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Arrangers' Identity and the Syndicate Structure of Sukuk

(Identiti Pengatur dan Struktur Sindiket Sukuk)

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ABSTRACT

The participation of multiple banks and financial institutions in a sukuk (Islamic bonds) issuance reflects a successful process of negotiation of contract terms between the issuer, lead arranger, and other financial institutions. Conventional finance literature suggests that certain banks or non-bank institutions possess unique characteristics that give them a competitive advantage in screening and monitoring debt contracts. Whether or not their uniqueness contributes to the structure of sukuk syndicate is still an empirical question. Therefore, this paper examines the relation between arranger identity and the structure of sukuk syndicate for a sample of 3,462 sukuk tranches. Results of multiple Poisson regressions indicate the certification effect of arrangers where more reputable banks are associated with a larger syndicate size (the number of participant financial institutions). Non-bank institutions are also positively related to the size of syndicate, and this relation is more pronounced for private firms. This implies that such institutions are gaining specialization. One promising avenue for IFIs to build their capacity to assume the role of lead arranger, as the results suggest, is to actively engage reputable conventional banks and non-bank institutions in their syndicated financing activities.

Keywords: Syndication; Islamic bond; arranger identity; certification effect

ABSTRAK

Penyertaan beberapa bank dan institusi kewangan dalam penerbitan sukuk menggambarkan keberhasilan proses perundingan terma-terma kontrak antara penerbit, pengatur utama, dan institusi kewangan lain. Karya ilmiah bidang kewangan konvensional mencadangkan bahawa bank dan institusi bukan bank tertentu mempunyai ciri-ciri unik yang memberikan mereka faedah kompetitif dalam pemantauan dan penyaringan kontrak hutang. Sama ada keunikan institusi-institusi ini menyumbang kepada pembentukan struktur sindiket pembiayaan sukuk masih lagi menjadi persoalan empirikal. Oleh yang demikian, kertas ini mengkaji hubungan diantara identiti pengatur dan struktur sindiket sukuk bagi sampel yang terdiri daripada 3,462 'tranches' (bahagian) sukuk. Keputusan regresi berbilang Poisson menunjukkan kesan pengiktirafan identiti pengatur yang mana bank yang lebih bereputasi mempunyai hubungan dengan saiz sindiket yang besar (bilangan peserta institusi kewangan). Institusi bukan bank juga berhubung secara positif dengan saiz sindiket, dan hubungan ini lebih kuat bagi firma persendirian. Hal ini menggambarkan bahawa institusi tersebut sedang memperoleh pengkhususan dalam pemantauan dan penyaringan kontrak berisiko. Seterusnya, peranan yang dimainkan oleh institusi kewangan Islam (IKI) adalah agak terhad dalam aktiviti sindiket sukuk. Seperti yang dianjurkan oleh keputusan kajian ini, antara cara yang berpotensi untuk IKI membina kapasiti sebagai pengatur utama ialah dengan memastikan penglibatan secara aktif daripada bank bereputasi dan institusi bukan bank dalam aktiviti sindiket pembiayaan mereka.

Kata kunci: Sindiket; bon Islam; identiti pengatur; kesan pengiktirafan

INTRODUCTION

Malaysia is home to the largest corporate sukuk issuance in the world. As of 2015, the volume of sukuk

issuances in Malaysia reached USD 82.3 billion (ISRA & Thomson Reuters 2017). The encouraging growth of sukuk syndication has attracted local and international, both Islamic and conventional banks as well as other



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financial institutions to act as lead arrangers, with each institution brings its unique set of skills (Abdel-Khaleq & Richardson 2006).

A 'syndicate' in a sukuk (Islamic bond) offering refers to a group of financial institutions which jointly provide funds to an issuing firm. Like a syndicated loan arrangement, a lead arranger is appointed by the issuer to advise and facilitate the issuance process, and is delegated with screening and monitoring tasks.¹ The lead arranger is mandated to form a syndicate; it does so by assigning parts of the issuance to other banks and financial institutions. Depending on the allocation of financing share, the lead arranger may assign another participating financial institution as a co-arranger or co-manager to facilitate the administration of the offering. The composition of a financing syndicate thus reflects the outcome of a set of negotiations among the issuer, the lead arranger, and participating financiers (Lee & Mullineaux 2004).

Syndication in sukuk allows firms to tap greater sum of capital compared to borrowing from a single bank, and at the same time allows the lead arranger to share credit risks with participating financial institutions. However, in the presence of information asymmetries, the process of negotiating the issuance terms can be complex given concerns over adverse selection and moral hazard problems in the syndicate. Participating financial institutions may suspect that the lead arranger has more information about the issuer, and that it has the incentive to keep some information, hence misleading them into contracting financing deals that are riskier than they thought (Simons 1993). Without a credible mechanism to attest or certify lower adverse selection and moral hazard concerns, syndication is likely to result in a higher financing cost to the issuer. Therefore, financial intermediaries play an important certification role in ensuring access to capital market funds (Fang 2005; Fernando et al. 2015).

In this paper, we examine whether the observable characteristics of lead arrangers influence the structure of sukuk syndicate. Specifically, we test whether there is information certification effect of arranger identity in terms of syndicate size. The corporate sukuk market provides an interesting setting to test this relationship for the following reasons. First, the market has witnessed participation by various types of bank and non-bank institutions such as conventional banks, Islamic banks, discount houses and finance companies. Second, the market attracts a large number of offerings by privately held firms, and thus featuring a greater adverse selection and moral hazard concerns.

Ivashina (2009) notes that syndicated financing represents a special case of asymmetric information between the lead arranger (agent) and participating financial institutions in the financing syndicate. The lead arranger plays an important certification role in a lending syndicate. It builds a traditional banking relationship with the issuer and as such has better information about the issuance quality compared to participant banks. To certify that the price of the issuance is consistent with the offering quality, the lead arranger usually retains a large share of the financing.

Previous studies suggest that certain banks and financial institutions are associated with certification and monitoring-related benefits (Krishnamurthy et al. 2005). For example, Sufi (2007) shows that the most reputable bank can offset the effect of information asymmetry; it does not have to retain a large share of the loan to signal the loan quality. This is consistent with the notion that more reputable banks have better screening technology (Chen et al. 1996), and due to vast experience from repeat business, they have greater informational as well as distributional advantage (Dennis & Mullineaux 2000; Lee & Mullineaux 2005). Therefore, we test the certification effect of lead arrangers' reputation on the size of sukuk syndicate. We also capitalize on the different types of bank and non-bank institutions in our tests of the certification effects of the lead arranger in sukuk offering.

A large sample of 3,462 corporate sukuk tranches issued in Malaysia between 2001 and 2014 is used in our empirical tests. We estimate the regression model using a Poisson estimator since our dependent variable is a count variable (i.e. the number of participant banks and/ or financial institutions). Consistent with our hypothesis, results show that more reputable banks are associated with a larger syndicate. This relation is stronger for public-listed firms. Sukuk with foreign institutions as the lead arranger also have a larger syndicate size when firms are publicly listed. Interestingly, we find non-bank institutions are positively related to syndicate size, suggesting that they have gained specialization in screening and monitoring debt contracts (Preece & Mullineaux 1994).

Our study contributes to two important literatures. First, we contribute to a growing body of literature that examines the composition of lending syndicate. Our analysis provides evidence that the identity of financial intermediaries matters to the formation of financing syndicate in the sukuk market. Second, the findings of this paper offer some insights into the certification mechanism in the Islamic financial markets, hence adding to the literature of Islamic finance.

The rest of the paper is organized as follows. The subsequent section discusses existing studies on the arrangers' identity and the syndicate structure. Section 3 presents the arguments and testable hypotheses. Section 4 describes the data and empirical procedure employed in this study. Section 5 reports and discusses the findings of this research, and the final section concludes.

LITERATURE REVIEW

In a typical sukuk issuance process, the originator (firm) begins by identifying the assets or business ventures on

which the sukuk are to be based. The originator may set up a special purpose vehicle (SPV) to facilitate the sukuk transaction. The lead arranger, a licensed bank or financial institution, is then appointed to advise and administer the issuance. Once the structuring process completes, the issuance proposal which contains the principle terms and conditions of the sukuk contract is next reviewed and endorsed by a Shariah adviser, either independent adviser approved by the Security Commission Malaysia or a Shariah committee at financial institutions (Abdul Halim et al. 2017b). Following an approval by the capital market regulator, the lead arranger may then invite other financial institutions to form a syndicate, negotiating the contract terms and the allocation of sukuk principal. As in a syndicated loan arrangement, the lead arranger may also appoint a joint lead manager or co-manager on behalf of its client to distribute the monitoring and administration tasks of the issuance.

Loan syndication has emerged as an important source of corporate finance in the global financial markets, catering both public and private firms (Bosch & Steffen 2011). Consistent with the growth in loan syndication, so do the literature that examines the issue. However, empirical studies that examine the influence of arranger identity in relation to their competitive advantage in screening and monitoring on firms and syndicate structure are scarce, and all focus on loan syndicates in developed economies, especially in the United States (U.S.) market.

Several studies focus on identifying whether bank or non-bank institutions matter by examining the information content of loans contracted by commercial banks versus non-bank institutions. James (1987) tests Fama's (1985) argument that the incidence of reserve requirements suggests there is unique feature of commercial banks. For a sample of 207 financing announcements between 1974 and 1983, they report a positive stock price reaction to bank loan agreements, and a non-positive reaction to public straight debt offerings. These results hold even after controlling for differences in the characteristics of the loan and the borrower, leading him to conclude that "banks provide some special service not available from other lenders" (p. 234).

In a later study, Preece and Mullineaux (1994) contend that the stock market reacts positively to loan announcements by other lenders, given similar loan types and lending processes used. Using a sample of 439 loan agreements that include both new and renewal loans, they find the stock market reacts favorably to the announcements of both bank and non-bank loan agreements. They conclude that non-bank institutions have acquired comparable ability to commercial banks in terms of information transmission. Billett et al. (1995) document similar findings. However, when the identity of the lender is defined by credit quality, they find the announcement of loans contracted by highest rated lenders (AAA) is associated with significantly larger abnormal returns.

On the other hand, Chen et al. (1996) examine the differential impact of lender identity on loan pricing. They examine the impact of the enactment of the Federal Deposit Insurance Corporation (FDIC) Improvement Act (FDICIA) in 1991 on the degree of monitoring effort, hence loan rates. Their results, based on a sample of 1,126 loans contracted by U.S. and Japanese banks in the U.S., show there is a differential impact of the regulatory change on loan pricing between domestic and foreign banks in the U.S. Specifically, loans contracted by Japanese banks are priced significantly higher than those by U.S. banks to similar clients prior to the regulatory change. This finding confirms their conjecture that foreign banks are less efficient monitors since they are subject to less stringent regulation prior to FDICIA. Likewise, Chen et al. (2000) document a differential monitoring impact between foreign (Japanese banks) and domestic bank in the U.S. for a sample of 6,352 syndicated loans, which is partly explained by the enactment of the Basle Accord.²

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Another related line of literature examines the influence of investor identity in an equity market setting. Testing the certification hypothesis, Krishnamurthy et al. (2005) compare the influence of affiliated and unaffiliated investors on the stock performance of firms that issue both private and public equities.3 They posit that investment by affiliated investors can serve as a credible certification of firm value, as implied by Leland and Pyle (1977) due to their greater access to the firm's private information. Their results overall confirm that investor identity (i.e., investor affiliation) matters to firm stock valuation. In particular, investments by affiliated investors are both positively related to the stock price reaction surrounding announcement and the long-term abnormal returns for private placements sample. In addition to that, bank certification defined in terms of reputation is equally important in determining the size of loan syndicate, as demonstrated by Ross et al. (2010) and Godlewski et al. (2012) given that more often than not, highly reputable banks have better experience managing risk and possess networking advantages.

Dai (2007) compares the stock performance of firms invested by venture capitalists (VCs) and hedge funds (HFs) through private investments in public equity (PIPEs). Consistent with anecdotal evidence that VCs are active monitors, her sample shows that VCs hold a larger block stake and have at least one board seat through PIPE. Also, their holding length after the PIPE is significantly longer than that of HFs. This monitoring commitment is appropriately priced by the stock market, as indicated by her finding that vc-invested firms perform significantly better than HF-invested firms both in the short run and the long run. Further investigation shows the potential monitoring effect of VCs, which is measured by changes in board seats, does not significantly explain the positive valuation. The operating performance of VC-invested firms also does not improve significantly more than of HF-invested firms. She concludes that the value created by VCs' investments is due to their certification effect rather than to their monitoring commitment.

More recently, Lim et al. (2014) study the effect of syndicate composition on loan spreads, focusing on the role of non-bank institutional investors such as finance companies, hedge funds, and mutual funds. The participation of non-bank institutions in the syndicated loan market helps fulfill firms' large capital need at times when banks face regulatory lending restrictions. Examining a large sample of 20,031 loan tranches originated from 1997 to 2007, they document that the presence of non-bank institutions is associated with a higher loan spread premium. This finding is consistent with their conjecture that non-bank institutions have different investment motives, and therefore, banks offer higher spreads to attract their participation in the lending syndicate.

Taken together, previous studies thus far suggest that the uniqueness of investors is a result of special regulations applicable to them and their investment objective. This uniqueness is reflected in their monitoring behavior which is shown to create value for their clients. Nonetheless, studies that focus on the role of financial intermediaries in the sukuk market is still in its infancy. Academic research on the sukuk market has so far been focused on various issues, notably the determinants of sukuk issuance, the wealth effect of sukuk issuance, and the risk profile of sukuk.⁴ To our knowledge, there is virtually no published research on the certification roles of financial intermediaries in the financing syndicate of sukuk. The growing financial syndication such as sukuk within the Islamic finance environment raises the need to study whether there is any unique attribute of intermediaries that are linked to the issue of monitoring in the case of sukuk. Notably, the participation of Islamic financial institutions (IFIs) in this market provides a new dimension for certification effect analysis. Unlike conventional banks, IFIs'

operation must comply with Islamic law (Shariah). With this distinguishing characteristic, IFIs' participation as the lead arranger may deliver a favourable signal to potential syndicate participants.

TESTABLE HYPOTHESES

We begin by examining the certification effect of most reputable banks on syndicate size. Agency problems are the primary concern among syndicate participants. The due diligence and monitoring task are delegated to the lead arranger. Having a longer history of repeat business suggests that more reputable banks have a "better feel for pricing conditions and business prospects of their clients" (Ross 2010 p. 5). Second, more reputable banks are likely to have built superior networking, suggesting a distributional advantage which allows for a better syndicate formation (Godlewski et al. 2012). Third, these banks are also likely to have greater competence in screening and monitoring due to higher capital investments (e.g. information technologies and human capital) (Ross 2010). If the decision of more reputable banks to arrange a sukuk contract signals the quality of the issuance, a greater syndicate size is thus expected:

H1: More reputable banks are associated with a larger sukuk syndicate.

Certification by Islamic financial institutions (IFIs) can provide a more credible signal about Shariah compliance given additional Shariah-compliance provisions governing their business operation. Malaysia has a comprehensive governance framework to ensure IFIs' adherence to Shariah principles. Under the Shariah governance framework, the Central Bank of Malaysia requires that each IFI establish a Shariah committee to supervise their operations (BNM 2010). Clark and Dawson (1996) suggest that such Islamic lead arrangers have clearly defined deontological norms that are strongly linked to their ethical decision. Hence, participant banks and financial institutions may have associated Islamic lead arrangers with lower moral hazard concern.

Due to their fiduciary duty to manage investors' funds in a Shariah-compliant manner, the legal and reputational risks associated with Shariah non-compliance are arguably greater for IFIs compared to their conventional counterpart. Given the perceived high aversion to Shariah non-compliance, IFIs' decision to contract a sukuk deal will minimize *ex ante* concern about Shariah non-compliance risk – the risk of losing asset value due to issuer's breach of Shariah provisions in the sukuk contract. Vast literatures indicate that the *ex post* monitoring process can be best executed by the Islamic lead arrangers for the sukuk contracts (Azmat et al. 2014; Dennis & Mullineaux, 2000; Lee & Mullineaux 2004; and Sufi 2007). This study can reasonably contend that Islamic lead arrangers are associated with a larger syndicate participation.

H2: Islamic lead arrangers are associated with a larger sukuk syndicate.

The interest to introduce Islamic financial market has emerged not only from Muslim countries and jurisdictions, but also from non-Muslim financial markets. However, the share of non-banking financial institutions⁵ in Islamic finance remains globally relatively small (Najeeb & Vejzagic 2013). Notably, Islamic banking institutions dominate the Islamic finance portfolio with a total contribution of 80.9 percent of the total Islamic finance assets as at year-end 2011 (Najeeb & Vejzagic 2013). Earlier, a study by Jobst et al. (2008) reports that the largest proportion of global issuance of sukuk was issued by the banking financial institutions, accounting for 86 percent of total historic issuance of USD 32 billion at year-end 2007, while the remaining 14 percent of sukuk are issued by the non-bank financial institutions. In the Gulf Cooperation Council (GCC) countries, the financial systems are generally dominated by the banking sectors, while the non-bank financial institutions have a limited presence in the GCC region (Zeiton 2012). It is worth to note that the GCC countries act as one of the primary sources of funding for Shariahcompliance Islamic products due to growing demands by the Muslim population in that region.

Anecdotal evidence indicates that the presence of qualified Shariah scholars in the institutions are crucial as some of the issues covered by the Shariah jurisprudence can be quite complex. Appointing an in-house Shariah board is essential to minimize the Shariah risks; the risk that the terms agreed in the contract may not effectively comply with the Islamic ruling (Solé 2007). Wilson (1999) shows evidence that one of the non-bank financial institutions in the U.K., which sets up an Islamic investment fund in London, failed to draw funds from the Gulf region; the fund experienced difficulties in attracting investors due to absence of Shariah board in the institution. Based on the above scenario, our study can plausibly argue that non-bank financial institutions, such as discount house and finance companies, are associated with smaller sukuk syndicate.

H3: Non-bank institutions are associated with a smaller sukuk syndicate.

A study by Bosch and Steffen (2011) reports that uninformed foreign bank and non-bank institutions do not participate in lending syndicates if certification by credit rating agencies is missing. This suggests that foreign institutions are less informed compared to domestic financial institutions. Evidence in the literature further indicates that regulations imposed by the home countries wherein foreign banks are operating lead to significant differences in loan pricing by domestic and foreign banks. Rus et al. (2011) find that foreign-owned banks operate at a (25 percent) higher cost compared to domestic banks when providing Islamic banking services in Malaysia. Other studies document that Japanese banks which constitute the largest foreign banking presence in the U.S., charged significantly higher loan rate, on average, to U.S. companies compared to the U.S banks. This event occurred due to less monitoring by Japanese banks as these entities are relatively less regulated (Chen et al. 1996; Chen et al. 2000). Drawing from these studies, we argue that foreign financial institutions are associated with a smaller sukuk syndicate given their relatively low informational and distributional advantage compared to domestic financial institutions.

H4: Foreign financial institutions are associated with a smaller sukuk syndicate.

METHODOLOGY

DATA

The primary source of data for this study is the Bloomberg Professional Service from which we retrieve a list of Malaysia-domiciled sukuk tranches originated by industrial firms from 2001 to 2014. We focus on the Malaysian market since this is where more than 80 percent of corporate sukuk are originated in terms of issuance number. Only 18 percent of sukuk issuances in our sample are repeat deals during the period. Hence, our sample is a cross-section rather than a panel. The unit of observation is a tranche or facility. We exclude issues by financial firms and the government's investmentarm institutions because their operations are subject to different regulations, and that their access to capital markets are relatively easier compared to industrial firms. Detailed information on contract terms, credit rating, syndicate member identity, and issuer identity (i.e. name, country, and industry classification) is provided by Bloomberg. Any tranche with missing data on these issuance details are excluded from the sample. The above filters leave us with a total of 3,462 tranches or facilities issued by 283 firms. We collect accounting information for private and public firms from Orbis and Datastream, respectively. Unfortunately, accounting information is missing for most private firms.

Table 1 displays the distribution of sukuk tranches from 2001 to 2014 across arranger types and industry classifications. There is an increasing trend in sukuk tranche issuance, both in number and volume, between 2001 and 2007. The number of issuances decreased during the 2008 – 2010 period, reflecting potential impact of the global financial crisis and Shariah resolution on sukuk by the Accounting and Auditing Organisation for Islamic Financial Institutions (AAOIFI). As Table 1 shows, over the years top-five banks have been dominating the sukuk market as the lead arranger. Interestingly, while IFIs are expected to play a more active role in syndicating sukuk, they only arrange 12.6 percent (437) of sukuk. Foreign and non-bank institutions arrange 19 and 13 percent of sukuk issuances, respectively. Industry sectors with a large share in the sukuk market include energy and oil, transportation and logistics, property development, and consumer staples (untabulated).

MODEL AND VARIABLE DESCRIPTION

To test our hypotheses, we regress syndicate size against a set of arranger identity proxies, controlling for issuing firms and issuance specific characteristics. Our general model takes the following form:

Syndicate size_i =
$$\alpha + \beta LEAD_IDENTITY_i + \gamma CONTROL_i + \varepsilon_i$$
 (1)

In an extensive form, equation (1) is written as follows:

Syndicate size_i =
$$\alpha + \beta_1 Top5 \ lead_i + \beta_2 IFI_i + \beta_3 Foreign_i + \beta_4 Nonbank_i + \gamma_5 Amount_i + \gamma_6 Rating_i + \gamma_7 Maturity_i + \gamma_8 Secure_i + \gamma_9 Tranch_i + \gamma_{10} Joint \ lead_i + \gamma_{11} SPV_i + \gamma_{11} Debtlike_i + \gamma_2 Private_i + \gamma_3 GLIC_i + \varepsilon_i$$
 (2)

where Syndicate size is the number of banks or financial institutions in the syndicate. Our hypothesis testing variable is LEAD IDENTITY, which is a set of dummy variables that represent the following arranger identity: Top5 lead, IFI, Foreign, and Nonbank. Following Abdul Halim et al. (2017b), lead banks in the top-five rank are considered as most reputable. The ranking of banks is based on their market share as reported on the League Table provided by the Bloomberg Professional Services. Top5 lead is therefore a dummy variable with a value of one if the lead bank is the top-five bank, and zero otherwise. IFI is a dummy variable with a value of one if the syndicate involves an IFI as the arranger, and zero otherwise. Foreign is a dummy variable equals to one if the syndicate involves a foreign-owned bank as the arranger.

CONTROL is a vector of control variables. Following previous studies, we include the following issuance-specific control variables: *Amount, Rating, Maturity, Secure*, the number of tranches (*Tranche*), and joint lead arranger (*Joint lead*). To account for heterogeneity in sukuk offerings, we also control for whether sukuk issuance involves an SPV, and whether it has the debt- or equity-like structure (Abdul Halim et al. 2017a), both of which are indicator variables.

Previous studies show that loans with multiple lead banks have better contract terms (Esty & Megginson 2003; Hao 2004). To capture this joint-lead influence, we control for whether the offering involves multiple lead arrangers or joint lead. *Joint lead* is a dummy variable with a value of one if there is more than one lead arranger in the offering, and zero otherwise.

We control for several firm-specific characteristics. Several studies discuss the relation between borrowers' informational environment and the structure of lending syndicate. Dennis and Mullineaux (2000) and Lee and Mullineaux (2004) argue that when firms are more informationally opaque, that is when adverse selection and moral hazard problems are severe, the loan syndicate tends to be smaller (concentrated). To proxy for firm's opaqueness, we include Private: a dummy variable equals to one if issuing firms are unlisted or privately held firms, and zero otherwise. Furthermore, the presence of government-linked investment companies (GLIC) may capture better management bargaining position (Gaspar et al. 2005) and better corporate governance in sukuk issuing firms (Abdul Halim et al. 2017b; Wahab et al. 2007). Accordingly, we include GLIC dummy which equals to one if the government-linked investment company is the firm's substantial shareholder (> 5 percent shareholding). A summary of variable definitions is provided in the Appendix.

We estimate equation (2) using Poisson estimation procedure since our dependent variable has a Poisson distribution (count data). To better understand as to how the variables of interest behave in a particular information environment and certain conditions, we run subsample regressions for public-listed and private firms' subgroups, as well as for pre- and post-2008 subgroups. Finally, we control for industry fixed effects, include year exposure, and cluster standard errors at the deal level to address heteroskedasticity in the regressions.

RESULTS AND DISCUSSION

MAIN ANALYSIS

Table 2 presents a summary of statistics of our test variables. The number of observations in this study is considerably large, providing ample degree of freedom for the analysis and higher tendency to follow the central limit theorem. On average, each sukuk issuance in our sample has two banks or financial institutions in the financing syndicate, with a maximum of eight participants. The average amount and maturity are USD 9.74 million and 6.05 years, respectively. The largest (smallest) amount of sukuk is USD 558 million (USD 0.7 million), and the longest maturity (shortest) is 50 years (0.4 years). The majority of sukuk tranches have an investment grade rating, 82 percent are debt-like, half are secured or collateralised, and only 14 percent are issued through an SPV. Most sukuk are multi-tranche with an

TABLE 1. Distribution of sukuk tranches across year of issuance and arranger types

| Year of | | All | То | Top5 lead | | IFI | | Foreign | | Non-bank | |
|----------|-------|---------------------|-------|---------------------|-----|---------------------|-----|---------------------|-----|---------------------|--|
| issuance | N | Amount (USD mil) | Ν | Amount (USD mil) | Ν | Amount (USD mil) | Ν | Amount (USD mil) | N | Amount (USD mil) | |
| 2001 | 147 | 607.31 | 113 | 404.31 | 7 | 73.61 | 12 | 18.19 | 23 | 82.49 | |
| 2002 | 140 | 1,087.40 | 102 | 958.67 | 5 | 69.70 | 4 | 438.56 | 5 | 11.57 | |
| 2003 | 96 | 840.80 | 33 | 438.89 | 2 | 260.82 | 29 | 112.33 | 12 | 58.87 | |
| 2004 | 273 | 1,251.34 | 153 | 799.16 | 64 | 282.86 | 45 | 169.47 | 46 | 94.27 | |
| 2005 | 358 | 1,357.45 | 178 | 980.95 | 87 | 272.61 | 84 | 366.70 | 48 | 104.10 | |
| 2006 | 349 | 1,015.84 | 154 | 674.55 | 42 | 202.07 | 56 | 117.40 | 88 | 123.81 | |
| 2007 | 247 | 2,769.84 | 153 | 2,405.51 | 53 | 209.98 | 66 | 655.26 | 83 | 113.18 | |
| 2008 | 337 | 1,529.94 | 177 | 1,077.57 | 38 | 218.78 | 40 | 281.81 | 65 | 82.46 | |
| 2009 | 208 | 2,181.68 | 108 | 2,018.68 | 13 | 80.26 | 8 | 898.61 | 49 | 64.25 | |
| 2010 | 172 | 1,830.35 | 120 | 1,660.11 | 10 | 286.31 | 18 | 410.76 | 14 | 18.68 | |
| 2011 | 220 | 3,708.18 | 184 | 3,580.47 | 20 | 626.99 | 13 | 443.26 | 10 | 26.10 | |
| 2012 | 283 | 7,678.22 | 266 | 7,619.74 | 41 | 335.91 | 46 | 506.96 | 5 | 21.43 | |
| 1013 | 317 | 4,388.78 | 287 | 4,242.96 | 40 | 119.41 | 144 | 660.94 | 4 | 23.43 | |
| 2014 | 215 | 3,481.87 | 119 | 2,979.29 | 15 | 82.72 | 39 | 302.70 | 0 | 0 | |
| Total | 3,462 | 33,729.00 | 2,147 | 29,840.85 | 437 | 3,122.03 | 644 | 5,382.95 | 452 | 824.69 | |

TABLE 2. Summary statistics of test variables

| | Ν | Mean | Median | SD |
|--------------------------|------|-------|--------|-------|
| Arranger identity | | | | |
| Top5 lead | 3462 | 0.62 | 1.00 | 0.49 |
| IFi arranger | 3462 | 0.13 | 0.00 | 0.33 |
| Foreign | 3462 | 0.19 | 0.00 | 0.39 |
| Nonbank | 3462 | 0.13 | 0.00 | 0.34 |
| Issuance characteristics | | | | |
| Syndicate size | 3460 | 1.75 | 1.00 | 1.21 |
| Amount (USD million) | 3462 | 9.74 | 2.84 | 26.90 |
| Maturity (year) | 3462 | 6.05 | 5.00 | 5.91 |
| Rating | 3137 | 5.10 | 5.00 | 0.97 |
| Debtlike | 3309 | 0.82 | 1.00 | 0.39 |
| Secure | 3462 | 0.50 | 1.00 | 0.50 |
| SPV | 3462 | 0.14 | 0.00 | 0.34 |
| Tranche | 3462 | 30.51 | 25.00 | 24.41 |
| Joint lead | 3445 | 0.31 | 0.00 | 0.46 |
| Issuer characteristics | | | | |
| Private | 3462 | 0.57 | 1.00 | 0.50 |
| GLIC | 3462 | 0.39 | 0.00 | 0.49 |

Note: Variable definitions are provided in Appendix.

average of 30 tranches, and about 30 percent are managed by more than one lead bank.

Overall, the mean and median for most of the variables are almost identical except in three cases; tranche issuance amount, maturity and the number of tranches for the offering deal. This is depicted by the spread of the data or the standard deviation. The larger spread of data indicates the variability and the uniqueness of each variable for each bank and financial institution. Each bank may have different policy and strategy on tranche issuance amount, maturity and the number of tranches for the offering deal. Hence, the preliminary test

might give a useful insight as to how the variables may correlate within the designated model.

We next test the univariate differences in means of issuance characteristics across arranger types. Table 3 shows there are statistically significant differences in means of issuance characteristics between top-five and non-top five subsamples. Sukuk arranged by more reputable banks are significantly larger in size of syndicate (47 percent) and amount of tranche offering (79 percent). They have twice longer maturity and higher rating compared to those arranged by non-top five lead arrangers.

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|--------------------------|-------------------|------------|------------------|-----------------|-----------|
| TABLE 3. Univariate test | of differences in | 1 issuance | characteristics | across arranger | identify |
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| | Top5 lead | Non- top5 lead | Diff. | IFI | Non- IFI | Diff. | Foreign | Local | Diff. | Non- bank | Bank | Diff. |
|-------------------|--------------|----------------------|---------|-------|-------------|---------|---------|-------|---------|--------------|-------|--------|
| Syndicate size | 2.10 | 1.12 | -23.61* | 2.54 | 1.64 | -15.12* | 2.32 | 1.62 | -13.72* | 1.19 | 1.83 | 10.71* |
| Amount (USD mil.) | 13.90 | 2.96 | -11.85* | 7.14 | 10.12 | 2.16* | 8.36 | 10.06 | 1.45 | 1.82 | 10.93 | 6.75* |
| Maturity (year) | 7.59 | 3.52 | -20.34* | 6.87 | 5.93 | -3.23* | 7.43 | 5.74 | -6.46* | 1.90 | 6.68 | 16.65* |
| Rating | 5.19 | 4.87 | -5.86* | 4.73 | 5.14 | 7.23* | 4.91 | 5.14 | 4.68* | 4.41 | 5.21 | 16.21* |
| Debtlike | 0.77 | 0.91 | 10.34* | 0.95 | 0.81 | -6.99* | 0.94 | 0.80 | -8.68* | 0.95 | 0.81 | -7.32* |
| Secure | 0.59 | 0.36 | -13.81* | 0.68 | 0.48 | -8.10* | 0.66 | 0.47 | -8.65* | 0/23 | 0.55 | 12.93* |
| SPV | 0.15 | 0.12 | -2.04* | 0.11 | 0.14 | 1.60 | 0.13 | 0.14 | 0.57* | 0.13 | 0.14 | 0.51 |
| Tranche | 29.39 | 27.51 | 3.46* | 31.18 | 30.42 | -0.61* | 25.11 | 31.75 | 6.26* | 27.15 | 31.02 | 3.15* |
| Joint lead | 0.47 | 0.07 | -26.57* | 0.64 | 0.27 | -16.37* | 0.66 | 0.23 | -22.56* | 0.03 | 0.36 | 14.44* |

Note: t-test is used for the test of difference in means. * denote two-tailed significance at least the 5 percent level. Variable definitions are provided in Appendix.

Similarly, sukuk with IFIs and foreign-owned banks as the lead arranger have larger syndicate size and longer maturity. Nevertheless, they have smaller amount of offering and lower rating compared to those arranged by their respective counterparts. Johnes et al. (2014) report that the size of IFIs is relatively smaller than conventional banks, and consistently they are at disadvantage of economies of scale – smaller capacity to provide large scale financing. Finally, we observe that sukuk arranged by non-bank institutions have 54 percent smaller syndicate size, and 42 percent smaller amount of offering. Non-bank institutions also arrange offerings with significantly shorter maturity and lower rating.

Spearman rank correlation coefficients in Table 4 show that top-five lead, IFI, and foreign-owned banks are positively correlated with the number of syndicate members (*Syndicate size*) as expected. Consistent with our hypothesis, non-bank institution is negatively correlated with *Syndicate size*. These results provide preliminary support for our hypotheses on the relation between arranger identity and syndicate structure. None of the independent variables is highly correlated with each other, suggesting that multicollinearity is not likely to be a concern in our regression analyses.

Results of the Poisson regression estimation are reported in Table 5. For robustness, we obtain heteroskedastic-robust standard errors, clustering at the deal level. Pseudo R^2 indicates that the variables examined in this study explain about 15 percent of the variations in syndicate size, and they are altogether statistically significant (Wald chi2 = 723.68, p < 0.01). We obtain the value of one for both deviance statistic and Pearson statistic (untabulated) for full and subsample regression specifications, indicating the goodness-of-fit of the model.

The full sample regression of specification (1) shows that more reputable lead arranger is positively associated with the size of sukuk syndicate with an expected log count of 0.11 higher than less reputable lead arrangers. In economic terms, the number of syndicate members

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|
| 1 Syndicate size | 1.00 | | | | | | | | | | | | | | |
| 2 Ln (Amount) | 0.38* | 1.00 | | | | | | | | | | | | | |
| 3 Maturit (year) | 0.33* | 0.33* | 1.00 | | | | | | | | | | | | |
| 4 Rating | 0.09* | 0.13* | -0.19* | 1.00 | | | | | | | | | | | |
| 5 Debtlike | -0.05* | -0.26* | -0.24* | -0.04 | 100 | | | | | | | | | | |
| 6 Secure | 0.27* | 0.17* | 0.59* | -0.21* | -0.10* | 1.00 | | | | | | | | | |
| 7 SPV | 0.07 | -0.06* | 0.13* | -0.04* | -0.16* | 0.19* | 1.00 | | | | | | | | |
| 8 Tranche | 0.05* | 0.02 | -0.11* | 0.19* | 0.18* | -0.10* | -0.23* | 1.00 | | | | | | | |
| 9 Joint lead | 0.83* | 0.40* | 0.35* | 0.09* | -0.03 | 0.26* | 0.07* | 0.02 | 1.00 | | | | | | |
| 10 Top5 lead | 0.44* | 0.42* | 0.42* | 0.02* | -0.228 | 0.27* | 0.04* | -0.03 | 0.42* | 1.00 | | | | | |
| 11 IFI | 0.22* | 0.08 | 0.05* | -0.15* | 0.13* | 0.11* | -0.02 | 0.05 | 0.24* | 0.03 | 1.00 | | | | |
| 12 Foreign | 0.33* | 0.08 | 0.19* | -0.03 | 0.16* | 0.13* | -0.01 | -0.09* | 0.35* | 0.10* | 0.03* | 1.00 | | | |
| 13 Nonbank | -0.18* | -0.29* | -0.33* | -0.21* | 0.14* | -0.24* | -0.03 | -0.02 | -0.23* | -0.44* | 0.10* | -0.19* | 1.00 | | |
| 14 Private | 0.25 | 0/11* | 0.39* | -0.14* | -0.07* | 0.40* | -0.10* | 0.03 | 0.15* | 0.23* | 0.18* | 0.06* | -0.16* | 1.00 | |
| 15 GLIC | 0.01 | 0.18* | -0.14* | 0.27* | -0.12* | -0.26* | 0.10* | 0.09* | 0.02 | 0.06* | -0.18* | -0.03* | -0.09* | -0.36* | 1.00 |

TABLE 4. Spearman rank pairwise correlation

Note: * denote two-tailed significance at least the 5 percent level. Variable definitions are provided in Appendix.

| | Ful sample | Private firms | Public-listed firms |
|-------------|------------|---------------|---------------------|
| | (1) | (2) | (3) |
| Top5 lead | 0.112*** | 0.0265 | 0.110*** |
| * | (2.58) | (0.39) | (3.39) |
| IFI | 0.0649 | -0.0431 | 0.0585 |
| | (0.79) | (-0.41) | (0.73) |
| Foreign | 0.0759 | 0.0664 | 0.165*** |
| | (0.94) | (0.64) | (2.63) |
| Nonbank | 0.183** | 0.307*** | -0.00951 |
| | (2.63) | (2.58) | (-0.29) |
| Ln(Amount) | 0.107** | 0.153** | 0.0701*** |
| | (2.58) | (2.56) | (2.84) |
| Maturity | -0.007 | -0.007 | -0.004 |
| - | (-1.34) | (-1.33) | (-1.13) |
| Rating | 0.00433 | 0.0294 | -0.0705*** |
| C | (0.12) | (0.61) | (-2.93) |
| Debtlike | -0.0711 | -0.0948 | -0.00257 |
| | (-1.01) | (-1.05) | (-0.07) |
| Secured | 0.085* | 0.094 | -0.010 |
| | (1.93) | (1.64) | (-0.27) |
| SPV | -0.0055 | 0.0285 | -0.0400 |
| | (-00.7) | (0.29) | (-0.92) |
| Tranche | 0.00340*** | 0.00622*** | -0.0012* |
| | (3.19) | (3.44) | (-1.85) |
| Joint lead | 0.774*** | 0.790*** | 0.578*** |
| | (12.40) | (10.14) | (10.21) |
| Private | 0.219*** | | |
| | (3.68) | | |
| GLIC | 0.108* | 0.145* | 0.0119 |
| | (1.78) | (1.79) | (0.54) |
| Constant | -2.200*** | -2.188*** | -2.708*** |
| | (-4.50) | (-3.39) | (-6.95) |
| Ν | 3047 | 1691 | 1356 |
| Pseudo R-sq | 0.146 | 0.176 | 0.077 |

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|----------|-----------|------------|-----------|
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| | | | |

The dependent variable is *Syndicate size*. Each specification includes industry dummies and year exposure. p-values (in parentheses) are based on standard errors computed clustering at deal level. ***, **, * denote significance at the 1, 5, and 10 percent level, respectively.

is expected to increase by a factor of 1.12 if the lead arranger belongs to the top-five league rank.⁶ This result is consistent with existing findings that reputation of the lead arranger mitigates agency costs concern within the financing syndicate (Dennis & Mullineaux 2000; Lee & Mullineaux 2004). The subsample regression shows that this result is driven by public-listed firms subsample.

As Table 5 shows, *IFI* is not significant in all regression specifications, indicating the limited certification role played by Islamic lead arrangers in the sukuk market. Further, the coefficient on *Foreign* enters with a positive and significant sign in public-listed firm subsample (specification (3)) only. In other words, having a foreignowned bank as the lead arranger is expected to increase the size of syndicate (number of financiers) by a factor of 1.18 for public firms. This result is consistent with the notion that foreign-owned banks are less informed, and that they face higher operation cost when providing Islamic financial services (Rus et al. 2011). Accordingly, these institutions favor publicly listed firms whose financial information are publicly available (Bosch & Steffen 2011). Contrary to our prediction, non-bank lead arranger is positively associated with the size of syndicate. Interestingly, this relation is stronger for private issuers. We can interpret this result to suggest that when firms have little credit information, appointing non-bank lead arrangers with specialized monitoring skills improves firms' access to capital. This finding suggests that non-bank institutions are willing to take up risky investments.

In line with previous studies (e.g. Bosch & Steffen 2011; Lee & Mullineaux 2004), the amount of sukuk offering is positively related to the number of syndicate participants. Secured sukuk offering is associated with an expected greater number of financial institutions participating in the syndicate. This finding highlights the importance of collateral as a means of addressing adverse selection concerns, hence improving firms' access to external capital. We find that, contrary to previous studies, private firms are positively related to syndicate

size. One plausible reason, based on our data, is that most private firms in our sample are government-related agencies. Although less information is available about these firms, the fact that they are government-supported reduces *ex ante* uncertainty about the investment project. Consequently, their offerings are able to attract greater syndicate participation. Consistently, *GLIC* enters with a positive and significant sign with a greater magnitude observed for private firms.

A recent study reports that banks and financial institutions play a more active role in the sukuk market in the post-global financial crisis (GFC) (Smaoui et al. 2017). We also note that the resolution by the primary standardsetter for the market, i.e. AAOIFI, on Shariah compliance matters of sukuk issuance was issued during the GFC. The 2008 resolution calls financial institutions, particularly IFIS to adhere strictly to AAOIFI standards for sukuk offering. To test whether the two confounding events (i.e. AAOIFI resolution and global financial crisis (GFC)) have caused a structural change in the certification role played by the lead arrangers, we split our observations into pre- and post-2008 subsamples. Table 6 reports the results. We find that arranger identity dummies are positive and significant only in the post-2008 subsample, confirming that top-five lead banks, IFIs, foreign-owned, and non-banking institutions play a more significant certification role in sukuk syndication post-GFC. As far as the 2008 AAOIFI resolution is concerned, the coefficient on IFI dummy indicates that IFIs have exercised a more effective role as an Islamic lead arrangers following the call by AAOIFI.

ADDITIONAL TESTS FOR ROBUSTNESS

Due to data availability, we are not able to control for a sufficient set of financial variables that may represent important risk factor driving the size of sukuk syndicate. To address potential bias due to omitted variables, we follow the approach adopted by Esty and Megginson (2003) by creating a variable based on residuals obtained from the bond pricing model. We find the coefficient on Risk enters with a negative and significant sign as reported in Table 6. The magnitude of risk impact on the size of syndicate is greater for private firms as specification (2) shows. This result is consistent with previous studies that document that lead arrangers tend to form a smaller syndicate when the issuer is relatively more opaque, and when issuer risk is relatively high (Bosch & Steffen 2011; Lee & Mullineaux 2004). The results with respect to our hypothesis testing variables are robust to the inclusion of the risk factor (Risk).

To account for time-invariant heterogeneity in borrower characteristics, we also repeat our main regressions by including firm fixed effects. Results (unreported) with respect to our hypotheses variables are qualitatively similar. Finally, we repeat our main

TABLE 6. Poisson regression estimates for pre- and post-2008 subsamples

| | Pre-2008 | Post-2008 |
|-------------|-----------|-----------|
| | (1) | (2) |
| Top5 lead | 0.0269 | 0.304*** |
| · · · · · · | (0.55) | (2.99) |
| IFI | -0.0658 | 0.242** |
| | (-0.54) | (2.43) |
| foreign | -0.0041 | 0.231** |
| | (-0.04) | (2.10) |
| Nonbank | 0.120 | 0.268** |
| | (1.52) | (2.22) |
| Ln(Amount) | 0.206*** | -0.0275 |
| | (3.18) | (-0.54) |
| Maturity | -0.0067 | -0.0031 |
| | (-1.48) | (-0.67) |
| Rating | 0.069* | 0.0452 |
| | (1.79) | (0.54) |
| Debtlike | 0.0208 | -0.0688 |
| | (0.25) | (-0.89) |
| Secured | 0.0956** | 0.0542 |
| | (2.08) | (0.85) |
| SPV | -0.0398 | 0.0512 |
| | (-0.62) | (0.46) |
| Tranche | 0.0023** | 0.0040** |
| | (2.27) | (2.21) |
| Joint lead | 0.810*** | 0.688*** |
| | (10.99) | (8.60) |
| Private | 0.142** | 0.257*** |
| | (2.26) | (3.04) |
| GLIC | -0.0184 | 0.288*** |
| | (-0.22) | (3.78) |
| Constant | -8.626*** | -7.766*** |
| | (-6.65) | (-9.81) |
| N | 1597 | 1144 |
| Pseudo R-sq | 0.155 | 0.152 |

Note: The dependent variable is *Syndicate size*. Each specification includes industry dummies and year exposure. p-values (in parentheses) are based on standard errors computed clustering at deal level. ***, **, * denote significance at the 1, 5, and 10 percent level, respectively.

regressions using the negative binomial regression to address potential extra-Poisson variation or overdispersion in the distribution of our dependent variable. Again, we find our results with respect to arranger identity variables remain intact. For brevity purpose, we do not report this result.⁷

CONCLUSION

This paper aims to test the influence of arranger identity on the syndicate size of sukuk. The issue has contemporaneous relevance given the rapidly growing sukuk market which involves heterogeneous institutions, raising the issue of informational hazard and asymmetric problems. In general, we find that certification effects

TABLE 7. Poisson regression estimates with fitted risk control

| | Ful sample | Private | Public- |
|-------------|------------|------------|------------|
| | (1) | (2) | listed |
| | | | (3) |
| Top5 lead | 0.0938*** | 0.0104 | 0.100*** |
| 1 | (2.03) | (0.15) | (2.97) |
| IFI | 0.0226 | -0.108 | 0.0445 |
| | (0.27) | (-1.01) | (0.56) |
| Foreign | 0.0606 | 0.0412 | 0.159** |
| C | (0.76) | (0.41) | (2.50) |
| Nonbank | 0.207*** | 0.330*** | 0.0022 |
| | (2.99) | (2.86) | (0.06) |
| Ln(Amount) | 0.0964** | 0.122** | 0.0697*** |
| | (2.45) | (2.26) | (2.83) |
| Maturity | -0.00597 | -0.00480 | -0.00381 |
| | (-1.62) | (-1.03) | (-1.15) |
| Rating | -0.0123 | 0.000440 | -0.0733*** |
| | (-0.34) | (0.01) | (-3.03) |
| Debtlike | -0.0344 | -0.03360 | 0.0101 |
| | (-0.49) | (-0.41) | (0.28) |
| Secured | 0.0752* | 0.0882 | -0.0116 |
| | (1.74) | (1.59) | (-0.31) |
| SPV | 0.0220 | 0.0758 | -0.0319 |
| | (0.28) | (0.82) | (-0.73) |
| Tranche | 0.00277*** | 0.00501*** | -0.0015 ** |
| | (2.67) | (2.96) | (-2.01) |
| Joint lead | 0.765*** | 0.782*** | 0.572*** |
| | (12.42) | (10.37) | (10.21) |
| Private | 0.240*** | | |
| | (3.95) | | |
| Risk | -0.043*** | -0.065*** | -0.0159 |
| | (-2.72) | (-2.92) | (-1.19) |
| GLIC | 0.101* | 0.141* | 0.00863 |
| | (1.67) | (1.80) | (0.38) |
| Constant | -7.972*** | -7.707*** | -7.642*** |
| | (-43.65) | (-30.58) | (-66.17) |
| Ν | 2047 | 1691 | 1356 |
| Pseudo R-sq | 0.147 | 0.177 | 0.077 |

The dependent variable is *Syndicate size*. Each specification includes industry dummies and year exposure. p-values (in parentheses) are based on standard errors computed clustering at deal level. ***, **, * denote significance at the 1, 5, and 10 percent level, respectively.

associated with lead arrangers' identity influence the syndicate size of sukuk; highly reputational banks, foreign-owned, and non-bank financial institutions are able to form a larger syndicate size of sukuk.

As our findings suggest, two points need to be given further attention in developing the sukuk market. First, in regards to the relatively limited role of IFIs as the lead arranger in sukuk issuance, further investigation should be pursued to better understand the factors that hinder IFIs from assuming a significant role as a lead arranger when they should be the institutions that possess all the necessary credentials to provide the certification needed in the market. The evidence we offer in this Finally, the fact that non-bank institutions are able to form a greater size of sukuk syndicate challenges the idea that "banks gain access to more and better information" than non-bank institutions (Preece & Mullineaux 1994). An implication from our finding is that bank institutions need to catch up with their non-bank counterparts perhaps in terms of specialized screening and monitoring to remain competitive in the syndication of financing over their non-bank competitors. This is particularly imminent when the banking sector is being rapidly globalized and the competition is becoming steeper.

NOTES

- 1 A syndicate may also involve more than one lead bank (joint lead).
- 2 The Basle Accord was introduced in July 12, 1988 with the aim "to improve the safety of the international banking system and reduce regulatory differences between banks of different national origins" (Chen et al. 2000).
- 3 Affiliated investors in their study are defined as the officers or directors of the firm and their relatives, consultants or attorneys of the firm, and institutions affiliated with the firm, among others.
- 4 See Ibrahim (2015) for a review of sukuk literature.
- 5 Non-banking financial institutions constitute hedge funds, private equity funds, mutual funds, pension and endowment funds, insurance companies and finance companies (Lim et al. 2013).
- 6 The value is based on incidence rate ratios post-estimation.

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