developed bond market. As a result, the bank and the bond market intermediation offers a substitute rather than being a complementary.

In contrast to the negative impact of the political risk on the conventional financial markets, the results of the present study indicate a negative relationship between the score of the political risk and the sukuk market development at 1 per cent in GCC countries. The results are in line with the asymmetric information hypothesis and indicate that the political risk has a positive role on the sukuk market development. In other words, the political risk causes uncertainty that originates from trying to predict the political decisions and volatility in macroeconomic indicators. A higher level of uncertainty could cause the information asymmetry problems to rise and increase the adverse selection and moral hazard in the financial market, thus leading to great swings in an investment and financing decisions. Consequently, the sukuk are an appropriate investment and a financing tool as they overcome information asymmetry problems since the issuance of equity and conventional debt demands a

TABLE 4 Sukuk Market Development Estimation Model

Variables	SMD		
	POLS	FEM	REM
Constant	0.211*** (5.30)	0.639 (1.55)	0.211*** (5.30)
SR	-0.000924 (-2.04)	-0.000115 (-0.36)	-0.000924** (-2.04)
EXR	-0.0116* (-2.56)	-0.240 (-1.41)	-0.0116** (-2.56)
TO	0.000609** (3.26)	0.000058 (0.70)	0.000609*** (3.26)
BSS	-0.000949** (-3.17)	0.000093 (-0.52)	-0.000949*** (-3.17)
SMC	0.000271 (1.81)	0.000036 (0.36)	0.000271* (1.81)
PR	-0.00225*** (-4.62)	-0.000746** (-4.20)	-0.00225*** (-4.62)
Observations	80	80	80
F-test	10.96***		
BPLM-test	chibar2(01)=0.00, Prob > chibar2= 1.00		
Hausman test	chi2(6)=3.66, Prob>chi2= 0.7229		
R-squared	0.582	0.014	0.582

Note: \*\*\*, \*\* and \* indicate significance at 1%, 5% and 10%, respectively. t-value is in the parenthesis.

low level of information asymmetry (Nagano 2017; Klein & Weill 2016). The negative result could be due to the fact that events such as the worsening relations between Saudi Arabia and the interference of Iran in Bahrain, Iraq, Lebanon, Qatar, Syria, and Yemen, corruption allegation against ministers and famous business figures in Saudi Arabia, and the ongoing trade embargo of Qatar resulted in the rating downgrades and deficits in their budgets. According to the Standard and Poor's credit analysis, these events could force some GCC countries to diversify the funding sources and widen their sukuk market. Consequently, the savings rate and the stock market capitalization are statistically insignificant.

#### ROBUSTNESS TEST

To confirm the tests, this study was extended by conducting the analysis once again by using the Generalized Least Squares (GLS) estimation to ensure the accuracy of the analysis and the results. The GLS model is similar to the random-effects model, considering the heteroskedasticity and problems associated with the autocorrelation. As stated in previous studies, the GLS estimator is a more appropriate method with long panel data ( $N < T$ ), whereby the panel's cross-sectional dimension  $N$  is smaller than its time dimension  $T$  (Hoechle 2007; Baltagi 2008). In addition, the GLS regression was suggested by Wooldridge (2010) since it provides reliable estimates in the presence of heteroscedasticity and autocorrelation problem, following the previous studies by Eichengreen and Luengnaruemitchai (2004), Eichengreen (2006),

Bhattacharyay (2013) and Grassa and Gazdar (2014). Technically, the GLS model was run using the *xtgls* command with two options, namely *panels(het)* and *cor(ar1)* in order to correct the heteroscedasticity and autocorrelation problems, respectively. The results in Table 5 represent the outcome based on the GLS

TABLE 5 Sukuk Market Development Estimation Using GLS Model

Variables	SMD
Constant	0.128** (2.09)
SR	-0.000515 (-1.35)
EXR	-0.0111*** (-3.58)
TO	0.000445*** (3.21)
BSS	-0.00134*** (-3.14)
SMC	0.000085 (0.59)
PR	-0.000927 (-0.93)
Observations	80
Wald chi2	32.59

Note: \*\*\*, \*\* and \* indicate significance at 1%, 5% and 10%, respectively. t-value is in the parenthesis.

model. Based on the GLS coefficient, the political risk is statistically not significant. In addition, the coefficient of other variables, namely the savings rate, the exchange rate, the trade openness, the banking system size, and the stock market capitalization stay unchanged and consistent with the pooled OLS analysis.

## CONCLUSIONS

The sukuk market development is an integral part of the financial development, which is associated with the economic growth through financing the development projects and infrastructure (corporate and government) in a country. Most prior studies concluded that both the political and the macroeconomic factors are important in the development of the financial markets and no single class of factors is fully responsible. Hence, this level of development differs due to differences in the characteristics of each country. Thus, this study aimed at investigating both the political risk and the macroeconomic factors that influence the development of the sukuk market in the GCC countries. More specifically, this study examined the association between the sukuk market development and the selected political and macroeconomic variables which are the political risk, the savings rate, the exchange rate, the trade openness, the banking system, and the stock market capitalization in five GCC countries (Qatar, Kuwait, Bahrain, UAE, and Saudi Arabia) during the period from 2001 to 2016 using the panel data analysis. Consequently, this study is different from the existing literature since it investigates the relationship between the sukuk market development and its determinants with the country groups in the same region. Consequently, this study presents a more complete picture on the aspects that influence the sukuk market development.

Several important findings are extracted from the analysis. First, the POLS is the best estimation model and much preferred in explaining the determinants of the sukuk market development in the GCC countries. Second, there are associations between the sukuk market development, the political risk, the exchange rate, the trade openness, and the banking system size. In brief, the exchange rate and the banking system size are two important determinants of the sukuk market development in the GCC countries, whereas the trade openness is an important sukuk market development motivation factor. In addition, the savings rate and the stock market capitalization do not show a significant impact towards the sukuk market development in the GCC countries. The most important findings are the positive relationship between the political risk and the sukuk market development. In this regard, a higher level of uncertainty resulting from a high political risk leads to great transformation in an investment and financing decisions to sukuk market due to information asymmetry

problems. Besides, an increase in the political risk leads to greater budget deficits and increases the credit risk, thus increasing the expected costs of debt and equity and expanding the sukuk market.

This study complements earlier studies through employing the GCC countries as the sampling since several studies have been conducted on the largest sukuk market in Malaysia. Hence, important ideas are presented for the policy makers related to the crucial factors that influence the development of the sukuk market in the GCC countries as the largest region in terms of the Islamic financial assets. In this regard, well-developed sukuk markets can provide the GCC countries with alternative sources of finance and at the same time improve the region's financial resilience by balancing its high dependence on oil exports and the banking sector. Hence, it is necessary for GCC countries to use their massive savings and international reserves to meet the significant requirements of productive investment in the region, especially in the infrastructure, through the development of the sukuk market. According to this study, it can be recommended that the sukuk should be issued in a commonly Gulf- maintained currency due to the dominance of Gulf countries in the sukuk market to avoid the exchange rate risk. The results are also important for the policy makers to develop strategies for connecting and integrating the banking sectors and the sukuk market in order to encourage the development of the sukuk market via creating the scale economy and an essential sukuk market infrastructure. Further, the findings of this study will help the investors and the creditors identify that their interests will be protected from the political risk with a high investment in the sukuk market rather than conventional markets. Finally, since the economies of the GCC depend on oil exports (the major suppliers of oil in world energy markets), further studies are needed to examine whether the oil price shocks affect the sukuk market. Moreover, further studies could investigate the role played by the Islamic banks in the sukuk issuance.

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