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## **Societal trust and Sukuk activity**

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# **Societal trust and Sukuk activity**

## **Abstract**

Sukuk investments require investors and issuers to adhere to subtle moral and ethical standards beyond following mere profit maximization objectives. Investor trust manifested through the level of societal trust could be vital in the global Sukuk investment surge. This study investigates the relationship between the societal trust level and Sukuk activity. It employs a global sample of Sukuk issuances spanning over 2001–2019 and finds that a country's societal trust level significantly and positively influences the amount of Sukuk issued. Moreover, this positive effect supersedes the negative effects of higher information asymmetry associated with equity-based Sukuk or Sukuk issued by risky firms. Ultimately, trust is both a deterrent and critical for Islamic finance success.

## **Keywords**

Trust; Sukuk; Islamic finance; Information asymmetry; Culture

## **JEL codes**

G15; G32; Z19

## 1. Introduction

Many studies examine whether societal trust is a significant determinant of economic decision-making and its impact on different financial outcomes (see, e.g., Ahmad and Aziz, 2018; Brockman et al., 2020; Xie et al., 2017; Ahern et al., 2015; Duarte et al., 2012; Dudley and Zhang, 2016; Duffner et al., 2009; Guiso et al., 2004). While trust encourages individuals to enter economic transactions with others willingly, including the investments bearing a risk of exploitation (James, 2015); impressions of trustworthiness matter in financial transactions as they predict investor and borrower behavior (Duarte et al., 2012). Sukuk are Islamic instruments, sharing similar structural features to bonds. However, Sukuk issuance expectedly requires a higher investor trust level given higher ethical standards imposed by Shariah, including non-engagement in sin activities (e.g., alcohol, gambling, and pornography) (Ashraf 2016). Profit-loss sharing features (in some instances) and the inability to guarantee a fixed return further hampers the instruments' attractiveness (Ullah et al., 2018). Such ethical content and financial features of Sukuk makes them rather unique financial instruments to examine how societal trust influences the Sukuk activity.

The concept of trust (often referred to as a “general trust”) in finance is considered a vital precursor for any successful economic transaction as it enables cooperation (Latusek and Cook, 2012). The extant literature suggests that the trust level varies across countries (Guiso et al., 2008) given several factors, including educational background level (Guiso et al., 2004) and religion (Guiso et al., 2003). Further, investment decisions are subject to the general trust level (see, e.g., Ahmad and Aziz, 2018; Brockman et al., 2020; Ahern et al., 2015; Guiso et al., 2009; Duffner et al., 2009; Guiso et al., 2008). While Ahmed and Aziz (2018) show how trust-level differences between acquirer and target countries influence the withdrawn cross-border merger intensity, Ahern et al. (2015) document a decline in the completed cross-

border M&A volume between them. Guiso et al. (2009) examine the way different trust perceptions may influence macroeconomic indicators. They observe that a lower trust level towards citizens yields lower trade, portfolio investment, and foreign direct investments. Duffner et al. (2009) examine the role of trust in venture capital (VC) success via survey data on German venture capitalists. They find a reciprocal positive relationship between trust and VC success, as a higher trust level may boost the motivation and effort level of the portfolio company, thus leading to better VC performance. Other studies on trust explore the role of trust in areas such as international contracting (Brockman et al., 2020), innovation (Xie et al., 2017), corporate cash holding (Dudley and Zhang, 2016), peer-to-peer lending (Durate et al., 2012), and financial development (Guiso et al., 2004).

Trust in a Sukuk transaction has historically been significant in investors' decision to participate. Sukuk are fixed income instruments where issuers require a higher level of trust due to subtle ethical standards regardless of their capacity to monitor issuer actions. The Sukuk market's exponential growth halted in 2007, given the faltering trust among investors after the Islamic ruling (Fatwa) by a renowned scholar that some Sukuk structures are deceptive and not Sharia-compliant.<sup>1</sup> As investors tend to blindly trust Sharia scholar integrity (Ullah et al., 2018), such aspersions cast over Sukuk discouraged investors from participating in the market. Hence, societal trust plays a major role in Sukuk transactions.

Surprisingly, to the best of our knowledge, no study investigates the role of societal trust in Sukuk activity. This study bridges this gap by addressing three important objectives. First, we investigate whether societal trust level significantly impacts Sukuk activity. Second and more specifically, we examine whether societal trust also matters in profit and loss sharing partnerships as in conventional borrower lender relationships. Finally, this study explores whether societal trust mitigates the negative impact on Sukuk issuance in instances

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<sup>1</sup> See <https://www.ft.com/content/57504a52-3c0f-11dd-9cb2-0000779fd2ac>

where information asymmetry is greater, such as Sukuk issued by highly risky issuers, and whether this mitigating effect due to investors' increased confidence and reduced need for monitoring can reduce the yields associated with such Sukuk issuances.<sup>2</sup> Thus, this study highlights the importance of developing policies and regulations to initiate and maintain trust to promote the development and growth of Sukuk markets.<sup>3</sup>

The study sample includes all global Sukuk issuances spanning over 2001-2019, reported by Thomson Reuters' World EIKON database. Following the established literature, this study measures a country's trust score based on the World Value Survey (WVS), focusing on the question, "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" Following Ahern et al. (2015), for each country in the sample, we take the survey respondents' average response after rescaling their responses to bound them between zero and one. The trust measure is appropriate in this context because it is impersonal and based on the concept of generalized morality, linked to trusting in strangers, rather than emerging from repeated dealings with the same person or organization (Brockman et al., 2020; Cline and Williamson, 2016; Couper et al., 2020; Dudley and Zhang, 2016; Lai et al., 2014). Moreover, as defined in this study, societal trust can be a collective attribute; it captures the trust that an individual holds in the functioning and reliability of impersonal social structures (Bachmann, 2003). Merging the Sukuk data with the trust variable results in a final sample of 11,663 Sukuk issuances, with a total amount of approximately 510 billion US dollars. Furthermore, we collect data on Sukuk features and issuer characteristics from Thomson Reuters' World EIKON database and

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<sup>2</sup> For instance, Brockman et al. (2020) find an inverse relation between debt covenants and social trust, which becomes more pronounced for firms from countries with weak formal institutions and firms with poor corporate governance and greater information opacity.

<sup>3</sup> The recent Dana Gas corporation scandal, which declared that its Sukuk was not Sharia-compliant, is a crucial anecdotal evidence of how important trust is for the growth of the Sukuk market. This incident induced much loss of investor confidence mainly among Western investors and increased the risk for potential future disagreements on Sukuk issuances. For more details on the Dana Gas scandal, see <https://www.ft.com/content/8bdc4d24-9886-11e7-a652-cde3f882dd7b>

macroeconomic variables from the World Development Indicators. However, many variables are only available for a smaller subset; therefore, the number of observations in our models varies per specification.

The results of OLS estimation indicate a highly significant and positive relation between trust level and the amount of Sukuk issued. Our results hold after controlling for the effects of time-varying macroeconomic, issuer, and industry characteristics and are robust to the endogeneity concerns. Further, the results remained also robust after addressing the endogeneity concerns by using the two-stage least squares (2SLS) model with instrumental variable (IV) approach.

To disentangle the effects of societal trust from the effects of countries' formal and informal institutional characteristics, we incorporate controls for country governance environment from Heritage foundation and WGI (investment freedom, tax burden, rule of law, and accountability) and culture dimensions (performance orientation, future orientation, and humane orientation) from the Global Leadership and Organizational Behavioral Effectiveness (GLOBE) measures as in House et al. (2004). The positive and significant impact of *Trust* holds after controlling for such country governance and cultural aspects. Further, the baseline results are also robust to a battery of tests, such as alternate estimation method, alternate trust measure, and various subperiod and subsample analysis.

Next, since Sukuk vary considerably in structure, although some are debt-based (equity-based),<sup>4</sup> a high-trust requirement with the issuance of profit-loss sharing structures is expected given the higher perceived information asymmetry. Hence, to disentangle the structural effects, we conduct a model similar to our baseline model but test for the heterogeneous impact of trust in the choice of Sukuk structure. Expectedly, *Trust* is only significantly and positively associated with equity-based structures and insignificantly

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<sup>4</sup> We explain the differences in Sukuk structure types in section 2.1 of this paper.

associated with debt-oriented structures. Similarly, after testing for the third research objective and classifying issuers based on their relative riskiness, the positive effects of trust tend to offset the negative effects of higher information asymmetry associated with such issuances.

Finally, we investigate whether trust plays a moderating role in the risk-return trade-off viewed by investors in the Sukuk issuances and whether higher trust translates into lower yields associated with larger Sukuk issuances. Evidently, trust mitigates such risks, and lower yields are associated with a larger amount of Sukuk issuances when higher levels of trust are present.

This study makes several notable contributions to the literature. First, it contributes insight to the growing literature on the role of ethics, culture, and religion in choosing a financial instrument from supply and demand perspectives. Further, this study highlights the importance of trust as a determinant of economic decision-making. Second, it contributes to the limited literature on Sukuk determinants, currently mainly focusing on the issuer characteristics and extending those determinants to a macroeconomic level for policyholders and regulators to penetrate and increase market share in global Sukuk markets. Third, while all current studies focus majorly on Malaysia and Indonesia, this study employs a comprehensive sample covering several countries over a long period. Finally, it contributes insight to the heterogeneous impacts of trust levels, resulting in different impacts per the type of economic activity (debt-oriented vs. partnership-based transactions).

The rest of this paper proceeds as follows. Section 2 presents background information on Islamic finance research, explains different Sukuk types, and develops hypotheses. Section 3 describes the data. Section 4 presents the empirical method and results. Section 5 concludes.

## **2. Theoretical background and hypotheses development**



## ***2.1 Background on Islamic finance and Sukuk***

With global assets currently at 2.88 trillion US dollars, Islamic finance has seen tremendous growth in the last decade, with the growth rate returning to double digits, rising to 19% in 2019 (Refinitiv, 2020).<sup>5</sup> The banking sector denominates the Islamic finance market with assets constituting 69% of the total; hence, most studies on Islamic finance focuses on Islamic banks and how they differ from conventional banks on aspects such as efficiency, performance, and stability<sup>6</sup> (see, e.g., Beck et al., 2013; Ongena and Sendeniz-Yuncu, 2011; Čihák and Hesse, 2010; Aggarwal and Yousef, 2000; Rizwan et al., 2018). However, tapping into Sukuk markets can enhance further Islamic finance growth (El-Khatib, 2017). Indeed, elevated levels of Sukuk issuances are key drivers of the recent increase in the growth rate of Islamic finance (Refinitiv, 2020). Accordingly, the global Sukuk market continues to evolve and expand, with many countries participating and increasing their share in this market. Further, Sukuk is now accepted outside the Muslim markets (Ibrahim, 2015). However, despite these developments, studies on Sukuk remain limited (Ibrahim, 2015). Hence, it is critical to investigate and understand the determinants of Sukuk issuances all over the world.<sup>7</sup>

Sukuk are regarded as equivalent to conventional bonds. Precisely, they are Islamic compliant financial instruments. They conform to basic Islamic law principles, which prohibit usury (*Riba*), gambling (*Maysir*), excessive uncertainty (*Gharar*), and investing in prohibited activities (e.g., alcohol). Moreover, the basic underlying principles of Islamic financial law include the necessity of having an asset to back a financial transaction and promoting risk-sharing among contractual parties rather than guaranteeing a fixed rate of

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<sup>5</sup> Full report available at: ICD-Refinitiv IFDI Report 20201607502893\_5274.pdf (icd-ps.org)

<sup>6</sup> Per Narayan and Phan (2019), 44% of Islamic finance research focuses on Islamic banks and 24% covered equity market performance; the least covered topic is the Islamic bond market.

<sup>7</sup> Smaoui and Khawaja (2017) study the determinants of Sukuk market development in 13 countries over the 2001–2013 period and report that large economic size, higher proportion of Muslims in the population, better investment profile, and lower corruption are associated with larger Sukuk markets. Mimouni et al. (2019) suggest that Sukuk markets are substitutes to the banking systems.

return (Ullah et al., 2018). Thus, Sukuk differs in principle from conventional bonds (Al-Suhaibani and Naifar, 2014).<sup>8</sup> Some studies demonstrate that Sukuk are indeed different from conventional bonds, and investors view them differently (see, e.g., Godlewski et al., 2013; Naifar et al., 2017; Khawaja et al., 2019). However, others do not find significant differences between Sukuk and conventional bond issuers (see, e.g., Miller et al., 2007; Azmet et al., 2014a).

Sukuk are classified into two primary categories based on their structure: debt-based and profit-loss sharing (i.e., equity-based). Following the primary categorization, Sukuk can be structured in several ways: Sukuk al murabaha, Sukuk al ijara, Sukuk al mudaraba, and Sukuk al musharka.<sup>9</sup> The most popular kinds are Sukuk al murabaha and Sukuk al ijara; they are considered the debt-based types because they are structured similarly to plain vanilla bond structures. Sukuk al murabaha are issued to assist the issuer in financing the purchase of an asset where the issuer first establishes a special purpose vehicle (SPV) to raise funds from the investors (Sukuk holders); the SPV then buys the asset and sells it to the borrower (the firm) on a mark-up basis with deferred payments. The firm periodically pays a coupon payment and pays a lump sum amount at maturity. Sukuk al ijara are similar to the murabaha Sukuk in being used to finance the purchase of assets. However, the SPV raises funds from investors, buys the firm's asset, and rents the asset to the firm for the firm to periodically pay the rent amount and buy back the asset at maturity, hence giving back the principal amount to the Sukuk holders.

Sukuk al mudaraba and Sukuk al musharaka are considered profit-loss sharing structures because they are partnership agreements where the Sukuk holders become part

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<sup>8</sup> Azmat et al. (2014b) discuss that Sharia compliance imposes a challenge on the Islamic Sukuk market mainly because of the necessity of having a Sharia conscious ethical investor base.

<sup>9</sup> Murabaha, ijara, mudaraba, and musharaka are Arabic words. Murabaha comes from the word (ribh) in Arabic, which means profit, because it is based on adding a profit mark up to the cost of asset to be sold. Ijara means leasing. Both mudaraba and musharaka mean partnership.

owners of the issuer or a joint project. Further, they receive a share of the profits per agreed pre-determined rates and bear losses per their capital contributions. Although profit-loss sharing is considered the ideal structure by Islamic scholars since they enable real risk sharing, such instruments have not been frequently issued in the market (Azmat et al., 2014b).

Thus, to disentangle the reasons for the corporate choice of Sukuk over conventional bonds, recent studies focus on issuer firm variables (see, e.g., Ahmed et al., 2018; Nagano, 2017; Abdul Halim et al., 2017, Mohamed et al., 2015; Azmat et al., 2014a; Khawaja et al., 2019). Such studies suggest that the main factor behind borrowers' choice of Sukuk over conventional debt include large funding requirements under high information asymmetry conditions, highlighting the risk-sharing feature. Similarly, Klein and Weill (2016) support this notion of the prevalence of Sukuk issuances in high asymmetry conditions to prevent the need for effective market monitoring. Moreover, Goldewski et al. (2017) present similar evidence by studying the characteristics of Sharia board members associated with the Sukuk issuance and showing that the choice of a Sukuk type depends on board member characteristics, such as nationality, tenure, and reputation, which affects the information asymmetry degree associated with the issuance. These studies accord with Godlewski et al. (2013), who show that the announcement of the Sukuk issuance is viewed unfavorably by investors and the stock market in Malaysia (the dominant player in the global Sukuk market) because Sukuk issuance signals high information asymmetry from the profit-loss sharing feature, absent in conventional debt.

## ***2.2 Trust and Sukuk***

“Trust is the reliance by one person, group, or firm upon a voluntarily accepted duty on the part of another person, group or firm to act in a manner that is ethically justifiable; that is, undertake morally correct decisions and actions based upon ethical principles of analysis

towards all others engaged in a joint endeavor or economic exchange.” (Hosmer, 1995; Greenwood and Van Buren III, 2010). Furthermore, Fukuyama (1995), defines trust as a collection of internalized mutual moral habits and responsibilities that minimize wealth expropriation. Hence, trust is an essential element of the moral duty towards the stakeholders in the organization-stakeholder context. Stakeholders, especially those with little control, must rely on organizations’ trustworthiness to fulfill fairness obligations; they have no other choice even if this trustworthiness is not ethically or legally binding (Greenwood and Van Buren III, 2010). Several studies highlight the significance of the moral aspect of trust because agents face opportunism or higher agency costs without this element (see, e.g., Bews and Rossouw, 2002; Cohen and Dienhart, 2013; Greenwood et al., 2010; Kujala et al., 2015; Wicks et al., 1999; Williamson, 1993). Thus, trust hinders opportunistic behavior, lessening the need for formal protection (Carlin et al., 2009; Dixit, 2004).

Trust also promotes financial transaction collaboration beyond local networks (Cline and Williamson, 2016). In societies with weak formal rules protecting shareholders, trust can substitute formal regulation, facilitate financial exchange, and contribute to financial market development (Algan and Cahuc, 2010; Cline and Williamson, 2016; Guiso et al., 2004; Knack and Keefer, 1997; Tabellini, 2010; Zak and Knack, 2001). Thus, trust can lower transaction and monitoring costs, which is higher if the future payment promise is with an unknown party.

Trust is a central tenet in Islamic finance, reflecting its core value and organizing principle. The importance of trust in Islamic finance stems from the focus on trustworthiness, which should be present in every financial transaction (Ali, 2017). Similar to any morally based cooperation where vulnerable stakeholders rely on trust and organizational trustworthiness, trust is essential. In Sukuk issuances, investors expect the Sukuk issuer to comply with ethical values and moral obligation to maintain trust regardless of investors’

capacity to monitor issuer actions. Hence investor trust is a key factor in investors' decision to participate in the Sukuk markets. Since trust can be a collective attribute, given that it is system- and institution-based rather than personally-based, it can characterize the relationship between organizations and stakeholders in society (Bachmann, 2003; Greenwood and Van Buren III, 2010; Hosmer, 1995). Societies that promote moral behavior inside and outside personal networks tend not to act opportunistically, thus generalizing trust outside local networks. Individuals who practice generalized morality and trust are less likely to cheat even when dealing with strangers. Thus, we expect societies characterized with higher levels of societal trust to raise more capital by issuing Sukuk, financial instruments favored in conditions of high information asymmetry (Ahmed et al., 2018; Nagano, 2017; Abdul Halim et al., 2017, Mohamed et al., 2015; Azmat et al., 2014a,b); Khawaja et al., 2019) that do not necessitate effective market monitoring (Klein and Weill, 2016). Hence, the first study hypothesis is as follows:

*H1: The amount of Sukuk issuance in a country is significantly associated with its societal trust level.*

As explained in section 2.1, Sukuk vary considerably in structure and can be classified as debt or equity-based instruments, with varying degrees of perceived risk. Sukuk al mudaraba and Sukuk al musharaka (equity-based) are associated with higher information asymmetry levels (given their profit-loss sharing feature) relative to debt-based structures, such as Sukuk al murabaha and Sukuk al ijara. The profit-loss sharing Sukuk structures also call for investors to trust that the Sukuk issuer will comply with ethical values regardless of investors' capacity to monitor issuer actions. Thus, we expect to witness more positive effects of societal trust on the volumes of equity-like instruments. This positive and significant relationship should not necessarily hold with debt-based structures. Hence, the second hypothesis is as follows:

*H2: The amounts of profit-loss (equity-based) sharing Sukuk structures are significantly and positively associated with the societal trust level; the amounts of debt-based Sukuk structures are insignificantly associated with the societal trust level.*

Trust and trustworthiness are key factors in the probability that a particular investment results in a particular outcome (Greenwood and Van Buren III, 2010). In evaluating the risk and return trade-off, investors assess how much data can be trusted and considered reliable. Hence, in Sukuk issuances, we expect the positive impact of societal trust to mitigate the negative impact on Sukuk issued by highly risky issuers. This reduction in perceived risk from societal trust in Sukuk issuances can be translated into lower yields. Thus, the third hypothesis is as follows:

*H3: Societal trust mitigates the perceived risk resulting from Sukuk issuance.*

### **3. Data and descriptive statistics**

*Trust*, our main explanatory variable, is a score bounded between 0 and 1, capturing the average response of the survey respondents to the WVS question: “Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?”<sup>10</sup> This approach is analogous to the one used by Ahern et al. (2015). The WVS is conducted in six different waves, covering 60 countries and societies worldwide with more than 85,000 respondents. While the set of questions asked in each WVS wave varies over time, the randomly chosen respondents represent a wide range of different groups per age, sex, occupation, and geographic region. We use this score as a proxy for societal trust because it reflects the generalized morality level, which can promote cooperative attitudes outside local networks needed to facilitate financial exchange and acts as a substitute for

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<sup>10</sup> The WVS has been used extensively in prior finance and international business studies (see, e.g., La Porta et al., 1997; Sapienza et al., 2013; Guiso et al., 2008; Ahern et al., 2015; Brockman et al., 2020; Cline and Williamson, 2016).

formal self-dealing regulation (Cline and Williamson, 2016). The survey's wave nature allows for finding the exact year of each country survey and matching and filling the most recent issue-level Sukuk data to each survey year for which the trust score is available. This approach is valid because trust scores remain stable across time (Bjørnskov, 2010; Cline and Williamson, 2016). Further, we use Thomson Reuters' World EIKON database to retrieve the global sample of Sukuk issuances spanning 2001 to 2019 and collect variables related to Sukuk features and issuer characteristics. Moreover, we employ the World Bank Database to retrieve finance development and governance indicators. Finally, we use the comprehensive GLOBE culture dimensions following House et al. (2004). In retrieving Sukuk, we apply no filters on elements such as the instrument type, country of issuance, sector, as we aim to investigate the effect of societal trust level on Sukuk activity. Merging the Sukuk issuances data with the trust scores results in a sample of 11,663 Sukuk issuances, approximately 510 billion US dollars. However, variable data is not available to control for various aspects. Hence, the number of observations varies per specification.

Table 1 presents the Sukuk sample decomposition by country (Panel A) and year (Panel B). Figure 1 graphically depicts the evolution in Sukuk activity over the sample period. We observe that Malaysia tends to spearhead Sukuk activity worldwide, with 10,785 Sukuk issues and an aggregate value of approximately 402 billion US dollars, followed by Turkey (in number) and the US (in value). Panel B of Table 1 and Figure 1 shows that 2005 and the 2008–2009 period witnessed a surge in the number of Sukuk issuances, 2008 seeing the highest (1,012), followed by 997 in 2005 and 857 when Sukuk rose again in 2019. Even with a declining trend in the number of issues from 2010 to 2017, the aggregate dollar values of Sukuk issuances tend to gain momentum, reaching an all-time high of approximately 73 billion US dollars in the year 2012, followed by 69 billion US dollar in 2013. This trend was

due to the massive Sukuk issuance during and following the 2008 global financial crisis when the world began considering alternative investment opportunities.

[Insert Table 1 about here]

[Insert Figure 1 about here]

We define all variables and indicate data sources in the Appendix for a better appreciation of the study variables. Further, Table 2 presents a summary of the descriptive statistics. All variables are winsorized at the 5% and 95% levels to eliminate the impact of outliers.

[Insert Table 2 about here]

## **4. Empirical results**

### ***4.1. Societal trust and Sukuk issuance***

#### ***4.1.1 Baseline results***

We first empirically investigate the impact of societal trust on the amount of Sukuk issuance by conducting a univariate T-test analysis. We classify the sample into two subsamples of High\_Trust and Low\_Trust, where High\_Trust (Low\_Trust) is when the trust score is above (below) the sample median. Figure 2 presents the results.

[Insert Figure 2 about here]

Figure 2 shows that the difference in means tests is significant among the two subsamples for the Sukuk issuance volume, indicating marked differences between the two groups. The mean dollar amount of the Sukuk issued in the high-trust band is significantly (at the 5% level) higher (by 158.5 US million) than the mean of the low-trust band. This observation furnishes preliminary evidence that there is a significant positive association between the degree of societal trust in a country and the amount of Sukuk issuance.

Next, to formally test the relationship between the societal trust level and the amount of Sukuk issuances in a multivariate setting, we employ an OLS regression model and control for Sukuk features, issuer financial characteristics, and macroeconomic variables. Moreover,



to control for any time, firm, industry, and country variant characteristics, we incorporate time, firm, industry, and country effects as follows:

$$\begin{aligned} \text{Sukuk amount}_{i;t;c} = & \alpha + \beta \text{Trust}_{c;t} + \delta X_{i;t} + \gamma Y_{i;t} + \theta Z_{c;t} + \text{Year effects}_t + \text{Industry effects}_i + \\ & \text{Firm effects}_i + \text{Country effects}_c + \varepsilon_{i;t;c}, \end{aligned} \quad (1)$$

where the dependent variable *Sukuk amount* is the natural logarithm of the dollar value of Sukuk issued for issuer *i* in year *t* and country *c*. *Trust* is a numerical score measuring societal trust for country *c* based on the most recent year in which data is available to correspond to the year of Sukuk issuances *t*. The vector *X* includes controls for Sukuk features for issuer *i* and year *t*. The vector *Y* includes financial controls for issuer *i* and year *t*. The vector *Z* includes macroeconomic controls for country *c* and year *t*. All variables are as defined in the Appendix.

Table 3 presents the results of the Equation (1) estimation. We progressively include the control variables in the models, given the limitations of data availability, as discussed in section 3. We start with Model 1 as the baseline model with no controls and move to Model 2, which includes controls for Sukuk features, before finally addressing the full model (Model 3), which includes controls for issuer characteristics and basic economic controls as proxies for macroeconomic stability. The major finding therefrom is that the *Trust* coefficient is positive and statistically significant (at the 1% level), confirming H1. Further, Sukuk type significantly relates to the amount of Sukuk issued, signaling that Sukuk type is a vital determinant of Sukuk issuance, hence giving preliminarily support to H2, where the societal trust impact is expected to be different per the Sukuk type issued. Moreover, maturity and coupon rates are significant features of Sukuk, impacting the volume of Sukuk issued. Consistent with the prior studies (Ahmed et al., 2018; Nagano, 2017; Abdul Halim et al., 2017, Mohamed et al., 2015; Azmat et al., 2014(a); Khawaja et al., 2019), larger firms (measured by the log of assets) issue more Sukuk. Finally, countries with a higher quality of

rule enforcement (measured by GDP per capita as in La Porta et al., 2008) issue more Sukuk (consistent with Smaoui and Khawaja, 2017), while those experiencing higher levels of inflation issue less Sukuk.

[Insert Table 3 about here]

#### 4.1.2 *Endogeneity concerns*

Next, to simultaneously address endogeneity concerns, reverse causality, and omitted variables issues inherent to using OLS regression models, we employ 2SLS with IV approach. We use *Quality of Institutions* as the instrument variable to estimate societal trust in the first stage and regress instrumented trust on the amount of Sukuk issued in the second stage. *Quality of Institutions* is a time-varying index measuring country institutional quality, with high (low) scores indicating countries with higher (lower) institutional quality. This composite measure is a weighted average of six broad governance dimensions from the WGI database, including voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. Further, we conduct instrument weakness and overidentification tests to ensure instrument validity. Table 4 presents the results of the 2SLS estimation with IV analysis.

[Insert Table 4 about here]

First stage estimation results indicate a significant positive correlation between *Quality of Institutions* and *Trust* (for brevity, they are not reported). The likelihood ratio and the Sargan-Hansen test statistics confirm the instrument (model) is not weak (overidentified). The reported second stage results denote that the baseline results hold, with a highly significant and positive relation between instrumented trust and the Sukuk amount issued. Control variable coefficients for Sukuk features, issuer characteristics, and macroeconomic variables show similar results to the baseline model, with new variables now showing up as significant

in this new specification, such as *log of sales* (positive), *leverage* (negative), and *Market cap. to GDP* (positive).

#### 4.1.3 Country governance variables and cultural dimensions

Hofstede et al. (1990) argue that societies (organizations) are significantly impacted by values (practices). Moreover, Weber et al., (1996) show that values describe national culture, which is more stringent than corporate culture, represented by a set of practices. Ahern et al., (2015) similarly mention that cultural values affect economic decision-making. Hence, this section controls for institutional country governance variables and cultural values to ensure that the impact captured by *Trust* in our baseline models does not reflect the impact of formal and informal institutional variables. Per the relevant literature (e.g., Leung et al., 2005; Ahmad et al., 2015; Smith, 2006; Hanges and Dickson, 2006; Ahmad et al., 2021), we proxy for the institutional environment of countries using the WGI and measures from Heritage foundation. We use House et al.'s (2004) GLOBE variables to capture the cultural values. The Appendix defines all variables. Table 5 reports the estimation results of the baseline models after controlling for those dimensions.

[Insert Table 5 about here]

In all Table 5 models, we run the full specification of the baseline models (Equation [1]) with time, firm, industry, and country effects (we do not report the coefficients for brevity). We incorporate the controls for GLOBE cultural dimensions (per House et al., 2004) in Panel A and country governance environment variables in Panel B. We incorporate each control progressively; we do not report a model including all variables due to the multicollinearity issues among the variables.<sup>11</sup> From Panel A, desire for continued performance (*Performance*

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<sup>11</sup> Hofstede (1984) documents that GLOBE culture variables are significantly intercorrelated. In untabulated results, we include all the GLOBE controls in one specification and, the *Trust* coefficient remains significantly positive.

*orientation*) and tendency to make future decisions (*Future orientation*) are significantly and positively associated with Sukuk issuances, while kind behavior towards others (*Humane orientation*) is significantly and negatively associated with the same. More importantly, the *Trust* coefficient remains positive and significant at the 1% level even after controlling for three different proxies of GLOBE culture dimensions. From Panel B, only *Tax burden* and *Accountability* impact the Sukuk issuance (negatively and positively, respectively) regarding formal institutional governance variables. However, *Trust* remains a highly significant (at the 1% level) and positive determinant of Sukuk issuances. Overall, the impact of *Trust* on Sukuk issuance is robust to the formal and informal institutional and cultural aspects.

#### 4.1.4 Further robustness tests

Further, to ensure the robustness of our baseline results, we run various estimations under different specifications. Table 6 reports the results.

[Insert Table 6 about here]

Firstly, in Panel A, we replicate our baseline model; however, we re-estimate it on different subsamples to limit the impact of outliers. Thus, Model 1 excludes the years of the global financial crisis, which witnessed a surge in Sukuk issuances. Model 2 excludes Sukuk issued by Malaysia. Model 3 excludes countries with less than 10 issues during the sample period. In all three models, *Trust* remains highly significantly and positively related with *Sukuk amount*. Next, in Panel B, we use a panel-based regression with firm fixed effects to eliminate time-invariant change concerns (Models 1, 2, and 3) and an alternative measure for the dependent and explanatory variable in Models 2 and 3, respectively. *Sukuk ratio* in Model 2 is the ratio of the dollar amount of Sukuk issued to the issuer's total assets. *Interpolated trust* in Model 3 is a trust score computed based on the linear interpolation of the trust scores between two survey years to estimate the trust score for a country in a year that could not be

matched to a survey year. Using the baseline dependent variable (Log of Sukuk amount in Model 1) and alternative definitions (Models 2 and 3) in a fixed-effects specification results in a significant positive relationship between societal trust and the amount of Sukuk issuances. All models in Table 6 include the full set of controls (Sukuk features, financial variables, and macroeconomic variables); coefficients are not reported for brevity.

## ***4.2 Sukuk structures and heterogeneity of trust effects***

After confirming the baseline result robustness via a battery of controls and specifications, we test our H2 and H3 to check for the possible heterogeneous effects of societal trust on Sukuk issuances per the type of Sukuk structures and the riskiness of the issuer (i.e., in instances with large information asymmetry). We first classify the sample per the underlying Sukuk structure. Sukuk are classified as debt-based if the underlying structure is Sukuk al murabaha or Sukuk al ijara, while Sukuk al mudaraba and Sukuk al musharaka are classified as equity-based. We then define the variable  $D\_Sukuk$  as an indicator set to 1 if the Sukuk is debt-based and 0 otherwise, and  $E\_Sukuk$  is an indicator set to 1 if the Sukuk is equity-based and 0 otherwise. Next, we run an OLS model similar to our baseline model. However, we incorporate it into the main explanatory variable in this setting, which is the interaction between the trust score and the type of Sukuk indicator ( $D\_Sukuk$  or  $E\_Sukuk$ ) to compare the impact of trust on each kind of Sukuk issuance separately.

[Insert Table 7 about here]

Table 7 presents the debt-based (equity-based) Sukuk results in Column 1 (2). There is a significant positive (negative) relationship between the debt-based (equity-based) Sukuk and the amount of Sukuk issued. This result accords with our expectations since debt-based

Sukuk are more commonly issued.<sup>12</sup> Importantly, the interaction between trust and debt-based Sukuk ( $Trust*D\_Sukuk$ ) is insignificant (Column 1), while that between trust and equity-based Sukuk ( $Trust*E\_Sukuk$ ) is significantly positive. The results on the interaction term accord with H2; they highlight the heterogeneous impact of societal trust depending on the type of Sukuk structure (debt- or equity-based). Societal trust's positive impact is more pronounced for profit-loss sharing (equity-based) Sukuk than debt-based issuances. It accords with H2 since such equity structures are subject to higher moral hazard risks and require higher degrees of societal trust to facilitate and endorse their issuance, given that societal trust substitutes for formal self-dealing regulation and necessitates less monitoring.

Similarly, per H3, we expect issuances, coupled with higher information asymmetry due to certain issuer characteristics, to benefit from higher societal trust levels to mitigate such effects. Thus, to empirically test this notion, we include *price to book ratio* as a control variable in Column 3 of Table 7 to capture the issuer's specific degree of information asymmetry risk. Similar to Columns 1 and 2, we interact the trust score with the measure of issuer information asymmetry (*price to book ratio*) to identify the impact of societal trust, specifically in highly risky issuances. Indeed, the *price to book ratio* coefficient is significant and negative, showing that highly risky issuances are less in amounts. However, the interaction ( $Trust* Price\ to\ book\ ratio$ ) is significant and positive and larger in magnitude than the *price to book ratio* coefficient; thus, a high degree of societal trust mitigates the negative impact of highly risky issuances, resulting in higher amounts of Sukuk issuances. Hence, Model 3 empirical supports H3.

### ***4.3 Moderating role of societal trust in Sukuk risk***

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<sup>12</sup> This finding is consistent with Azmat et al. (2014a), showing a less commonality of profit-loss sharing (equity-based) Sukuk in Sukuk markets.

Maghyereh and Awartani (2016) and Naifar et al. (2016) document that the stock market conditions influence Sukuk yields. Hence, in the final test for H3, we investigate whether the societal trust level influences the risk perception associated with the Sukuk issuance and translates into lower Sukuk yields. Thus, we employ the following OLS regression with year, industry, firm, and country effects:

$$Yield_{i,t} = \alpha + \beta_1 Trust_{c,t} + \beta_2 Sukuk\ Amount_{i,t} + \beta_3 Trust * Sukuk\ Amount_{i,t} + \delta X_{i,t} + Year\ effects_t + Industry\ effects_i + Firm\ effects_i + Country\ effects_c + \varepsilon_{i,t}, \quad (2)$$

where the dependent variable *Yield* is the required rate of return on Sukuk for issuer *i* at the time of issuance *t*, and *Trust \* Sukuk Amount* (an interaction term of *Trust* and *Sukuk amount*) is the main explanatory variable to identify the moderating impact of trust on yield. The Appendix defines all other variables. Table 8 presents the results of the estimation.

[Insert Table 8 about here]

Table 8 has *Yield to Maturity* as the dependent variable in Column 1 and *Yield spread* as the dependent variable in Column 2. Yield spread is the difference between the yield of Sukuk and the treasury security risk-free rate at the issuance date. In Models 1 and 2, the main explanatory variable, the interaction term *Trust \* Sukuk amount*, is significantly and negatively related with the yield measures, reflecting the moderating effect of trust on Sukuk yield, where higher Sukuk issuances amounts associated with higher societal trust levels are associated with lower yields. The results support H3, where investors perceive societal trust as providing informal pressure that constrains opportunistic firm behaviors in Sukuk issuances.

## 5. Conclusion

Sukuk are Islamic financial instruments with a major unique feature that distinguishes them from conventional bonds (i.e., the profit-loss sharing requirement embedded in the Sukuk

with no guarantees for fixed returns). Nevertheless, some Sukuk are structured to make them similar to debt-based structures (e.g., Sukuk al murabaha and Sukuk al ijara). This feature inspired many studies on the determinants of Sukuk issuances and circumstances for which issuers choose Sukuk over conventional debt (bank borrowing or bonds). Given the tremendous growth rate of the Islamic finance market, understanding the underlying reasons for the growth is critical. Relevant research focused on issuer characteristics, leading to a consensus over an association between high information asymmetry with Sukuk issuances of large amounts that would not have been raised via conventional debt to prevent an effective market monitoring.

However, this study sheds light on another factor that helps explain the Sukuk activity by focusing on the macro-level factor rather than mere issuer characteristic, which further explains why such monitoring might not be needed in such markets if this factor is present. The factor is the degree of societal trust.

We measure *Trust* using the WVS by focusing on the question, “Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?” to study the impact of societal *Trust* on Sukuk activity using a large sample of Sukuk issuances spanning 2001 to 2019 worldwide. We find a significant positive impact of *Trust* on the amount of Sukuk issuances, hence supporting the notion that, in principle, *Trust* can be defined as “the expectation that another person or institution will perform actions that are beneficial or at least not detrimental regardless of the capacity to monitor those actions” (Sapienza and Zingales, 2012). This positive association is robust to cultural, institutional, and economic controls, as well as IV and fixed effects estimations and using alternative ways to define the dependent and explanatory variables.

Further, we document a heterogeneous effect of trust on Sukuk issuances per the type of Sukuk and the issuer’s risk profile where the effect is more prominent and positive in



profit-loss sharing Sukuk structures (Sukuk al mudaraba and Sukuk al musharaka) and issuances with high-risk issuer profile. Hence the positive impact of trust mitigates the negative impact associated with high information asymmetry cases. Moreover, the societal trust level also plays a moderating role in mitigating the risk perception associated with the Sukuk issuance; hence it is accompanied by lower yields on the Sukuk investment. Overall, this study highlights the role of trust as a key factor critical for Islamic finance success and possibly a deterrent for its practice.

## **Appendix: Variables Definitions and Sources**

[Insert Table A1 here]

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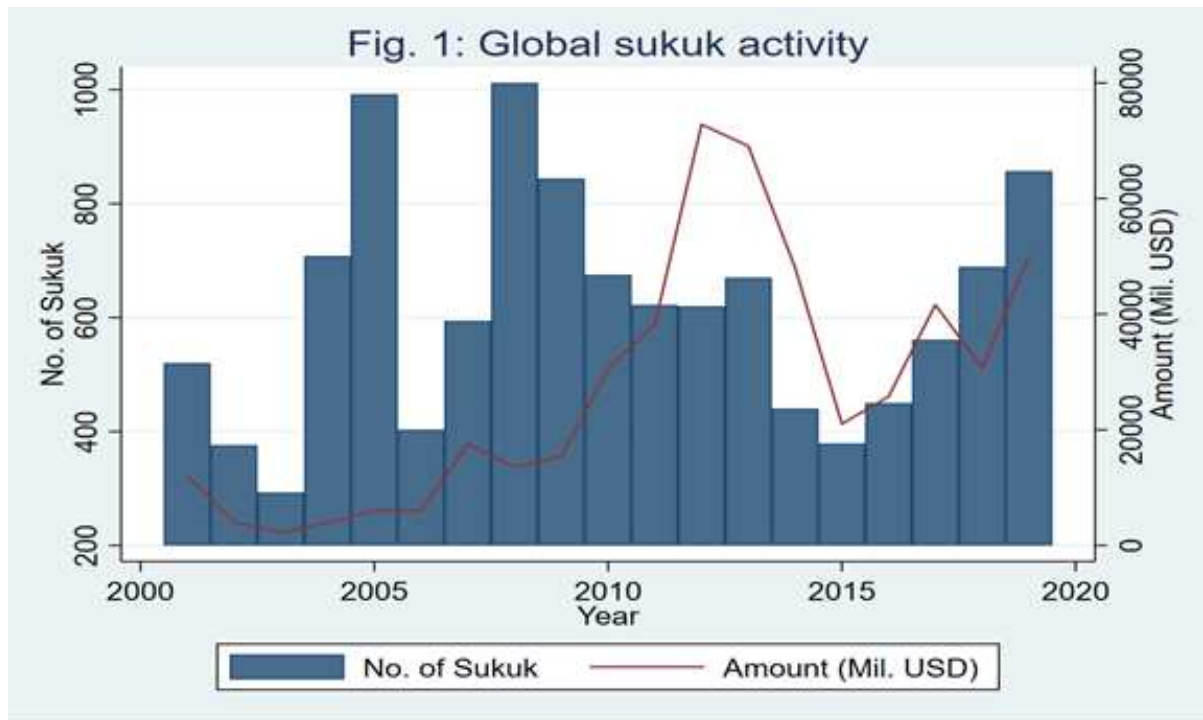


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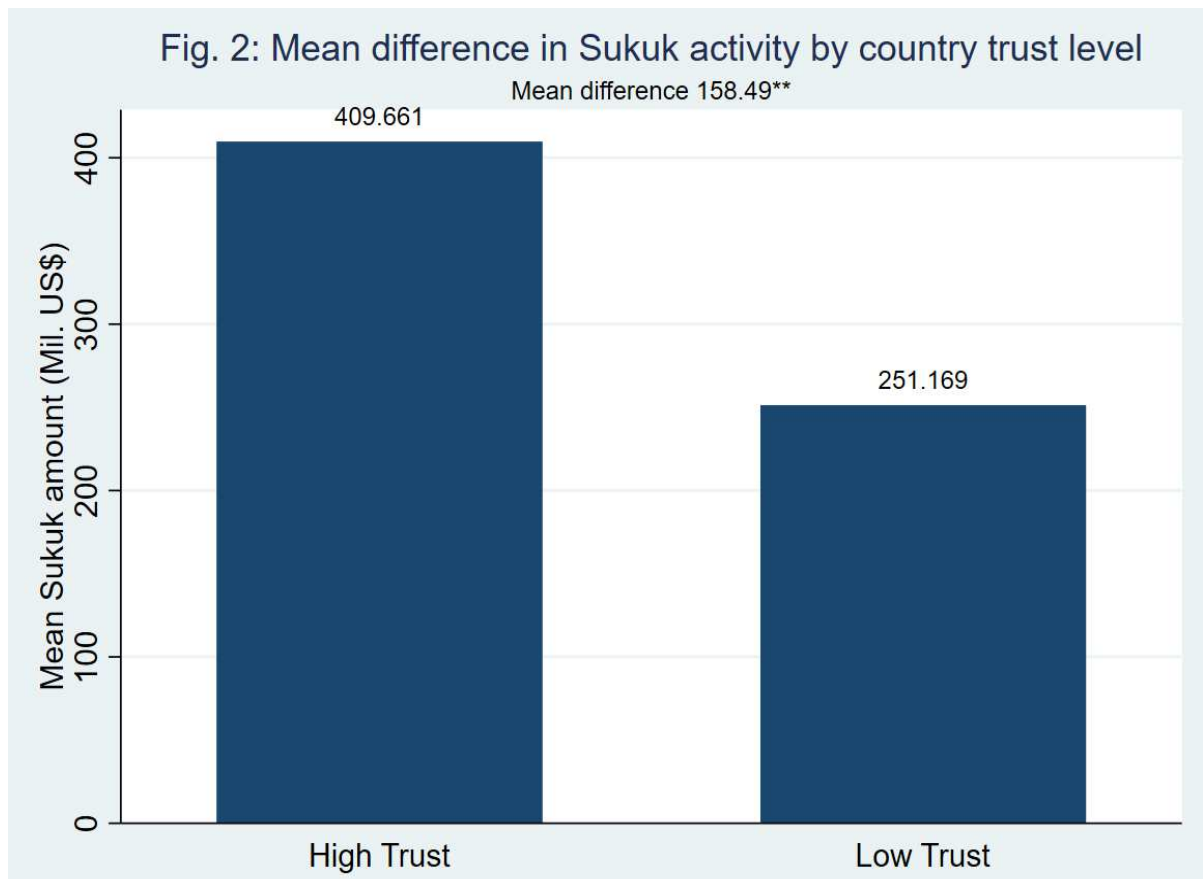
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**Fig. 1.** Sukuk distribution. This figure depicts the distribution of the comprehensive sample of global Sukuk issuances across the sample period. The Sukuk issuances are represented by both amount (Million US Dollars) and number (Number of Sukuk).



**Fig. 2.** Sukuk issuance classified by societal trust. This figure depicts the difference in the dollar amount of Sukuk issued by sample firms when we split the sample per the degree of societal trust. We divide the sample into high and low-trust categories using the country-level median societal trust scores.

**Table 1.** Sukuk sample distribution by country and year. This table displays the number of Sukuk issued and amount issued in millions of US Dollars for the global sample of 11,663 Sukuk spanning from 2001 to 2019, as reported by Thomson Reuters' EIKON database, classified by country (Panel A) and year (Panel B).

<b>Panel A: By Country</b>		
<b>Country</b>	<b>No. of Sukuk</b>	<b>Amount (Mil. USD)</b>
Bahrain	3	496.50
Indonesia	285	4,163.69
Kuwait	4	188.02
Malaysia	10,785	40,2438.50
Pakistan	19	1,095.43
Qatar	2	820.40
Saudi Arabia	68	42,646.97
Singapore	9	1,502.18
Turkey	446	9,912.85
United Arab Emirates	7	2,348.85
United States	35	44,543.51
<b>Total</b>	<b>11,663</b>	<b>510,156.90</b>
<b>Panel B: By Year</b>		
<b>Year</b>	<b>No. of Sukuk</b>	<b>Amount (Mil. USD)</b>
2001	520	12,048.25
2002	376	4,084.80
2003	278	2,255.58
2004	708	3,909.67
2005	997	6,438.49
2006	405	6,251.18
2007	593	17,579.23
2008	1,012	13,503.08
2009	843	15,352.95
2010	672	30,572.15
2011	620	38,262.16
2012	617	72,832.51
2013	653	69,077.96
2014	438	48,047.59
2015	380	21,563.34
2016	448	26,021.21
2017	558	41,617.96
2018	688	30,686.78
2019	857	50,052.01
<b>Total</b>	<b>11,663</b>	<b>510,156.90</b>

**Table 2.** Descriptive statistics. This table presents a summary of the descriptive statistics of the main variables used in the study. The statistics are displayed for the data observations available for each variable. All variables are winsorized at the 5% and 95% levels. The Appendix presents the definitions and sources.

	<b>N</b>	<b>Mean</b>	<b>Median</b>	<b>Std. Dev.</b>	<b>Min</b>	<b>Max</b>
<i>Trust</i>	11663	0.101	0.088	0.066	0.048	0.530
<b><i>Sukuk features</i></b>						
<i>Sukuk amount (\$Mil.)</i>	11663	33.541	7.339	62.437	0.122	245.881
<i>Sukuk amount (Ln)</i>	11663	15.648	15.809	2.217	5.497	22.717
<i>Maturity (Years)</i>	11604	3.939	1.583	5.140	0.083	50
<i>Coupon rate</i>	5160	0.059	0.053	0.021	0.002	0.100
<i>Yield to maturity</i>	2021	0.039	0.036	0.015	0.021	0.078
<i>Yield spread</i>	2021	0.341	0.013	0.603	0.002	2.110
<b><i>Firm financials</i></b>						
<i>Log of assets</i>	2695	6.235	5.832	1.701	3.928	9.316
<i>Log of sales</i>	2695	4.916	4.805	2.047	1.950	8.472
<i>Leverage</i>	2695	0.412	0.348	0.261	0.079	1.218
<i>EBITDA ratio</i>	2695	0.059	0.057	0.043	-0.017	0.157
<i>Price to book ratio</i>	2480	1.082	0.823	0.785	0.231	3.005
<b><i>Macroeconomic variables</i></b>						
<i>GDP per capita</i>	11656	8468.675	8474.590	4134.360	748.920	65297.500
<i>Inflation</i>	11656	2.802	2.090	2.692	-2.090	20.290
<i>Debt to GDP</i>	8928	46.593	45.700	6.207	24.870	106.370
<i>Market Cap. to GDP</i>	11644	125.913	132.780	33.547	13.730	303.520
<b><i>Country governance variables</i></b>						
<i>Investment freedom</i>	11663	43.037	40	12.492	30	85
<i>Tax burden</i>	11663	82.942	83	2.822	65.100	99.900
<i>Rule of law</i>	11663	0.427	0.467	0.227	-0.969	1.706
<i>Accountability</i>	11663	-0.386	-0.417	0.234	-1.907	1.162
<i>Quality of Institutions</i>	11663	0.304	0.221	0.331	-1.131	1.542
<b><i>Cultural variables</i></b>						
<i>Performance orientation</i>	11663	5.957	6.040	0.561	0	6.140
<i>Future orientation</i>	11663	5.832	5.890	0.536	0	5.920
<i>Humane orientation</i>	11663	5.456	5.510	0.503	0	5.790

**Table 3.** Societal trust and Sukuk issuances baseline models. Model 1 shows the baseline results of the OLS regression estimation on whether societal trust level affects the amount of Sukuk issuances. Model 2 adds controls for Sukuk features. Model 3 is the full specification, including Sukuk, issuer, and macroeconomic control variables. The dependent variable in the models is the natural logarithm of the amount of Sukuk issued, and the main explanatory variable is *Trust*. Trust is a score based on the WVS survey question, as explained in Section 3. The Appendix defines all variables. Robust standard errors are clustered at the firm level. Year, firm, industry, and country effects are included in all models. P-values are in parentheses. \*\*\*, \*\*, \* denote statistical significance at the 1%, 5% and 10% levels, respectively.

Model	(1)	(2)	(3)
	Baseline	Sukuk Features	Sukuk, Firm & Macroeconomic Features
<i>Trust</i>	12.180*** (0.001)	10.880*** (0.001)	43.041*** (0.000)
<i>Maturity</i>		-0.021 (0.112)	-0.219** (0.026)
<i>Coupon rate</i>		0.330*** (0.000)	0.404*** (0.000)
<i>Sukuk type</i>		-0.136*** (0.000)	0.236* (0.053)
<i>Log of assets</i>			0.162** (0.035)
<i>EBITDA ratio</i>			2.981 (0.142)
<i>Log of sales</i>			0.118 (0.310)
<i>Leverage</i>			-0.001 (0.593)
<i>GDP per capita</i>			0.0001** (0.046)
<i>Inflation</i>			-0.170* (0.067)
<i>Debt to GDP ratio</i>			-0.016 (0.218)
<i>Market cap. to GDP</i>			-0.001 (0.693)
Constant	10.562*** (0.000)	10.180*** (0.000)	5.818*** (0.001)
<i>Year effects</i>	Yes	Yes	Yes
<i>Firm effects</i>	Yes	Yes	Yes
<i>Industry effects</i>	Yes	Yes	Yes
<i>Country effects</i>	Yes	Yes	Yes
<i>Observations</i>	11663	11517	2695
<i>Adj. R<sup>2</sup></i>	0.752	0.831	0.801

**Table 4.** Societal trust and Sukuk issuances—2SLS with instrumental variable analysis. The table presents the second stage results of instrumental variable analysis estimated using 2SLS. *Instrumented trust* is estimated in the first stage using *Quality of Institutions* as an instrument. *Quality of Institutions* is the weighted average of six broad dimensions of country governance: (i) voice and accountability, (ii) political stability and absence of violence, (iii) government effectiveness, (iv) regulatory quality, (v) rule of law, and (vi) control of corruption as explained in Section 4.1.2. The Appendix defines all other variables. Year, firm, industry, and country effects are included in both stages. P-values are in parentheses. \*\*\*, \*\*, \* denote statistical significance at the 1%, 5% and 10% levels, respectively.

Model:	2SLS
<i>Instrumented trust</i>	1.646*** (0.000)
<i>Maturity</i>	-0.373*** (0.000)
<i>Coupon rate</i>	0.332*** (0.000)
<i>Sukuk type</i>	0.295*** (0.000)
<i>Log of assets</i>	0.150*** (0.000)
<i>EBITDA ratio</i>	0.357 (0.515)
<i>Log of sales</i>	0.174*** (0.000)
<i>Leverage ratio</i>	-0.001* (0.091)
<i>GDP per capita</i>	0.0002*** (0.000)
<i>Inflation</i>	0.002 (0.953)
<i>Debt to GDP ratio</i>	0.002 (0.434)
<i>Market cap. To GDP</i>	0.008*** (0.000)
<i>Constant</i>	11.154*** (0.000)
<i>Year effects</i>	Yes
<i>Firm effects</i>	Yes
<i>Industry effects</i>	Yes
<i>Country effects</i>	Yes
<i>Observations</i>	2695
<i>Adj. R<sup>2</sup></i>	0.672
<i>LR stat (weak instrument test)</i>	1630.158***
<i>Sargan p-value (test of overidentification)</i>	0.195



**Table 5.** Societal trust and Sukuk issuances—Controlling for culture and governance. This table presents estimation results of models, replicating Model 3 of Table 3 after adding more controls to consider the impact of national cultural values (Panel A) and country governance environment (Panel B). We utilize the GLOBE culture dimensions, as in House et al. (2004), to control for national cultural values: *Performance orientation*, *Future orientation*, and *Human orientation*. We use the *Investment freedom*, *Tax burden*, *Accountability*, and *Rule of Law* (World Development Governance Indicators) to control for country governance environment. The Appendix defines all the variables. All models include the controls for Sukuk features, issuer characteristics, and macroeconomic variables as in Model 3 of Table 3; coefficients are not reported for brevity. Robust standard errors are clustered at the firm level. Year, firm, industry, and country effects are included in all models. P-values are in parentheses. \*\*\*, \*\*, \* denote statistical significance at the 1%, 5% and 10% levels, respectively.

<b>Panel A: Controlling for GLOBE culture Dimensions</b>				
<b>Model</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	
<i>Trust score</i>	43.041*** (0.009)	43.041*** (0.009)	43.041*** (0.009)	
<i>Performance orientation</i>	15.353*** (0.001)			
<i>Future orientation</i>		166.321*** (0.001)		
<i>Human orientation</i>			-2.609*** (0.001)	
<i>Constant</i>	-80.006*** (0.002)	-966.906*** (0.001)	27.100*** (0.000)	
<i>Sukuk features</i>	Yes	Yes	Yes	
<i>Firm financials</i>	Yes	Yes	Yes	
<i>Macroeconomic variables</i>	Yes	Yes	Yes	
<i>Year, firm, industry &amp; country effects</i>	Yes	Yes	Yes	
Observations	2695	2695	2695	
Adj. R <sup>2</sup>	0.840	0.840	0.840	
<b>Panel B: Controlling for Country Governance Environment</b>				
<b>Model</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>	<b>(4)</b>
<i>Trust score</i>	40.475*** (0.000)	46.663*** (0.000)	56.790*** (0.000)	37.862*** (0.000)
<i>Investment freedom</i>	0.025 (0.517)			
<i>Tax burden</i>		-0.220** (0.030)		
<i>Accountability</i>			2.611** (0.016)	
<i>Rule of Law</i>				-2.017 (0.259)
<i>Constant</i>	5.673*** (0.001)	23.597*** (0.003)	6.088*** (0.000)	7.444*** (0.000)
<i>Sukuk features</i>	Yes	Yes	Yes	Yes
<i>Firm financials</i>	Yes	Yes	Yes	Yes
<i>Macroeconomic variables</i>	Yes	Yes	Yes	Yes
<i>Year, firm, industry &amp; country effects</i>	Yes	Yes	Yes	Yes
Observations	2695	2695	2695	2695
Adj. R <sup>2</sup>	0.840	0.841	0.841	0.840

**Table 6.** Societal trust and Sukuk issuances—Robustness tests. This table reports the robustness checks performed on baseline results. Panel A replicates the baseline model on the subsample excluding the financial crisis (Model 1), the subsample excluding Sukuk issued by Malaysia (Model 2), and the subsample excluding countries with less than 10 Sukuk issued during the sample period (Model 3). In Panel B, we use a fixed-effects panel estimation where standard errors are clustered at the firm level. We also use an alternative measure for the dependent variable *Sukuk ratio* (model 2), the ratio of dollar amount of Sukuk issued to the total assets of issuer, and an alternative measure for the main explanatory variable *Interpolated trust* (Model 3), the linear interpolation of the trust scores between two survey years. Models include controls for Sukuk features, issuer characteristics, and macroeconomic variables as in baseline models; coefficients are not reported for brevity. All models include time, firm, industry, and country effects. The Appendix defines all variables. P-values are in parentheses. \*\*\*, \*\*, \* denote statistical significance at the 1%, 5%, and 10%, levels respectively.

**Panel A: Subsample analysis**

	(1) <b>Excluding the global financial crisis period</b>	(2) <b>Excluding Malaysia</b>	(3) <b>Excluding countries with &lt;10 issues</b>
<i>Trust score</i>	52.520*** (0.000)	5.322** (0.041)	43.044*** (0.000)
<i>Sukuk characteristics</i>	Yes	Yes	Yes
<i>Firm financials</i>	Yes	Yes	Yes
<i>Macroeconomic variables</i>	Yes	Yes	Yes
<i>Year, firm, industry &amp; country effects</i>	Yes	Yes	Yes
Observations	1850	856	1750
Adj. R <sup>2</sup>	0.849	0.817	0.840

**Panel B: Fixed-Effects Models and Alternate Measures of Sukuk and Trust**

	(1) <b>Log of Sukuk amount</b>	(2) <b>Alternate Sukuk measure</b>	(3) <b>Alternate trust measure</b>
<i>Trust score</i>	10.830* (0.056)	900.853*** (0.002)	0.031* (0.093)
<i>Sukuk characteristics</i>	Yes	Yes	Yes
<i>Firm financials</i>	Yes	Yes	Yes
<i>Macroeconomic variables</i>	Yes	Yes	Yes
<i>Year, firm, industry &amp; country effects</i>	Yes	Yes	Yes
Firm-Year Observations	1506	1506	1506
Adj. R <sup>2</sup>	0.497	0.855	0.995

**Table 7.** Heterogeneity in trust effects. We use similar baseline models reported in Table 3 with the Sukuk classified into *Debt Sukuk* and *Equity Sukuk* in Models 1 and 2 to show the heterogeneous impacts of societal trust in different Sukuk issuance settings, and controlling for the *price to book ratio* as a measure of issuer information asymmetry in Model 3. *Debt Sukuk* are the debt-oriented Sukuk, such as *Sukuk al murabaha* and *Sukuk al ijara*, while *Equity Sukuk* are the profit-loss sharing (PLS) structured types of Sukuk, such as the *Sukuk al mudaraba* and *Sukuk al musharaka*. The *D\_Sukuk* indicator is included in Model 1 to represent the debt Sukuk, where *D\_Sukuk* takes the value of 1 if the Sukuk issued is debt Sukuk and 0 otherwise. The *E\_Sukuk* indicator is included in Model 2 to represent the equity Sukuk, where *E\_Sukuk* takes the value of 1 if the Sukuk issued is PLS and 0 otherwise. The dependent variable in all models is the natural logarithm of the amount of Sukuk issued. The main explanatory variable is the interaction terms *Trust \* D\_Sukuk*, *Trust \* E\_Sukuk*, and *Trust \* Price to book ratio* in Models 1, 2, and 3, respectively. The Appendix defines all remaining variables. Robust standard errors are clustered at the firm level. P-values are in parentheses. \*\*\*, \*\*, \* denote statistical significance at the 1%, 5%, and 10% levels, respectively.

<b>Model</b>	<b>(1)</b>	<b>(2)</b>	<b>(3)</b>
	<b>Debt Sukuk</b>	<b>Equity Sukuk</b>	<b>Information asymmetry</b>
<i>Trust</i>	44.017*** (0.000)	40.960*** (0.000)	36.126*** (0.000)
<i>D_Sukuk</i>	0.931*** (0.003)		
<i>Trust * D_Sukuk</i>	-1.222 (0.425)		
<i>E_Sukuk</i>		-1.675*** (0.000)	
<i>Trust * E_Sukuk</i>		4.825*** (0.000)	
<i>Price to book ratio</i>			-0.101*** (0.000)
<i>Trust * Price to book ratio</i>			0.266*** (0.006)
<i>Sukuk features</i>	Yes	Yes	Yes
<i>Firm financials</i>	Yes	Yes	Yes
<i>Macroeconomic variables</i>	Yes	Yes	Yes
<i>Year, firm, industry &amp; country effects</i>	Yes	Yes	Yes
<i>Number of Observations</i>	2695	2695	2480
<i>Adj. R<sup>2</sup></i>	0.842	0.843	0.750

**Table 8.** Sukuk issuances and investor risk—Moderating role of societal trust. This table presents the OLS estimates on whether societal trust plays a moderating role in the risk-return trade-off in Sukuk issuances. The dependent variable is *Yield to maturity* in Model 1 and *Yield spread* in Model 2. The main explanatory variable *Trust \* Sukuk amount* is the interaction between *Trust* and *Sukuk amount*. The Appendix defines all other variables. Year, industry, firm, and country effects are included in both models. Full controls for Sukuk features, firm financials, and macroeconomic variables are included; coefficients are not reported for brevity. Robust standard errors are clustered at the firm level. P-values are in parentheses. \*\*\*, \*\*, \* denote statistical significance at the 1%, 5%, and 10% levels, respectively.

<b>Model:</b>	<b>Model (1)</b>	<b>Model (2)</b>
<b>Dependent Variable:</b>	<b><i>Yield to Maturity</i></b>	<b><i>Yield spread</i></b>
<i>Trust</i>	79.185** (0.044)	0.324** (0.021)
<i>Sukuk amount (Log)</i>	-0.016* (0.087)	0.011** (0.035)
<i>Trust * Sukuk amount</i>	-0.067** (0.032)	-0.036*** (0.003)
<i>Sukuk features</i>	Yes	Yes
<i>Firm financials</i>	Yes	Yes
<i>Macroeconomic variables</i>	Yes	Yes
<i>Year, industry, firm &amp; country effects</i>	Yes	Yes
<i>Number of observations</i>	2021	2021
<i>Adj. R<sup>2</sup></i>	0.911	0.563

**Table A1.** Variables definitions and sources

<b>Variable Name</b>	<b>Definition and Source</b>
<b><i>Dependent Variables</i></b>	
<i>Sukuk amount (Ln)</i>	The natural logarithm of the dollar value of Sukuk issuance ( <i>Source:</i> Thomson Reuters' World EIKON database)
<i>Sukuk ratio</i>	The ratio of the dollar amount of Sukuk issued to the total assets of the issuer ( <i>Source:</i> author computation based on data from Thomson Reuters' World EIKON database)
<i>Yield to maturity</i>	The required rate of return on Sukuk at the time of issuance ( <i>Source:</i> Thomson Reuters' World EIKON database)
<i>Yield spread</i>	The difference between the yield of Sukuk and risk-free treasury security ( <i>Source:</i> Thomson Reuters' World EIKON database)
<b><i>Explanatory Variables</i></b>	
<i>Trust</i>	Trust score is the average score for each country in the sample bounded between 0 and 1 after rescaling the respondents' responses to the question, "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?" ( <i>Source:</i> World Value Survey following Ahern et al., 2015)
<i>Interpolated trust</i>	The linear interpolation between the two trust scores ( <i>Source:</i> author calculation based on data from World Value Survey)
<b><i>Sukuk Features</i></b>	
<i>Sukuk type</i>	An indicator set from 1 to 4 to represent various Sukuk types, including Sukuk al murabaha, Sukuk al ijara, Sukuk al mudaraba, and Sukuk al musharka, as explained in section 2.1 ( <i>Source:</i> author classification based on data obtained from Thomson Reuters' World EIKON database)
<i>D_Sukuk</i>	An indicator set to 1 if the Sukuk type is Sukuk al murabaha or Sukuk al ijara and 0 otherwise ( <i>Source:</i> author classification based on Sukuk type obtained from Thomson Reuters' World EIKON database)
<i>E_Sukuk</i>	An indicator set to 1 if the Sukuk type is Sukuk al musharaka or Sukuk al mudaraba and 0 otherwise ( <i>Source:</i> author classification based on Sukuk type obtained from Thomson Reuters' World EIKON database)
<i>Maturity</i>	The time to maturity (in years) of Sukuk issued ( <i>Source:</i> Thomson Reuters' World EIKON database)
<i>Coupon rate</i>	The percentage of the Sukuk's par value, paid by the issuer annually or at other agreed frequency ( <i>Source:</i> Thomson Reuters' World EIKON database)
<b><i>Firm Financials</i></b>	
<i>Log of assets</i>	The natural logarithm of total assets of an issuing firm ( <i>Source:</i> Thomson Reuters' World EIKON database)

<i>Log of sales</i>	The natural logarithm of total sales of issuing firm ( <i>Source</i> : Thomson Reuters' World EIKON database)
<i>Leverage</i>	The ratio of debt over equity of an issuing firm ( <i>Source</i> : Thomson Reuters' World EIKON database)
<i>EBITDA ratio</i>	The ratio of EBITDA over total sales of an issuing firm ( <i>Source</i> : Thomson Reuters' World EIKON database)
<i>Price to book ratio</i>	Price to book ratio of the issuing firm ( <i>Source</i> : Thomson Reuters' World EIKON database)
<b><i>Macroeconomic Variables</i></b>	
<i>GDP per capita</i>	Annual gross domestic product per capita of the country under study (in US Dollars) ( <i>Source</i> : World Development Indicators)
<i>Inflation</i>	Consumer price index of the country under study ( <i>Source</i> : World Development Indicators)
<i>Debt to GDP</i>	The percentage of corporate bond issuance volume to GDP ( <i>Source</i> : World Development Indicators)
<i>Market cap. to GDP</i>	Percentage of the market capitalization of listed companies to the total GDP of sample countries ( <i>Source</i> : World Development Indicators)
<b><i>Country Governance Variables</i></b>	
<i>Investment freedom</i>	Composite score of 0–100 to measure the extent to which individuals and firms are allowed to move resources into and out of specific activities, both internally and across the country's borders, without restriction ( <i>Source</i> : Heritage Foundation)
<i>Tax burden</i>	Composite score that reflects marginal tax rates on personal and corporate income and the overall level of taxation as a percentage of GDP ( <i>Source</i> : Worldwide Governance Indicators)
<i>Rule of law</i>	Rule of law capturing perceptions of the extent to which agents have confidence in and abide by the rules of society and, in particular, the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence ( <i>Source</i> : Worldwide Governance Indicators)
<i>Accountability</i>	Accountability captures perceptions of the extent to which a country's citizens can participate in selecting their government, as well as freedom of expression, freedom of association, and free media ( <i>Source</i> : Worldwide Governance Indicators)
<i>Quality of Institutions</i>	A weighted average of six broad dimensions of governance including, (i) voice and accountability, (ii) political stability and absence of violence, (iii) government effectiveness, (iv) regulatory quality, (v) rule of law, and (vi) control of corruption; Composite score ranges approximately from -2.5 to 2.5, with higher values corresponding to better governance ( <i>Source</i> : Worldwide Governance Indicators)
<b><i>Cultural Variables</i></b>	
<i>Performance orientation</i>	The degree to which a collective (should) encourages and rewards group members for performance improvement and excellence ( <i>Source</i> : House et al., 2004)
<i>Future orientation</i>	The extent to which individuals (should) engage in future-

oriented behaviors such as planning, investing in the future, and delaying gratification (*Source*: House et al., 2004)

*Humane orientation*

The degree to which a collective (should) encourages and rewards individuals for being fair, altruistic, generous, caring, and kind to others (*Source*: House et al., 2004)

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