30 The economic and political determinants of depth and strength in *sukuk* markets
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1 INTRODUCTION: GLOBALIZATION AND SHIFT TOWARDS EMERGING MARKETS

The last two decades have been signified by fundamental changes in the global economic, financial and business landscapes. Within this relatively short period of time, economies, financial markets, investors and businesses have undergone changes through the medium of political, legal and technological innovations. Economic resources, capital, technologies and business know-how has spread throughout the globe through these media. This has been done across boundaries and, in essence, has been making the world a much better connected and more closely knit place.

As a result of these changes in the global economic landscape, a series of economies, which were not integrated into the global markets earlier, have emerged as the new powerhouses of the global economy and development. According to the World Bank (2014), the net foreign direct investments (FDIs) to emerging markets are expected to rise to an estimated amount of $617 billion by 2014 and continue their growth in 2015, reaching levels almost 400 percent higher in comparison to the amount recorded in 2000.

As a result of these inflows and their relative competitive advantages, the growth of the emerging markets has soared during this period. While economic growth levels, as calculated through gross domestic product (GDP) growth, have been essentially the same for developed countries and emerging markets in 1989, a gap has started to form beginning from the second half of the 1990s. The advantage of the emerging markets has reached a level where it is almost three times higher in comparison to the growth of developed economies.

As a result of these differences in economic performance, emerging markets now account for 86 percent of the world's total population, 75 percent of the land mass and natural resources, as well as 50 percent of the global GDP according to purchasing power parity (PPP). In conjunction with FDIs, cumulative capital flows have also showed a significant increase, from the level of approximately $100 billion in 2000 to an estimated level of $1200 billion in 2015.

The capital flows in the form of debt instruments has the highest share in these flows, followed by FDIs, with equity capital flows remaining a distant third. As a result, according to the statistics provided by the Bank of America's Merrill Lynch (BoAML, 2013), the size of the emerging debt markets start from $908 billion with a steady increase towards the new millennium.

The emerging debt markets start to pick up both in size and variety in providing information on the identity of the issuer, especially from 2005 onwards. Furthermore, it can be suggested that the emerging debt markets began in the form of sovereign debt

initially, and this has continued for a long period. However, corporate debt issuances reached the levels of sovereign debt from 2005 onwards and have almost half of the total market size.

The geographical distribution of this growth in emerging debt markets, however, seems to be far from equal, according to the same statistics reported by BoAML (2013). The emerging debt markets have a high concentration in the Asia Pacific region, which has an approximate size of $8000 billion and equates to 58 percent of the total emerging debt market. Asia Pacific seems to be followed by Latin America and the Caribbean with a big margin at $3500 (26 percent) whereas emerging European markets, as well as Africa and the Middle East, have shares of 10 percent and 6 percent respectively.

It can argued that the most important fundamental reason for growth in emerging debt markets during this period is improvements in political environments, especially in terms of political accountability (BoAML, 2013). With better accountability and electoral processes, the emerging countries have achieved better regulations, fiscal policies and reserve accumulation resulting in economic and financial stability.

As a result, it can be argued that the economic, financial and technological innovations coupled with political, economic and financial stability can be identified as the main drivers of the emergence of new economies and financial markets within the global system.

2   EMERGENCE OF ISLAMIC FINANCE

These developments in the economic and financial landscapes and the influx into the emerging markets have introduced the modern financial system, markets and instruments to investors, who have been previously excluded from the system. The global markets, in a reaction to the requirements of these new potential investors, have continued with their efforts to include these investors through a series of financial innovations. Through this period, religious and ethical reservations of these new investors were taken into account, and Islamic finance, which takes its roots from a reflection of the Islamic political economy of the 1960s, has emerged as a new and major integrated branch of emerging market finance. Starting from the initial banking efforts in the Gulf Cooperation Council (GCC) region and the very limited asset issuances in 1970s, today Islamic finance has grown to a size of over $1.35 trillion in 2013, with 249 Islamic banks operating in over 20 countries (ICD Thomson Reuters, 2013). With an average growth rate of 15 percent, the size of Islamic finance can grow beyond $2 trillion in the near future, according to Standard & Poor (Sergie, 2014).

Another important point is that the distribution of Islamic finance assets has also been distributed across the countries and geographical regions asymmetrically. Malaysia, alone covers approximately 25 percent of the entire sector.

In terms of growth potential, it is worth noting that the Islamic finance industry, despite its impressive growth throughout the past two decades, as a whole still consists of a very small part of the global financial markets. According to the *Islamic Finance Development Report 2013* (ICD Thomson Reuters, 2013), total assets of the Islamic banking sector amount to $985 billion, comprising less than 1 percent of the global banking sector with total assets accounting for $123.7 trillion. Given the total size of the Muslim population,

this level signals high growth potential. Consequently, the report argues that the Islamic finance industry can reach up to $4095 billion in Organisation of Islamic Cooperation (OIC) countries with adequate regulatory support.

Parallel to the developments in conventional finance, debt-based instruments have also marked the development of the Islamic finance sector. While heavy reliance of Islamic banks on debt-based financing through the *murabahah* syndrome has been raised continuously in academic and professional circles, the debt-based side of Islamic finance instruments, *sukuk* markets, has also almost doubled in size between 2007 and 2013 and reached the impressive size of $251 billion in 2013 (Thomson Reuters, 2013). By 2013, it was reported that there were 1899 *sukuks* outstanding in the global financial markets.

The *sukuk* issuances increased significantly between 2006 and 2007, although in the following period they were negatively affected by the global financial crisis. However, the total value of issuances has recovered completely from the adverse effects of the crisis and has reported to have significant yearly growth since 2008, with strong performances especially in 2011 and 2012. However, the decline in 2013 shows a new characteristic and turn, which should be explored further. Despite the decline in the new issuances, the total value of outstanding *sukuk* remains with its upwards trend in 2013.

In parallel to the development of conventional debt markets as well as other branches of Islamic finance, *sukuk* markets are very asymmetrically distributed across countries. Malaysia alone accounts for 67.72 percent of the entire *sukuk* market. While these statistics suggest strong growth potential for other countries, the underlying reasons should also be noted.

In terms of type of *sukuk*, the trends demonstrate that *sukuk* markets have also been reported as still being dominated by government issuances at 61.8 percent and 62 percent of the total issuances in 2012 and 2013 respectively. These shares have been reported to be at a constant level by the global *Sukuk Report* (IIFM, 2014), suggesting that this trend is unlikely to change in the near future.

The discussion above leads to five main conclusions:

1. Developments in economic and financial instruments, coupled with technological innovations, as well as political, regulatory improvements and increased levels of stability have created a constant and increasing flow of capital to emerging markets.
2. Emerging debt markets are the highest beneficiaries of this phenomenon.
3. This inflow shows significant variations in their destinations depending on several factors.
4. Islamic finance has emerged as a new and integrated branch of financial markets during the same time, but, in parallel to the developments in conventional emerging markets, this also shows strong variations across countries, especially with regard to debt in terms of *sukuk* markets.
5. Islamic financial markets are reaching a certain stage of maturity after a long period of strong growth, in part owing to favourable global conditions and the innovations mentioned above. However, given that the economic sizes and market capitalizations of the conventional base for Islamic finance is relatively small, at this stage of maturity, Islamic finance will eventually need to reach out to market participants which do not have the emotional attachment of the conventional base.

This study, therefore, explores this particular issue and examines the potential reasons for variation between the development and market depth of *sukuk* markets. In addition, this chapter explores alternative channels that can be established to attract unconventional market participants.

The remainder of the study is structured as follows. In section 3, the existing literature on the variations between the developments and depths of emerging debt markets is reviewed. The relationship between *sukuk* and conventional debt instruments, such as bonds, is also discussed in this section. In section 4, the sample selection process is discussed and the data investigated in the study is presented. The results and analysis of the empirical regression estimations are presented in section 5. The chapter concludes with a summary of the findings, in section 6.

3   EMERGING MARKETS: A REVIEW OF LITERATURE

Following the developments of the emerging markets in the past three decades as a result of the reasons discussed above, the attention of the academic research turned to the investigation of the characteristics of these new markets and very soon it was realized that the conventional models developed for explaining the phenomena in developed economies were not working as expected in these new geographies (Bekaert and Harvey, 2000b, 2002).

While the main body of the earlier research mainly focused on the relationship between market liberalizations and capital flows (Bekaert and Harvey, 2000b; Bekaert et al., 2002) and possible higher returns (Choe et al., 1999; Froot et al., 2001; Stulz, 1999; Griffin et al., 2002), the variations across country performances on these issues have shifted the focus towards its possible causes. In this stem of research, Bekaert (1995) identifies three possible reasons: direct legal barriers, in the form of legal status differences between domestic and foreign investors; indirect legal barriers, in the form of information availability, investor protection, and accounting standards; and emerging market specific risks, in the form of liquidity risk, political risk, economic stability risk and financial stability risk, especially in terms of foreign exchange risk. Investigating the possible effects of these three factors, Bekaert and Harvey (2000a) study a sample of 20 emerging markets employing the International Country Risk Guide's (ICRG, 2014) measures of political (which includes the direct and indirect legal barrier factors within), economic and financial risk ratings. Their results report emerging markets benefiting from the capital inflows indicate a 26.8 percent increase in economic and financial risk ratings while the political risk ratings also increase by 10.8 percent. They also report that the composite risk rating (CRR), combining all these components, increases by 15.8 percent for their sample countries, which benefit from increasing capital inflows.

The relationship between the emerging market development and debt market development in these has been widely investigated in the literature. Studying the differences between the impacts of developed and underdeveloped corporate bond markets in an economy, Hakansson (1999) argues developed bond markets impose efficient corporate capital structures, encourage the establishment of rating agencies, and introduce derivative instruments for risk management purposes, all of which are required to reduce systemic risk within an economy. In order to achieve developed bond markets, Hakansson

(1999) argues an economy requires efficient regulatory systems and transparent reporting standards, economic and financial stability and a high level of liquidity in the markets. Supporting this analysis, Herring and Chatusripitak (2000) argue that the development of bond markets increases the efficiency in an economy and thus reduce its vulnerability to financial crises.

Studying the determinants of bond market growth in East Asia, in the wake of the East Asian crisis, Fabella and Madhur (2003) and Eichengreen and Luengnaruemitchai (2004) identify a comprehensive list of factors that can influence debt market development. This list consists of economic stability (Edwards, 1985), which itself consists of stable interest rates, low inflation and low levels of government debt[1] and budget deficit; improvements in corporate governance standards (Capulong et al., 2000); strong and transparent regulatory frameworks in capital markets; market openness, in terms of exports to suppress the entrenchment of local banks (Smith, 1998; Rajan and Zingales, 2003), development stage of the economy (Eichengreen et al., 2002), and liquidity conditions (Cha, 2002; Roldos, 2004) in terms of interest rates; size of the banking system (Hawkins, 2002; Rajan and Zingales, 2003); exchange rate volatility; legal system and bureaucratic efficiency (Domowitz et al., 2000; Mathieson and Roldos, 2004); and investment environment stability (Harwood, 2000).

In addition to these country-specific factors, a list of external factors, such as the external interest rate environment in terms of US Federal funds rates (Eichengreen and Mody, 1998), as well as the volatility in this external environment and global risk aversion (Luengnaruemitchai and Schadler, 2007; Hartelius et al., 2008; Ebner, 2009; Levy-Yeyati and Williams, 2010) are also investigated in the literature as potential determinants of the debt markets development, and were found to significantly affect the emerging debt markets. In addition, Peiris (2010) also reports that global liquidity conditions are also associated with emerging debt market conditions.

The literature on the influence of country specific and global factors on emerging debt markets also extends into the examination of the turn of market conditions and change of country fundamentals over a time horizon. A summary of the findings of these studies can be presented in threefold:

1. Global liquidity and risk factors affect the strength and sometimes the direction of the country-specific factors (Baldacci et al., 2008; Dumicic and Ridzak, 2011) and vary across geographical regions (Comelli, 2012).
2. Strong country-specific fundamentals reduce the effect of the global factors (Alexopoulou et al., 2009) in terms of fiscal policy (Baldacci and Kumar, 2010) and investment ratings (Levy-Yeyati and Williams, 2010; Jaramillo and Tejada, 2011).
3. While the global factors are dominant in the short term, the country fundamentals become the real determinants in the long run (Ferrucci, 2003; Alexopoulou et al., 2009; Bellas et al., 2010).

The literature also sheds light on the structure of *sukuk* contracts and their relation to conventional bonds. One stem of research argues that, although they are based on cash flows generated from an underlying assets instead of obligations to pay fixed interest, and hence are more closely related to asset-based and asset-backed securities, *sukuk* contracts are structured specifically to ensure equivalent returns to conventional bonds in the

market. Wilson (2008) states that the main rationale underlying such a close relationship is the aim of the issuers to simplify the risk and portfolio assessments of the investors. Consequently, *sukuk* contracts continue to lag behind financial innovations and to mimic the return and yield structures of conventional bonds.

However, several studies argue that the observed potential relationship between conventional bonds and *sukuk* contracts are actually limited. Investigating the market reaction to the *sukuk* and conventional corporate bond issuances, Cakir and Raei (2007) and Godlewski et al. (2011) provide evidence that the investor reaction, and thus the share prices of *sukuk* issuers, are much more positive in comparison to the issuers of conventional corporate bonds. Both results indicate differences in investor perception and thus potential benefits of additional portfolio diversification.

A more recent study by Krasicka and Nowak (2012), investigating Malaysia, the most developed *sukuk* market in the world by a large margin, however, reports empirical evidence in the opposite direction, supporting the view of mimicking. The Malaysian bond and *sukuk* markets are very closely related to each other, both for the government debt and corporate debt markets. Their results indicate a very strong correlation between the conventional bond and *sukuk* returns, especially with regards to government debt instruments, at 0.95 during their sample period of 2006 to 2011. In addition, their result also suggests a similar strong correlation between the Islamic and conventional equity indices at almost 0.99. However, their results also report a relatively weaker correlation between corporate debt markets at 0.82. Krasicka and Nowak (2012) argue that the relative weakness of liquidity in the corporate *sukuk* market might be a potential reason for this decline in the correlation and that the change is not structural. Supporting this argument, they also report that the median returns for all markets investigated in pairs are not statistically different from their Islamic counterparts.

In addition, investigating the determinants of the debt market returns, Krasicka and Nowak (2012) report that the global and country specific economic conditions are the main factors, explaining 60 percent of the variation. Moreover, 28 percent of the variation can be explained through the different characteristics of government and corporate issuers, whereas only 12 percent of the variations can be attributed to firm-specific financial structures and the differences between conventional and Islamic markets provide little information about the movements.

In light of the argument above, it can be suggested that the close relationship between the Islamic and conventional debt markets are well documented, and, apart from the investor reaction in relation to signalling and diversification, the factors affecting both markets, as well as the determinants of the returns and yields, are very closely related. Considering these similarities, it can also be suggested that the similarities can also be extended into an investigation of the determinants of debt issuance behaviour. As a result, the determinants examined in the existing literature in relation to the conventional emerging debt markets should also be evident for *sukuk* markets. However, to the best of our knowledge, existing studies on this subject are very limited, both in number, sample size and scope. Reacting to this situation, this study attempts to fulfil this very important gap in the literature and examine the factors affecting *sukuk* issuances, and thus the determinants of market depth and strength for *sukuk* markets in emerging economies. In line with the factors discussed previously in relation to emerging debt markets, this study first examines both country-specific economic

and political factors, and global macroeconomic conditions in terms of liquidity and global risk appetite. Secondly, the analysis is the first to distinguish and make a distinction between the determinants of domestic currency issuances and foreign currency-denominated by *sukuk* issuances. Third, again in line with the literature discussed previously, the analysis is extended into an examination of these determinants through a period of time and observes potential changes through the sample period.

4   SAMPLE SELECTION AND DATA

The sample of the *sukuk* issuances investigated in this study were drawn from the Islamic Finance Information Service (IFIS) database for a period of January 2001 to April 2013 that consisted of 5054 issuances across 30 countries located in various parts of the world. Of these 5054 observations, only 226 (4.47 percent) are foreign currency-denominated and 4824 [4828?] (95.53 percent) are local currency-denominated. This significant difference between the two groups suggests that the *sukuk* markets are still acting with domestic priorities. The number of observations is also further reduced by 13 by limiting the sample period from January 2003 until April 2013 for statistical reasons. Another limitation for sample stability and panel balancing efforts was the number of countries, which have a very limited number of issuances through the sample period. In order to maintain statistical consistency, countries, which have witnessed *sukuk* issuances of less than five through the sample period, were also taken out of the sample. This further reduced the number of the sample countries to 14.

The number of observations for each sample country examined in the initial dataset is presented in Table 30.1. As is clearly demonstrated, Malaysia is by far the global market leader in *sukuk* issuances. However, despite the impressive size and growth rate, it is also evident from the values presented in Table 30.1 that the market is very domestically orientated and has been very reluctant towards foreign currency issuances. This raises questions about the multinational attraction and competitive advantages of *sukuk* markets in general. Interestingly, a country with limited economic size, Gambia, is second in the number of *sukuk* issuances. However, the same domestic market orientation weakness is also evident for Gambia. Of the 223 issuances for the sample period, none have been in foreign currencies. More importantly, the unreported analysis also suggest that all 223 issuances are made by government institutions, which also raises questions about the health of the private financial sector and markets in the country. If the regional locations are analysed, it is clear that the issuances are mainly located in two geographic regions, South East Asia and the GCC countries, especially Bahrain, the United Arab Emirates (UAE) and Saudi Arabia. An interesting point in this geographical distribution is the relative weights of domestic and foreign currency issuances. While the majority of South East Asian markets are apparently domestically orientated, the distribution of weights is more balanced for GCC countries; especially in the case of the UAE, as it has a higher number of foreign currency issuances in comparison to domestic currency ones. At this stage, it is worth noting that the GCC economies are directly pegged to the US dollar and these countries still prefer to have foreign currency issuances in US dollars in their portfolios.

Table 30.1   Number of sukuk *issuances across countries (2001–13)*

Country	Domestic currency	Foreign currency	Total
Australia	0	1	1
Azerbaijan	1	2	3
Bahrain	165	43	208
Brunei Darussalam	82	2	84
Egypt	5	3	8
France	1	0	1
Gambia	223	0	223
Indonesia	95	5	100
Iran	3	1	4
Jordan	0	1	1
Kazakhstan	0	1	1
Kuwait	0	3	3
Luxembourg	0	1	1
Malaysia	4107	24	4131
Netherlands	1	0	1
Oman	2	0	2
Pakistan	73	2	75
Palestine	0	1	1
Qatar	3	7	10
Russia	0	2	2
Saudi Arabia	25	4	29
Senegal	0	1	1
Singapore	13	0	13
South Africa	1	1	2
Sudan	1	1	2
Thailand	1	1	2
Tunisia	1	0	1
Turkey	2	6	8
UAE	9	18	27
United Kingdom	11	95	106
Yemen	3	0	3
Total	4828	226	5054

Source: IFIS database

An interesting example in this sample is the case of the UK. While the number of issuances in the mainland is limited to three local and one foreign currency-denominated issuances, these numbers rise considerably when the British Overseas Territories such as Bermuda, the Cayman Islands, Jersey and Guernsey are taken into account. Although these regions are not geographically a part of mainland UK, they are still a direct part of the British political, economic and legal system: their legal system is English; the court of appeals are located in the UK and the lender of last resort is also the Bank of England, providing all the economic, financial and legal security that mainland UK offers. A possible explanation for this interesting situation can be the tax haven characteristics these

overseas territories are offering. However, considering similar taxation policies are also in place for the GCC region and some countries in South East Asia, it is clear that this explanation is of limited worth.

Another interesting characteristic of the data for foreign currency issuances is the dominant position of the US dollar-based issuances. With the exception of two Chinese yuan and one euro-denominated issuance in Malaysia, as well as one Malaysian ringgit-denominated issuance in Indonesia and one Kuwait dinar-denominated issuance in the UAE (five in total), all foreign currency-denominated issuances are made in the US dollar.

When it comes to the values of these issuances, it is clear that the *sukuk* market has achieved an impressive growth in the sample period. As can be seen in Figure 30.1, the global *sukuk* markets are on a clear upward trend and this trend shifts into a further stage by autumn 2011 onwards. However, Figure 30.1 also suggests clear variations of *sukuk* issuances across months as well. The dominant position of Malaysia remains unchanged for the value of the issuances, as can be seen in Figure 30.1.

When the values of the domestic currency-denominated issuances are examined, a similar snapshot of the *sukuk* markets can be provided, as it is for the total issuances. One interesting point in Figure 30.2 is the significant amount of issuance in Qatar in January 2011. Apart from this exception, the whole analysis for the total amounts stands the same for domestic currency issuances.

When the foreign currency-denominated *sukuk* issuances are examined, it becomes obvious that the clear dominance of Malaysia diminishes, despite the country still remaining as one of the major parts of the *sukuk* markets. Moreover, Figure 30.3 suggests three interesting points:

1. A country not from the OIC and without a Muslim majority population, the UK, becomes an important market, as discussed above.
2. One country which was initially an important market for foreign currency issuances, Bahrain, loses it's position in the *sukuk* markets.
3. Iran had an exceptional issuance in December 2011 in US dollar-denominated *sukuk* issuance, which is an interesting choice given the political tension between the two countries.

While the value of various denominations of *sukuk* issuances are defined as the dependent variable in the analysis, in light of the literature review presented, the independent variables are defined within two broad categories, namely, country-specific fundamentals and global factors.

In line with the studies of Luengnaruemitchai and Schadler (2007), Comelli (2012) and Csonto and Ivaschenko (2013), the country-specific fundamentals are gathered from the risk indicators of the ICRG database. The ICRG database indicators consists of monthly reported data on economic, financial and political risk profiles based on 22 different variables of 140 countries worldwide. Through these variables, three CRRs, namely, economic and financial risk, political risk, and a combination of these (composite risk) become available for the each of the sample countries.

The ICRG defines these indices and their development methodologies in detail. According to their definitions, these composite ratings consist of the following.
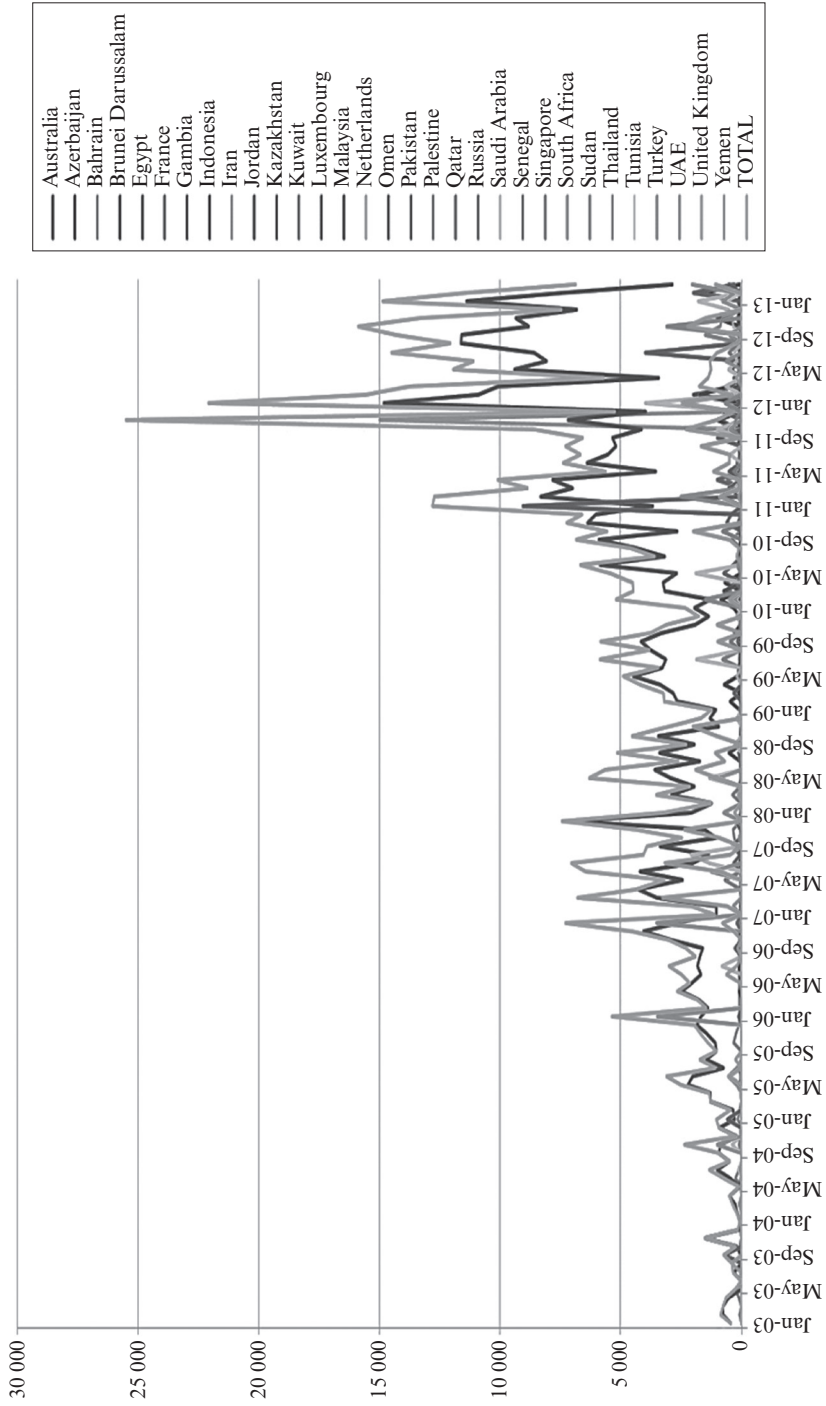
Figure 30.1 Value of total sukuk issuances (in $ million)

Legend (top to bottom):
Australia
Azerbaijan
Bahrain
Brunei Darussalam
Egypt
France
Gambia
Indonesia
Iran
Jordan
Kazakhstan
Kuwait
Luxembourg
Malaysia
Netherlands
Omen
Pakistan
Palestine
Qatar
Russia
Saudi Arabia
Senegal
Singapore
South Africa
Sudan
Thailand
Tunisia
Turkey
UAE
United Kingdom
Yemen
TOTAL

Australia
Azerbaijan
Bahrain
Brunei Darussalam
Egypt
France
Gambia
Indonesia
Iran
Jordan
Kazakhstan
Kuwait
Luxembourg
Malaysia
Netherlands
Omen
Pakistan
Palestine
Qatar
Russia
Saudi Arabia
Senegal
Singapore
South Africa
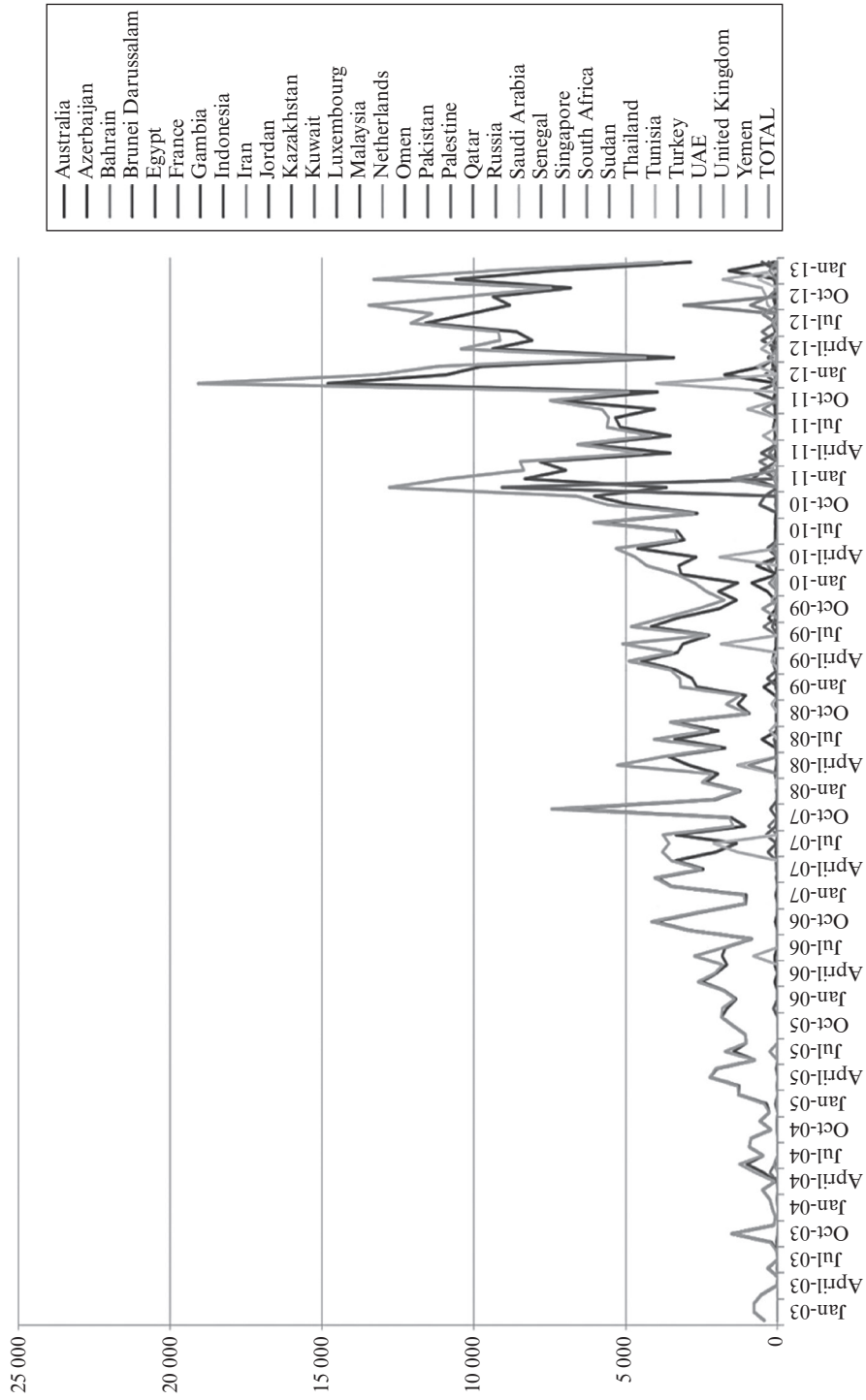Sudan
Thailand
Tunisia
Turkey
UAE
United Kingdom
Yemen
TOTAL

Figure 30.2   Value of domestic currency sukuk issuances (in $ million)
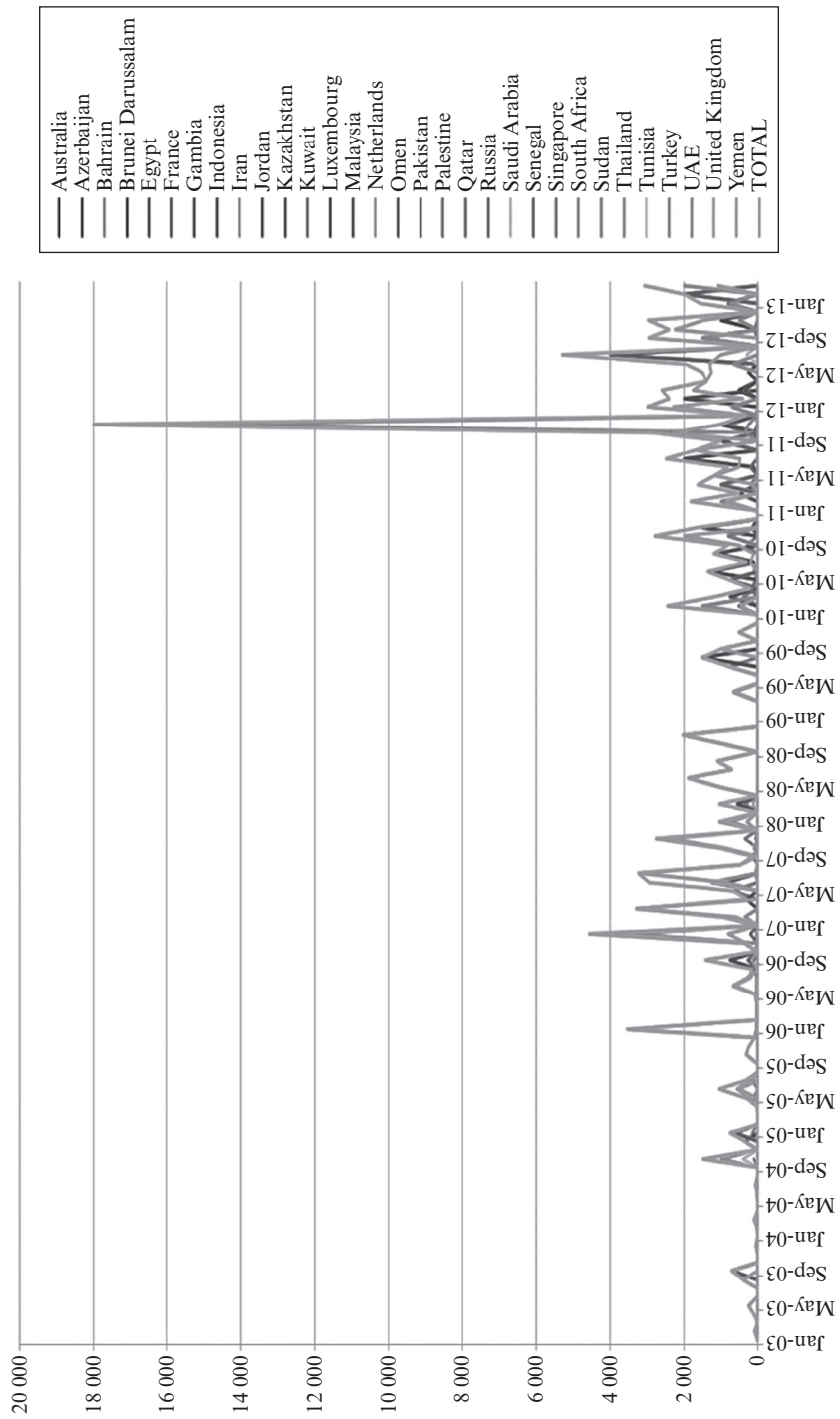
Figure 30.3 Value of foreign currency sukuk issuances (in $ million)

Legend:
Australia
Azerbaijan
Bahrain
Brunei Darussalam
Egypt
France
Gambia
Indonesia
Iran
Jordan
Kazakhstan
Kuwait
Luxembourg
Malaysia
Netherlands
Omen
Pakistan
Palestine
Qatar
Russia
Saudi Arabia
Senegal
Singapore
South Africa
Sudan
Thailand
Tunisia
Turkey
UAE
United Kingdom
Yemen
TOTAL

Economic and financial risk rating (EFRR):

● The weighted average of risk points assigned to GDP per capita;
● Real GDP growth;
● Fiscal balance (percentage of GDP);
● Current account balance (percentage of GDP);
● Inflation;
● The weighted average of risk points related to foreign debt (percent of GDP); and
● Exchange rate stability (appreciation/depreciation against the US dollar over a 12- month period)
● Current account balance (percentage of exports)
● Foreign debt service (percentage of exports)
● Official reserves (months of imports).

Political risk rating (PRR):

● Government stability;
● Democratic accountability;
● Law and order;
● Bureaucratic quality;
● Socioeconomic conditions;
● Investment profile;
● Internal conflict;
● External conflict;
● Corruption;
● Military in politics
● Religious tensions: and
● Ethnic tensions.

The values can be between 0 and 100, higher values signalling higher stability and lower values signalling higher risk. As a result, each of these indicators is expected to have a positive relationship with the value of *sukuk* issuances.

In order to capture the global factors affecting global *sukuk* issuances, the analysis employs two proxies, one signalling global risk aversion, the Chicago Board Options Exchange (CBOE) Volatility Index (VIX) and another signalling global liquidity conditions, the US Federal (Fed) funds rates (Eichengreen and Luengnaruemitchai, 2004; Csonto and Ivaschenko, 2013). The CBOE VIX is a measure of implied volatility of S&P's index options, which is widely used as a proxy for global risk appetite in the literature. This is as increasing risk appetite signals capital flows from safer developed markets to more risky emerging markets, which consequently offer the probability of higher returns because of their risk profiles. Given this, it is expected that the demand in *sukuk* markets would be higher and timelier for prospective issuers. As a result, the *sukuk* issuance is expected to be positively related to the CBOE VIX. The data is obtained from the CBOE website. Similar to a number of previous studies (Eichengreen and Luengnaruemitchai, 2004; Csonto and Ivaschenko, 2013), this study also employs 'Fed funds rates' as a proxy for global liquidity conditions. Since lower rates are associated

Table 30.2   Descriptive statistics

Variable	No. of observations	Mean	Std deviation	Min.	Max.
Total issuance	1722	4723.51	4613.61	0	25495.39
Domestic issuance	1722	3699.76	3607.64	0	19078.1
Foreign issuance	1722	1023.75	1899.86	0	18000
Composite rating	1722	73.45	9.12	47.8	92.3
Economic and financial rating	1722	79.50	10.21	41	96.1
Political rating	1722	69.03	11.52	40	91
VIX	123	20.85	9.47	10.81	62.63
FED funds	123	1.77	1.89	0.07	5.26

with higher liquidity, it can be expected that with lower Fed funds rates, capital flows to emerging markets should be higher and thus encourage *sukuk* issuers, both in terms of higher demand and lower debt rates. As a result, higher issuances should be expected with lower Fed funds rates, implying a negative relation between these two actions. Moreover, Csonto and Ivaschenko (2013) argue that CBOE VIX also captures global liquidity conditions, especially in times of economic crises when heterodox economic policies are employed, and is also forward-looking, especially with regard to potential economic stimulation programs which have been announced but are not yet realized in the markets.

The descriptive statistics of the data summarized in Table 30.2 show some interesting characteristics. First, the issuance through time, both domestic and foreign currency denominated, show strong variations. All of the issuance data used in our sample show a wide range of values through the sample period as well as high levels of standard deviations. The risk rating indices employed in the study also show relatively high levels of standard deviations, as well. In addition, the proxies for global conditions also imply high levels of volatility through the sample period. However, this is also considering that the sample period consists of a period of global expansion November 2003 to 2007, a global crisis from December 2007 to June 2009[2] and a period of quantitative easing where the monetary authorities, especially the US Federal Reserve, deliberately increased the liquidity in financial markets and kept the fund rates at historically low levels, which indirectly created an expansion period in emerging markets.

In order to control for the possible effects of multicollinearity, the Pearson correlation matrix for the sample variables is produced, which is presented in Table 30.3. As can be expected from the discussion above, the correlation between the total issuances and the domestic issuances are very high at 0.92, further emphasizing the strong dominance of domestic currency issuances in *sukuk* markets, while the correlation between the total issuances and foreign currency issuances are at a much lower level of 0.68.

Similarly high but expected levels of correlation also exist between the country-specific risk ratings. Since the composite ratings consist of both EFRR and PRR, the high levels of 0.82 and 0.86, respectively, should be surprising. One interesting point that can be raised is the relatively high and negative correlation between the PRRs and the issuances, especially in terms of total and domestic issuances. Moreover, the levels of negative correlation decline to a much lower level of −0.39 for foreign issuances, which possibly

Table 30.3   Pearson correlation coefficients

Variable	Total issuance	Dom. issuance	Foreign issuance	Composite rating	Economic and financial rating	Political rating	VIX	FED funds
Total issuance	1							
Dom. Issuance	0.9219	1						
Foreign issuance	0.6776	0.3400	1					
Composite rating	−0.5668	−0.5928	−0.2506	1				
Economic and financial rating	−0.1699	−0.1985	−0.0358	0.8228	1			
Political rating	−0.7803	−0.7905	−0.3937	0.8618	0.4454	1		
VIX	0.0103	−0.0165	0.0565	−0.3055	−0.3031	−0.1664	1	
FED funds	−0.3389	−0.3789	−0.1034	0.7387	0.7605	0.6642	−0.4107	1

signals a divergence between the effect of PRRs and the different denominations of *sukuk* issuances.

5   METHODOLOGY

The empirical estimations based on the sample are designed to be in two stages in this chapter. At the first stage, the research question is presented above as the determinants of *sukuk* issuances will be answered in a broader and time indifferent scale. In order to achieve this, the probabilities that a *sukuk* contract issuance changes should be estimated. However, the basic and most common type of analysis employed in answering such yes/no questions, the logit analysis, has an obvious weakness, which is treating all the issuances indifferently regardless of their relative values. As the main question intended is not only limited to the issuances as a single stage decision, but rather to capture the levels of issuances through their values, a traditional binomial logistic regression (logit) would be inadequate. Since it is unlikely that an institution would decide to make a *sukuk* issuance decision independent from the possible level of this issuance, a Tobit regression based on the log-linear estimation characteristics becomes an obvious choice. In addition, considering an issuer would not be able to un-issue a *sukuk* contract after it is introduced to the financial markets, the model is specified with a left-censor at zero (Maddala, 1986). As a result, the model takes the form:

$$Y_i^* = \alpha + \beta' x_i + u_i \qquad (30.1)$$

where Y_i represents the total value of the *sukuk* contracts issued at the specific time *I* and

$$Y_i = Y_i^* \text{ if } Y_i^* > 0 \tag{30.2}$$

$$Y_i = 0 \text{ if } Y_i^* \leq 0$$

However, owing to the panel characteristics of the data, an important issue still remains for the robustness purposes of the analysis. As Amemiya (1984) argues, the Tobit maximum likelihood estimator remains consistent under serial correlation but not under heteroscedasticity and non-normality. The formal solution recommended in the literature to overcome this weakness (Maddala, 1991; Greene, 2001, 2003) is to address these by employing a fixed effects model. The fixed effects model can be obtained from $Y_i^* = \alpha + \beta' x_i + u_i$ by allowing each property *i* to have a distinct value of a α_i. As a result, the model takes the form:

$$sukuk_{it} = \gamma_1' \ln(X_{it}) + \gamma_2' \ln(Z_t) + \mu_i + \varepsilon_{it} \tag{30.3}$$

where $sukuk_{it}$, X_{it} and Z_t denote the *sukuk* issuances, a $(k_1 \times 1)$ and a $(k_2 \times 1)$ vector of country-specific risk ratings (composite, economic and financial and political) and global explanatory variables (VIX and Fed funds rate) respectively, while μ_i, γ_1' and γ_2' are the country fixed effects and $(k_1 \times 1)$ and a $(k_2 \times 1)$ are vectors of coefficients respectively.

This solution is also in line with the second-stage purpose of the analysis in observing the sensitivity of *sukuk* issuances to changes in the possible determinants in the literature. As a result, a fixed effects panel model, as described above, is employed as the second model of the analysis.

6   RESULTS AND ANALYSIS

The results of the pooled Tobit and the fixed effects panel models introduced above will be presented through this section of the analysis. However, before starting to delve into the analysis of the main research questions, possible weakness points of the methods introduced above should be discussed. Owing to the setting of the data, the sample is exposed to the characteristic risks of both time series and panel discussed in the literature (Amemiya, 1984; Maddala, 1991; Greene, 2001, 2003).

First, the data is tested to check whether the variables are stationary. Results of the Fisher type augmented Dickey–Fuller (ADF) test reject the null hypothesis that all panels contain unit roots for the issuances and the country specific risk ratings. Taking the global factors into account, the VIX shows similar characteristics, whereas Fed funds rates seem to follow a unit root process. However, a co-integration test (Westerlund, 2008) does not show any co-integrating relationship between these variables representing global factors and are expected to be consistent and not spurious (Phillips and Moon, 1999). Finally, the effects for heteroscedasticity are filtered by the regression estimations under Huber/White heteroscedasticity consistent standard errors. Consequently, all results presented below are based on QML (Huber/White) heteroscedasticity consistent standard errors (White, 1980).

Table 30.4   Total sukuk *issuance results*

Variable	Pooled Tobit		Fixed Effects Panel	
	Model 1	Model 2	Model 1	Model 2
Constant	11.5412**	12.9551**	17.8011**	18.1610**
	(0.0217)	(0.0329)	(0.0374)	(0.0381)
CRR	2.3869***		1.918**	
	(0.0032)		(0.0471)	
EFRR		2.2786***		1.9397**
		(0.0083)		(0.0332)
PRR		2.607**		2.1154*
		(0.0496)		(0.0791)
VIX	2.1374**	2.3751**	1.9554**	2.0396**
	(0.0431)	(0.0461)	(0.0364)	(0.0375)
FED	−0.8420**	−1.1376**	−0.8256**	−0.6716**
	(0.0378)	(0.0349)	(0.0306)	(0.0359)
R^2	0.54	0.58	0.46	0.48

Note: *p*-values are reported in parentheses and computed using QML (Huber/White) heteroscedasticity-consistent standard errors; ***, ** and * indicate significance at 1 percent, 5 percent and 10 percent levels respectively.

The analysis of the empirical results starts with the estimations examining the total value of the *sukuk* contracts issued through the sample period of 2003 and 2013, both in domestic currency and foreign currency denominations. As discussed above, the analysis consists of two stages, first pooled Tobit regression analyses and then fixed effects panel model estimations, which allow capturing the sensitivities to changes in the independent variables through time. Because of the high level of correlations between the CRRs and the economic and financial and political risk ratings, these variables will be examined separately. Model 1 of each type of the regression consists of the composite ratings while model 2 includes economic and financial and political risk ratings separately.

The results of the multivariate regression analyses testing the total *sukuk* issuances as the dependent variable are presented in Table 30.4.

As can be seen from the results for model 1 of pooled Tobit regressions, they indicate both composite risk and economic and financial risk ratings are statistically different than zero at the 1 percent level. The other country-specific variable, PRR, is also reported to be statistically significant but at a lower level of 5 percent. The results also indicate that the global factors are also statistically significant in determining the total issuance of *sukuk* contracts for the sample. Both CBOE VIX and Fed funds indicated results that are significant at the 5 percent level in the positive and negative direction respectively, further supporting the hypothesis discussed above. At this stage, note that the coefficients for the VIX index are much higher in comparison to these of the Fed funds rate in both models. We believe the ability of VIX to capture the liquidity conditions, as well as the forward-looking characteristics allowed this proxy to capture the changes in global conditions in a broader perspective than the specialist Fed funds rate.

The results of the fixed effects panel estimations also provide a similar picture. However, both the significance levels and the coefficients of the country-specific variables suffer

from a decline for both models. While the CRR and EFRR are statistically significant at the 5 percent level, the significance is at the 10 percent level for the PRR. A possible reason for this decline in the coefficients and the significance levels might be suggested from the characteristics of the data. First, these three rating indices all remain relatively steady during the sample period. Since the characteristics of a country should not be expected to change in a period of ten years, barring wars, civil uprisings and revolutions, and catastrophic events, this consistency should not be surprising. Moreover, it can also be suggested that, while the *sukuk* issuers are careful about the risk ratings for the initial issuance and market development stages, they might not be as concerned about the changes in these conditions apart from the appearance of extraordinary events, such as the ones listed above. That is, *sukuk* issuers are careful about country specific risks, but, as a result of the consistency in country characteristics, they are not very sensitive to changes at the ratings. The R^2 values of the models are also at satisfactory levels ranging between 0.46 and 0.58, further underlining the capability of the models to explain the phenomenon in question.

The results of the domestic currency-denominated *sukuk* issuances presented in Table 30.5 presents a very similar picture for both models in both pooled Tobit and fixed effects panel estimations. The similarity should not be surprising, considering the high level of correlation between total issuances and the domestic currency-denominated issuances as discussed above. These results also further add to the evidence that the *sukuk* markets are still very domestic market-oriented and are limited in their approach to international markets. Similar to the total issuances analysis above, both CRRs and EFRRs are significant at the 1 percent level, and PRRs are statistically different than zero at the 5 percent level. Both global factors investigated are significant at the 5 percent level, albeit with lower coefficients in comparison to the results of the total issuances.

Table 30.5   Domestic currency-denominated sukuk *issuance results*

Variable	Pooled Tobit		Fixed effects panel	
	Model 1	Model 2	Model 1	Model 2
Constant	10.1245**	11.5183**	14.6178**	17.1783**
	(0.0312)	(0.0209)	(0.0343)	(0.0368)
CRR	2.7149***		2.6997**	
	(0.0026)		(0.0492)	
EFRR		2.6114***		2.1588**
		(0.0079)		(0.0473)
PRR		2.56823**		1.8791*
		(0.0317)		(0.0823)
VIX	1.9697**	1.9816**	1.8312**	1.8190**
	(0.0408)	(0.0273)	(0.0378)	(0.0267)
FED	−0.6214**	−1.0252**	−0.5879*	−0.7413*
	(0.0211)	(0.0461)	(0.0751)	(0.0816)
R^2	0.55	0.59	0.52	0.47

Note: *p*-values are reported in parentheses and computed using QML (Huber/White) heteroscedasticity-consistent standard errors; ***, ** and * indicate significance at 1 percent, 5 percent and 10 percent levels respectively.

Table 30.6   *Foreign currency-denominated sukuk issuance results*

Variable	Pooled Tobit		Fixed Effects Panel	
	Model 1	Model 2	Model 1	Model 2
Constant	25.7203***	20.5529***	19.9171***	18.3826***
	(0.0097)	(0.0083)	(0.0067)	(0.0048)
CRR	3.1007***		2.5201**	
	(0.0057)		(0.0708)	
EFRR		2.9744***		2.4534**
		(0.0027)		(0.0342)
PRR		3.1166***		2.8238**
		(0.0049)		(0.0471)
VIX	1.4119***	1.5332***	1.2318***	1.1337***
	(0.0075)	(0.0061)	(0.0026)	(0.0072)
FED	−0.7189**	−0.8644**	−0.6250**	−0.8621**
	(0.0197)	(0.0418)	(0.0109)	(0.0216)
R^2	0.49	0.49	0.45	0.47

Note: *p*-values are reported in parentheses and computed using QML (Huber/White) heteroscedasticity consistent standard errors; ***, ** and * indicate significance at 1 percent, 5 percent and 10 percent levels respectively.

The similarity continues when the panel evidence results are examined. Both CRRs and EFRRs are significant at the 5 percent level, and the final country-specific variable, the PRR, is significant at the 10 percent level. However, at this stage the coefficients for country-specific variables are at higher levels than those of the total issuances presented above. Also of interest is that both coefficients and the R^2 values of the models are higher when the CRR values are examined in more detail with sub groups of PFRR ratings separately.

Examining the results of the fixed effects panel models, the similarity continues in the panel setting as well. The country-specific variables of CRRs, EFRRs and PRRs are statistically different than zero at the 5 percent, 5 percent and 10 percent level respectively. While the consistency continues with regard to the CBOE VIX for the domestic-denominated issuances in the panel setting, the significance for the Fed funds rate representing the global liquidity conditions are significant at the 10 percent level. In addition, similar to the results above, the coefficients are at relatively higher levels for the results of pooled regressions in comparison to panel estimations. This comment can be extended into the comparisons of the R^2 values, as well.

Table 30.6 presents the multivariate analysis of foreign currency-denominated *sukuk* issuances, which shows that the results for the foreign currency-denominated *sukuk* issuance are consistent with the findings discussed above. However, there are two important variations to note for further analysis. First, with regard to country-specific factors, both the significance levels and the coefficients of the PRRs are higher in comparison to the total and domestic currency-denominated issuances. It can be suggested that political stability is an important aspect of international investment and entering into new markets. However, in this kind of a setting, it can also be true that the local investors may have a

better understanding of the domestic political setting and thus have an asymmetric information advantage, with foreign investors who are devoid of such information needing to be cautious about political events and conditions. As a result, such country ratings are accepted as important indicators of stability, transparency and governance standards. An interesting example for this argument is the case with Bahrain, which was the market leader for foreign currency-denominated issuances at the earlier stages of the *sukuk* markets. An examination of the data suggests that with increasing levels of political unrest, Bahrain lost its market position and foreign currency-denominated *sukuk* issuances. The relatively significant role of the UK further supports this analysis. The variable is significant at the 1 percent level for the pooled regression and 5 percent level for the panel estimations. Second, the variables representing the global economic conditions also show both higher levels of significance and coefficients. Since the characteristics of these variables are more closely related to international markets, this should be expected. However, the CBOE VIX index, consistent with the previous results presented above, is seemingly an indicator better capturing the global economic conditions.

7   CONCLUSION

While the developments in Islamic finance terms of market growth, segmentation, product development and geographical diversification have been an impressive part of the financial development witnessed in the last three decades, some important limitations still remain. First, despite the impressive growth and increasing integration with the global markets, Islamic finance is still only a very small sector of the global financial market. Second, despite the widened geographical reach, Islamic finance still remains limited to certain geographies. Furthermore, as a result of this geographical limitation, Islamic finance is still limited to the performance of domestic economies and markets. Considering these issues, further product development, especially for the types of products that cater to the requirements of international investors, are needed.

In this sense, in order to compete in the global markets, the development of debt markets within Islamic finance becomes of crucial importance, both in terms of market depth and the opening of new financing channels that support the industry. As a result, the development of debt markets, especially for corporations, is very important and, despite some principal differences, *sukuk* contracts, which are proven to be of very similar characteristics to the conventional bonds, can be important for this purpose. However, before achieving this, the determinants of *sukuk* market development and depth pose an important gap in finance research, which posit the main objective and motivation of this study.

Examining the total value of the *sukuk* issued in 14 countries during the period of 2003–13 for the potential effects of country-specific and global conditions, this study presented some important findings fulfilling the gap mentioned above. First, all country-specific variables are proven to be significant in explaining the determinants of *sukuk* issuances. However, the economic and financial risk factors are proven to be of higher importance in comparison to political risk factors. Also, at this stage, the significance levels and the coefficients are both negatively affected when the analysis moved into a panel setting. Given that the economic, financial and political characteristics of countries

do not change very frequently, barring extraordinary events, this is to be expected. Moreover, these results also indicate that while the risk ratings are important in terms of issuing decisions and entering into *sukuk* markets, issuers, based on this steady characteristic, do not act sensitively in relation to changes in market conditions. In addition, both proxies representing the global factors are also reported to be statistically significant. However, it is noteworthy that the CBOE VIX appeared as a better and broader-in-scope proxy for the global conditions. As a result of these characteristic differences coupled with the forward looking ability discussed above, CBOE VIX has provided results with both higher significance and coefficients.

As the discussion in the preceding section indicates, the results of the regression analysis for the domestic currency-denominated issuances provided results of very similar characteristics to those of the total issuance analysis. However, there are still two important results to be mentioned. First, the political risk rating variable appeared to be of much less importance for the domestic currency-denominated *sukuk* issuances. Secondly, global liquidity conditions proxied by the Fed funds rates also showed relatively lower levels of significance and coefficients, similar to the political risk ratings.

The results for the foreign currency-denominated *sukuk* issuances, however, have provided results that put a new dimension to the analysis. While the results for country-specific variables in terms of composite and economic and financial risk ratings were consistent with the total and domestic issuances, political risk rating emerged as more significant in comparison to the other two country-specific variables, especially through the panel regression analysis. Moreover, both of the variables representing the global conditions have provided results that are both of higher statistical significance and higher coefficients.

Given the geographical limitations and the domestic orientation, it should not be surprising that the growth and depth potential of the *sukuk* markets will be limited. Although it can be argued that this provides cover from international crises, it should be recalled that the majority of markets investigated in this study are emerging economies which have relatively smaller markets and have limited reach to external finance, not only for the financial sector but also for the real economy. With the increasing possibility of a Fed funds rate increase in the near future, a decline in the capital flows that have helped most of the sample countries in the last three decades flourish would be limited and would make them more reluctant to venture into new emerging markets. As a result, in order to fulfil its potential, *sukuk* markets should be provided a facilitating legal and regulatory environment and infrastructure to develop in accordance to Islamic legal and ethical standards as well as according to the standards of the global markets.

NOTES

1. In some cases (such as Chile, Hong Kong SAR and Malaysia), public sector bonds are issued primarily for the purpose of bond market development (Mihaljek et al., 2002; Luengnaruemitchai and Ong, 2005).
2. The business cycle dates data is available on the National Bureau of Economic Research website accessed 15 July 2016 at http://www.nber.org/cycles/cyclesmain.html.

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