Board Busyness and Financial Stability: Does Bank Type Matter?

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ABSTRACT

This study examines the impact of board busyness (i.e., multiple directorships of outside board members) on the performance and financial stability of banks in a dual banking system (Islamic and conventional). We consider banks from 14 countries for the period 2010-2015. The results provide strong evidence that conventional banks with busy boards exhibit high bank performance (i.e., high profitability and low cost to income) and greater financial stability (i.e., low insolvency risk, credit risk, liquidity risk, asset risk, and operational risk). These findings are in line with the reputation hypothesis, which asserts that the expertise and connections of busy outside directors lead to better decision making, more efficient resource utilisation and more effective monitoring. In contrast, Islamic banks' performance and stability are adversely affected by the presence of busy board members, with Islamic banks show low profitability, high cost to income and high risk-taking. This result might be attributed to the complex governance structure of Islamic banks and the uniqueness of their financial products, which require additional effective monitoring.

Keywords: Busy boards • Financial performance • Bank risk • Bank type

JEL Classification: C23 • G01 • G21 • G28 • L50 • M4

1. Introduction

The implications of the global financial crisis of 2007-2008 on the banking system, have marked a more controlled operational environment, increased complexity for governance and additional calls for effective monitoring by the boards of directors in the banking system (*see* Körner 2017). While post-crisis financial regulatory reforms (e.g., heightened capital and liquidity regulation, tools to solve regulatory migration, resolution authority, stress testing and capital planning) have significantly improved the performance and stability of financial institutions, other changes (e.g., supplementary leverage ratio, compensation regulation) have caused greater instability. Since 2010, new stringent regulations increased bank capital and liquidity requirements and encouraged the development of new tools to manage institutional failure. The primary objective was to mitigate the probability of failed performance and to promote long-term stability for banking.

The complexity of banking transactions and financial instruments lead to substantial information asymmetries. At the same time, evidence relating to effective governance structures and to bank performance and stability is still developing. The uniqueness of governance mechanisms in banks implies the dominant effect role of the boards of directors on performance and risk-taking behaviour (Elyasiani and Zhang 2015; Faleye and Krishnan 2017). To inhibit misconduct and excessive risk taking, both shareholders and regulators expect these boards to be active in establishing effective risk monitoring systems (Kress 2018). Theorists of resource dependence argue that monitoring by the board of directors is vital for efficient resource allocation and risk mitigation (Johnson et al. 1996).

It has long been argued that holding multiple board seats across many firms (i.e., busy boards) has reputational and networking benefits, which contribute to the corporate performance and risk control (Jiraporn et al. 2009; Brennan et al. 2016). Furthermore, the impact of busy outside directors on performance and financial stability is driven by agency conflicts and the nature of the respective banks' business models (Chen 2008). Ultimately, the value added by multiple directorships depends on the relative importance of effective monitoring and the structure of governance employed. Arguably, directors are unable to effectively monitor their firms when they are ''over-boarded'', having limited time to scrutinise a bank's operations and strategic decisions. This can adversely affect a bank's performance, increase risk-taking behaviour (Ferris et al. 2003), and give rise to agency problems (Core et al. 1999). The disadvantages of board busyness may be particularly severe for large and complex financial firms (Kress 2018).

Till date, no empirical work has investigated the effect of board busyness on performance and financial stability across different types of banks (i.e., Islamic[1] and conventional banks). Only

two studies focus on the conventional bank setting. Elyasiani and Zhang (2015) show that board busyness has a significant impact on the performance and risks of U.S. bank holding companies. Kutubi et al. (2018) present similar evidence on board busyness for the South East Asia banks, which are characterised by weak governance and highly concentrated ownership. To the best of our knowledge, empirical evidence on board busyness within the Islamic banking context is meagre.

A comparative examination of board busyness across Islamic and conventional banks is indispensable to the ongoing debate related on the resilience and stability of the two banking sectors (see Čihák and Hesse 2010; Abedifar et al. 2013; Beck et al. 2013). Given their rapid growth[2], the impact of Islamic banks on the global economy might be substantial. The financial crisis in 2007 has further raised the attraction of exploring the stability of the Islamic banking model as a viable and resilient alternative to the conventional banking system (Wilson 2015).

In principle, Islamic banks are expected to conduct operations on the basis of profit-loss sharing (PLS) arrangements, in which contracts between banks and their depositors are commonly equity-based. In practice, Islamic banks are more likely to engage in mark-up finance, replacing interest payments with fees and contingent payment structures (Olson and Zoubi 2008; Mollah et al. 2017). Thereby, Islamic banks protect their market share in competition with conventional banking. Moreover, the governance structures of Islamic banks are more complicated. Unlike the single governance layer in conventional banks (i.e., board of directors), Islamic banks are subject to a double-governance mechanism with a Shari'ah Supervisory Board (SSB)[3] in addition to their regular board of directors. Thus, decisions of the board of directors must accommodate additional supervision for Shari'ah compliance (Mollah and Zaman 2015). SSB is hence referred to as "supra authority" that monitors the board of directors' decisions to ensure that they deal only with the ex-ante approved products/services (Alsaadi et al. 2017). In both bank types, the board of directors is responsible for the execution of strategic decisions, protection of the shareholders' interest and maximisation of the bank value. Furthermore, for Islamic banks, additional agency costs are likely to be associated with the Islamic banking model. This is due to a peculiar institutional environment in Islamic banks, including the special bank-depositors' relationship[4].

The nature, quality, and commitment of the regular board of directors in the Islamic and conventional banking models are different (Mollah et al. 2017). The popularity, reputation resource and scarcity of experts in Shari'ah legitimacy on a global basis have substantially contributed to the busyness of the board of directors and SSB in Islamic banks. The greater complexities in the Islamic business model imply that the reputational effects might not be

attained by appointing busy boards. The limited time available (to both the board of directors and the SSB) to scrutinise bank operations against risky (non-Shari'ah compliant) activities, might suggest that reputational effects might not be enhanced by busy boards. In conventional banks, it is plausible that ineffective monitoring might be offset by the reputational benefits of busy boards (Elyasiani and Zhang 2015; Brennan et al. 2016).

Due to structural differences between conventional and Islamic banking business models, this study assesses the impact(s) of board busyness on the performance and financial stability of the two bank types. We employ performance measures (i.e., profitability ratio and cost to income ratio) and different risk indicators (i.e., insolvency, credit, liquidity, asset and operational risks). The analysis is based on a sample of 880 bank-year observations (154 banks) in 14 countries for the period from 2010 to 2015. For the full sample (i.e., conventional and Islamic banks together), we find that banks with busy boards of directors have significantly better financial performance and lower bank risks. Conditional on the bank type, board busyness exhibits a differential impact on bank performance and financial stability. In comparison with conventional banks, Islamic banks with busy boards show low performance and high risk-taking as measured by several risk indicators (i.e., insolvency, credit, liquidity, assets and operation). These findings become more apparent as the degree of board busyness increases. We also find that busy boards with superior financial expertise improve bank performance and financial stability. However, this is less pronounced in Islamic banks.

We perform additional tests to identify the sources of the detrimental effects of board busyness. With respect to agency costs for both bank types, busy boards of directors appear to mitigate agency conflicts; however, busy boards exacerbate agency conflicts in Islamic banks. Finally, Islamic banks with less busy SSB are more stable and have better financial performance than those with busy SSB.

This is the first study about the impact of busy boards on a bank's performance and financial stability across different bank types. Our findings contribute to the broad strands of literature that consider the relative impacts of distinct degrees of board busyness on performance and financial stability. This adds to the sizeable literature on bank financial stability (e.g., Chan and Milne 2014; Ashraf and Rizwan 2016; Rumler and Waschiczek 2016; Bitar et al. 2017; Arnaboldi et al. 2018). Moreover, by presenting evidence on the differential effects of board busyness across the two bank types, we extend the Islamic and conventional banking literature (e.g., Abedifar et al. 2013; Beck et al. 2013; Mollah and Zaman 2015; Mollah et al. 2017). Results highlighting the damaging effect that busy SSBs have on Islamic banking performance and stability in fact,

extend earlier work (e.g., Field et al. 2013; Elyasiani and Zhang 2015; Abdelsalam et al. 2016; Chakravarty and Rutherford 2017; Elnahass et al. 2018).

Findings in this study provide valuable insights and policy implications for regulators and investors engaging with the two banking sectors. Regulators and market participants in conventional banks can benefit from our empirical evidence portraying that busyness and networking of the boards of directors are likely to enhance bank performance and stability, which offers important implications for wealth creation. The reputational benefits associated with recruiting busy boards might not be invoked the presence of unique institutional characteristics, as presented by the experiment of Islamic banks. Islamic banks, by virtue of their unique and illiquid products, require effective monitoring. In that regard, the substantial role of effective Shari'ah monitoring appears to be essential for promoting financial stability in Islamic banking.

The next section presents the background and outlines the hypotheses. Section 3 presents the data. Section 4 outlines the methodology and measures. Sections 5 and 6 report empirical results and additional tests. Section 7 concludes the study.

2. Background and hypotheses development

2.1 Busy board and bank financial performance and stability

Corporate risk-taking, risk monitoring and financial performance are central concerns of boards of directors (BOD). The board's role in risk management and financial stability has also led to increased public and regulatory scrutiny of multiple directorships. Excessive risk taking during the financial crisis of 2007 has brought an added emphasis to the relationship between board busyness and the effective monitoring in banks.

According to Adams and Mehran (2003), directors' duties and obligations arise in two contexts: a discrete decision brought to the board for approval that increases directors' legal responsibility on bank safety and soundness and their obligation to provide firm oversight on whose boards they serve. Alongside their advisory roles, outside directors are also expected to provide vigilant oversight over executives and perform their duties independently from insiders. Unlike inside directors, they should serve as monitors on inside board members and managers on behalf of capital providers and, therefore, are expected to mitigate agency conflicts (Fama and Jensen 1983).

Prior studies suggest that investors are not usually in favour of appointing busy outside directors. Typically, Falato et al. (2014) find that the busyness of outside directors is detrimental to board monitoring effectiveness and hence reduces firm performance and shareholder value.

Nguyen et al. (2014) also show that the appointment of an executive who holds several non-executive directorships is associated with negative returns for US banks. Another strand of the literature is in favour, arguing that overcommitted board members bring reputational and preferential benefits to their firms. Fich and Shivdasani (2006) argue that a board member who holds multiple directorships is an indicative measure of his high reputation and superior managerial performance in the external labour market. In line with this argument, Harris and Shimizu (2004) show that a busy director is a valuable source of extensive knowledge to a firm, offering a vital supportive role to inside directors. Furthermore, Lei and Deng (2014) find a positive relationship between multiple directorships and firm value; however, they indicate that this positive association is significantly lower at higher degrees of busyness. Recently, Elyasiani and Zhang (2015) report a positive (negative) relationship between busy directors and performance (risk), respectively, for the U.S. bank holding companies. Moreover, Chakravarty and Rutherford (2017) find that busy directors can reduce the firm's cost of debt.

Considering the above evidence, we expect that a busy board of directors is more likely to enhance financial performance and moderate risk taking. This leads us to our first hypothesis, stated in alternative forms:

H_{01}: Banks with a busy board of directors feature higher profitability and lower risk-taking.

2.2 Board of directors' busyness in Islamic and conventional banks

With regards to Islamic bank activities and operations, the "no money for money" principle suggests that risk-sharing practices might be embedded on both the asset and liability sides of the balance sheet. This has implications on both performance and risk-taking. Islamic banks operate within a young and small industry, associated with high operating costs and low-cost efficiency (Johnes et al. 2014; Ashraf and Rizwan 2016) relative to their conventional counterparts. Prior studies document that Islamic and conventional banks significantly differ in their performance, financial stability and aspects of operations. For instance, Čihák and Hesse (2010) find that larger Islamic banks are less financially stable than their conventional counterparts due to the challenges in controlling credit risks. Beck et al. (2013) find that better capitalisation and greater asset quality make Islamic banks less vulnerable to financial distress than conventional banks. However, Islamic banks are generally less cost efficient than conventional banks. Abedifar et al. (2013) highlight that Islamic banks encounter an additional type of risk (generic plus unique risks)[5] due to the complexity of the Islamic finance modes as well as the restrictions imposed on their funding, investment and risk management activities.

Overall, Islamic banks have a distinctive survival rate as compared to their conventional counterparts (Pappas et al. 2017).

The different business models employed by Islamic and conventional banks imply the monitoring requirements in Islamic banks to be more complex. This can be justified by the additional Shari'ah governance incorporated into the business model and the peculiar definitions of rights and obligations for Islamic products and contracts. Therefore, the characteristics and attributes of boards of directors are expected to have differential effects on the two bank types' performance and financial stability.

According to the busyness hypothesis (Jiraporn et al. 2009; Cashman et al. 2012), outside directors who serve on multiple boards might lack time to perform their monitoring tasks effectively. Additionally, we do not expect that all outside directors have good network links that could bring reputational benefits. Hence, a reduction in their workload is more associated with improved operating profits and higher market-to-book ratios (Hauser 2018). Therefore, an inverse relationship is expected between the board's busyness and the bank's performance and financial stability (Fich and Shivdasani 2006). Unlike conventional banks, the scarcity of BOD specialised in Shari'ah legitimacy alongside the nature of the business model, including complex monitoring mechanisms, suggest that a busy BOD in Islamic banks would be less able to provide effective oversight, as justified by the busyness hypothesis. Although busy directors in conventional banks can use their networking or experience to advise some efficient financing sources to the firm they are serving, this is less likely to be obtained in Islamic banks. This follows from the fact that Islamic banks cannot raise funding through direct access to market operations (e.g., derivatives and options), which are impermissible under their Shari'ah governance. Moreover, Islamic banks have a distinctive regulatory framework; they operate within less developed financial markets when compared to their conventional counterparts. As a result, conventional banks are expected to benefit more from the reputation and experience of busy directors than Islamic banks.

Accordingly, we conjecture that the costs of ineffective monitoring by busy BOD in Islamic banks are expected to offset their reputation benefits. This leads to the second hypothesis, stated in alternative forms:

H_{02}: Islamic banks with a busy board of directors are less profitable and less financially stable than conventional banks.

2.3 Shari'ah Supervisory Board busyness in Islamic banks

Religious and social norms[6] (i.e., values extracted from religious texts) should reduce agency costs in religiously oriented banks (Abdelsalam et al. 2016). Under the assumed dominance of moral accountability and additional monitoring in the Islamic banking model, we extend our assessments to identify the effect of busy SSB on the performance and stability of Islamic banks.

The SSB's role goes beyond that of a principal investigator for scrutinising bank activities. Depositors and investors view SSB members as the *custodians of* social, ethical and systemic welfare. Since a SSB has a unique role in ensuring the mandatory compliance of Islamic banks to the rulings of Shari'ah, this mitigates reputational risk[7]. This risk is an indispensable element of operational risk and likely to affect the bank's performance and financial stability.

In practice, Shari'ah scholars in Islamic banks are very few and tend to be overcommitted across several banks, countries or even continents (Mollah and Zaman 2015). This can have an adverse impact on their Shari'ah monitoring function, potentially contributing to additional agency costs (see Unal and Ley 2011). Furthermore, the limited availability of Shari'ah scholars worldwide suggests that they might be expensive to appoint, leading to higher charges of salaries and remunerations. This can thus lead to cost inefficiency (see Brick et al. 2006). Accordingly, we conjecture that a busy SSB weakens the double-governance mechanism employed for Islamic banks, leading to the third hypothesis stated in the alternative form:

H_{03}: Busy SSB has a significant detrimental impact on Islamic banks' performance and financial stability.

3. Data

The consolidated financial data (in U.S. dollars) used in our study are obtained from Thomson One Reuters, Bankscope and Bloomberg databases. Governance-level data and data for outside directors, Shari'ah advisors and board information, are hand-collected from annual reports. Country macroeconomic and governance indicators are retrieved from the World Bank's World Development Indicators database. Our final sample includes unbalanced panel data of 154 banks (880 bank year observations) for both listed and unlisted banks, operating in 14 countries over the period 2010-2015[8]. The selection of the sample period avoids the potential effect of the financial crisis period of 2007-2009. We filtered the sample following similar criteria applied in other banking studies (see Beck et al. 2013; Field et al. 2013; Mollah et al. 2017). These include (a) countries having both types of banks and at least four banks; (b) banks which have full annual reports available from official websites, published as of 31 December of the financial year;

(c) only commercial full-ledged banks were kept, and Islamic windows[9] were excluded; and (d) banks having full data availability of at least three consecutive years.

Table 1 presents the sample distribution by country and bank, with 70 Islamic banks (403 bank-year observations) and 84 conventional banks (477 observations). The percentage of bank representations between Islamic banks and conventional banks is 45.8% to 54.2%, respectively. This shows that our sample is representative of both bank types. The highest concentration of Islamic banks is present in Bahrain and the UAE, with Indonesia and Turkey having the highest concentration of conventional banks.

[Insert Table 1 here]

4. Methodology and Measures

4.1. Bank financial performance and financial stability

To examine whether corporate controls via busy boards influence the bank's financial performance, we use the accounting-based performance measure return on average equity (*ROAE*) to gauge the outcome of busy directors' profitable (unprofitable) decisions. Thus, the higher the reported *ROAE*, the better the profitability performance of a bank. This measure serves as a robust and inclusive measure of bank financial performance by gauging the extent of operational efficiency and capturing the nuances of banks' diversifying earnings through non-interest income activities and management of their costs (see Mollah and Zaman 2015; Elyasiani and Zhang 2015). Moreover, to measure a bank's operating efficiency, we use the cost-to-income ratio (*COST/INCOME*), which measures overhead costs relative to gross revenues. A higher *COST/INCOME* ratio suggests lower levels of a bank operating efficiency (Beck et al. 2013).

We further examine the effect of busy outside directors using various risk measures, including (i) *insolvency risk*; (ii) *credit risk*; *liquidity risk*; (iii) *asset risk*; and (iv) *operational risk*. We measure insolvency risk by the bank *Z-score*. This is a measure of the bank's probability to default (Rumler and Waschiczek 2016; Arnaboldi et al. 2018). *Z-score* is calculated as a sum of return on assets and capital assets ratio, scaled by the standard deviation of return on assets[10]. A high *Z-score* implies a good solvency position and hence high stability for the bank. We use the natural logarithm of the *Z-score* to control for outliers. Our second risk measure is credit risk, which is used to proxy for the backward-looking quality of the bank's existing loans (Abedifar et al. 2013). Credit risk is measured by the ratio of non-performing loans to total assets (*NP/TA*) (Kutubi et al. 2018); the higher the ratio, the higher the credit risk for a bank.

We measure a bank liquidity risk using the ratio of liquidity assets to deposits and short-term funding (*LA/DSF*) following Altunbas et al. (2000) and Safiullah and Shamsuddin (2018). The higher the value of this ratio, the lower the bank liquidity risk, indicating that the bank holds more liquid assets to support deposits and short-term funding. A proxy for asset risk is used, which is the ratio of return on assets to its standard deviation (*ROA/SDROA*) (Saghi-Zedek and Tarazi 2015; Kutubi et al. 2018). This ratio is an inverse measure of asset risk (i.e., a higher value of *ROA/SDROA* implies a lower asset risk). Finally, we followed Sun and Chang (2011) and Safiullah and Shamsuddin (2018) to measure operational risk (*SDROA*) using the volatility of asset return. This measure is computed by the three-year rolling standard deviation of return on assets. A higher value of *SDROA* indicates a higher operational risk for banks.

4.2. Measures of board of directors busyness

We identify an outside director as busy if he/she serves on two or more outside boards (Jiraporn et al. 2009; Cashman et al. 2012; Field et al. 2013; Elyasiani and Zhang 2015). We follow prior literature to measure the number of directorships held by directors in all for-profit private and public firms[11]. We exclude directorships related to activities in sports clubs, not-for-profit, trusts and charitable institutions[12].

Based on the above classifications, we measure busy board of directors (BBOD) by the *percentage of busy outside directors* (%BBOD), which reflects the percentage of busy outside directors on the board, calculated as the number of outside directors serving on two or more outside firms divided by the number of outside directors on the board. The greater the percentage of busy outside directors, the higher the busyness of BOD, which influences the monitoring quality of the overall board. Utilising the percentage of directors' busyness provides a plausible assessment of the board advising and monitoring intensity under the assumption of high independence, substantial contributions in the firm strategic decisions and their sound reputation maintained in the industry (Fich and Shivdasani 2006).

4.3. Empirical Models

The empirical analyses employ a panel data analysis, and our estimations account for the unobservable and constant heterogeneity (i.e., *management style, business strategy* or *other bank-specific features*). However, some independent variables in the model (e.g., board structure, composition and functioning) are determined simultaneously with dependent variables, leading to possible simultaneity bias. To mitigate potential endogeneity between busy boards and financial performance/risk (Field et al. 2013; Elyasiani and Zhang 2015)[13], we utilise the Three-

Stage Least-Square (3SLS) estimations and instrumental variables (Elyasiani and Zhang 2015; Mollah and Zaman 2015).

We select two main Instrumental Variables (IVs) for %BBOD and %BSSB. Our first IV follows from Elyasiani and Zhang (2015), which is *the number of public firms headquartered in the same country of the bank* (source: World Bank). We argue that outside directors and Shari'ah advisors of the bank headquartered in countries with more public firms tend to find more jobs in other institutions and might also work in different cities across the country. We, therefore, predict that the number of busy outside directors and busy Shari'ah advisors is positively associated with the number of public firms headquartered in the same country. Another IV for busy directors is the *country-level income generating category* (recorded in World Bank), which is a dummy variable taking a value of one if the "*home*" bank is in a country classified as a middle- and high-income generating[14] nation and zero otherwise. We argue that a developed economic system with high-income levels is likely to feature skilled and high-paying job opportunities for directors (World Bank 2016). Highly skilled and reputable directors with professional knowledge in those nations, therefore, can easily find job opportunities through accessing open labour markets. We, therefore, expect that directors of banks headquartered in high-income countries with more skill-job opportunities are more likely to find director positions in other companies. This might positively influence the number of directorships they hold. Both IVs are correlated with possible endogenous variables[15] (i.e., %BBOD; %BSSB) and should predict bank performance/risk only indirectly through their effects on endogenous variables (see Black et al. 2006). Indeed, in our study setting and sampled banks, those IVs can indirectly affect bank performance/risk because the country-level indicators are less likely to influence individual banks' performance and risk-taking endogenously.

To test our first and second hypotheses (***H*****$_{01}$** and ***H*****$_{02}$**) for the possible impact of busy BOD on bank financial performance, we treat both busy outside directors and bank performance as endogenous variables and estimate the following simultaneous equation models:

$$Performance_{i,t} = \beta_0 + \beta_1 \mathrm{BBOD}_{i,t} + \beta_2 \mathrm{ISLAMIC}_{i,t} + \beta_3 \mathrm{BBOD}_{i,t} * \mathrm{ISLAMIC}_{i,t} + \phi P + \mu \text{Year effects} + \varepsilon_{i,t} \quad (1)$$

$$BBOD_{i,t} = \beta_0 + \beta_1 \mathrm{Performance}_{i,t} + \beta_2 \mathrm{ISLAMIC}_{i,t} + \beta_3 \mathrm{BBOD}_{i,t} * \mathrm{ISLAMIC}_{i,t} + \phi P + \mu \text{Year effects} + \varepsilon_{i,t} \quad (2)$$

where $\mathrm{Performance}_{i,t}$ represents {ROAE; COST/INCOME}; $\mathrm{BBOD}_{i,t}$ represents {%BBOD}; and $\mathrm{ISLAMIC}_{i,t}$ is a dummy variable representing the bank type, taking the value of 1 if the bank is classified as Islamic and 0 for a conventional bank. $BBOD_{i,t}$*$ISLAMIC_{i,t}$ is an interaction term between busy BOD and the bank type. This variable captures possible differential effects of busy BOD on bank performance/risk between Islamic and conventional banks. ϕP is a vector of

control variables in the performance model, and $\varepsilon_{i,t}$ is the error term. Equation (1) estimates the impact of busy BOD on bank financial performance measured by *ROAE* and *COST/INCOME*, while Equation (2) estimates the influence of such financial performance on the busy BOD.

Similarly, bank risk and busy BOD are expected to be mutually interdependent because busy outside directors may have responsibilities to control bank risk. Thus, we also consider a simultaneous equation model for banks that treats risks and busy BOD as endogenous variables (Equations (3) and (4)). These models are specified as follows:

$$Risk_{i,t} = \beta_0 + \beta_1 \mathrm{BBOD}_{i,t} + \beta_2 \mathrm{ISLAMIC}_{i,t} + \beta_3 \mathrm{BBOD}_{i,t} * \mathrm{ISLAMIC}_{i,t} + \phi P + \mu \text{Year effects} + \varepsilon_{i,t} \quad (3)$$

$$BBOD_{i,t} = \beta_0 + \beta_1 \mathrm{Risk}_{i,t} + \beta_2 \mathrm{ISLAMIC}_{i,t} + \beta_3 \mathrm{BBOD}_{i,t} * \mathrm{ISLAMIC}_{i,t} + \phi P + \mu \text{Year effects} + \varepsilon_{i,t} \quad (4)$$

Where $Risk_{i,t}$ represents {LogZscore; NP/TA; LA/DSF; ROA/SDROA; SDROA}. Our control variables include board size *(LogBSIZE)* to capture the boards' role and effectiveness, calculated by the natural logarithm of the number of board members (e.g., Arnaboldi et al. 2018); board independence *(%INDEP)* measured by the percentage of outside directors on board (Faleye and Krishnan 2017); and CEO duality *(DUAL)* taking a value of one if the CEO is also a Chairman and zero otherwise (Faleye and Krishnan 2017). We include qualifications of outside directors (*%INDQ*) and Shari'ah advisors (*%SSBQ*). This variable is calculated as the percentage of outside directors (Shari'ah advisors) holding doctoral degrees to the total outside directors (Shari'ah advisors) (see Berger et al. 2014; Safiullah and Shamsuddin 2018). We also control for the audit committee size (*LogACSIZE*), measured by the natural logarithm of the number of these board members, and audit committee effectiveness (*%BAC*), which is the proportion of busy directors on the audit committee (Sun and Liu 2014).

To control for bank age, we consider *(LogAge),* which reflects the bank experience and informational advantages, measured by the difference between the sample year and the bank establishment year (Pathan and Skully 2010). We additionally include bank size *(LogTA)* computed by the natural logarithm of total assets measured in thousands of USD of a bank at the end of the fiscal year in the sample period (Brown et al. 2015; Chronopoulos et al. 2015). Following Liu et al. (2018) and Arnaboldi et al. (2018), we use the Herfindahl-Hirschman Index *(HHI)* to capture the possible effect of banking sector concentration (activity diversification) on performance. We also add Big 4 auditor *(BIG4)* by employing a dummy variable that takes a value of 1 if the bank is audited by one of the Big 4 audit firms and zero otherwise (Mollah and Zaman 2015); bank financial leverage *(LEV)* is measured by total liability divided by Equity (Elyasiani and Zhang 2015). We capture the bank listing status using a dummy variable (*LISTED*), which takes the value of 1 is the bank listed and 0 if it is unlisted. We include the

inverse of log (Z-score) (*1/z*) in all operating performance models to capture the positive effect of risk-taking on bank performance (Mollah and Zaman 2015). We further include the *COST/INCOME* in all the bank risk models to capture the bank cost efficiency (Abedifar et al. 2013). Lower cost efficiency increases incentives for bank managers to avoid such poor performance by engaging with additional risk-taking.

Moreover, we use the annual growth in the gross domestic product *(GDP_GROWTH)* to capture the economic development of the region/country (Elnahass et al. 2018). Finally, prior studies documented the impact of the country's level of corruption on bank performance/risk, see Barth et al. (2013). To control for differences in the national quality of governance across countries, we use a corruption index (*CORRUPTIO*N) developed by the World Bank (2016). The index ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance; higher values infer better control of corruption. *Table 2* presents variable definitions and notations in our models[16].

[Insert Table 2 here]

4.4. Descriptive statistics

Table 3 presents descriptive statistics for the full sample and the subsamples of Islamic banks (IBs) and conventional banks (CBs). IBs report a lower average profitability relative to CBs, with lower means for *ROAE*. IBs have a higher average cost (lower efficiency) than CBs, with higher means for the *COST/INCOME* ratio. IBs also report a riskier profile than CBs, with a lower mean *logZscore* (higher insolvency risk), a higher mean *NP/TA* (higher credit risk), a lower mean *ROA/SDROA* (higher asset risk), and a higher mean *SDROA* (higher operational risk). The two-sample *t*-test reports high performance and less risk-taking for CBs than IBs. However, IBs exhibit lower liquidity risk (a higher mean of *LA/DSF*) than CBs. IBs are usually challenged by liquidity management issues and accessing short-term borrowings from outside sources (Čihák and Hesse 2010; Beck et al. 2013). Hence, they tend to retain a higher proportion of liquidity assets to protect them from a liquidity shortage.

For the governance indicators, IBs report higher board busyness (*%BBOD*) compared to CBs, with higher means of 58% (47%) for IBs (CBs). This variable is significantly different between the two bank types. The results also indicate that the percentage of busy Shari'ah advisors serving on the SSB (*%BSSB*), on average, is substantially high, with a mean of 82%.

For other controls, CBs show higher means of BOD size (*BSIZE*), CEO duality (*DUAL*), and independent directors' qualification (*%INDQ*) compared to CBs. However, CBs report a lower

mean of the percentage of independent directors on board (*%INDEP*) and the independent directors' financial expertise (*%INDEXP*) than IBs. Furthermore, IBs are significantly younger (*LogAge*) and appear to be less leveraged (*LEV*) than CBs.

The SSB size (*SSBSIZE*) for our sampled Islamic banks reflects an average of 3.799 Shari'ah members. For SSB, 73.8% of Shari'ah advisors hold doctoral degrees (*%SSBQ*), and 77.4% of members are experts in Islamic law (*%SSBEXP*). The means of audit committee size (*LogACSIZE*: 3.592) and its busyness (*%BAC*: 54.1%) in IBs are significantly higher than those of CBs (3.364; 45.6%).

[Insert Table 3 here]

5. Empirical results

5.1. Tests for board of directors' busyness

Table 4 reports the three-stage least square (3SLS) estimations for the full sample (i.e., IBs and CBs). *Panel A* shows the results for financial performance, while *Panel B* presents the results for financial stability.

In *Panel A*, we find that the coefficient of BOD busyness (*%BBOD*) is positively related to *ROAE* and negatively related to *COST/INCOME*. These results indicate that having BOD with multiple directorships significantly adds to profitability performance and reduces the ratio of cost to income. The *ISLAMIC* variable indicates a negative association with ROAE and a positive association with the *COST/INCOME* ratio, which implies lower profitability and higher cost to income ratio of IBs compared to their conventional counterparts.

When identifying the effect of BOD busyness among the two bank types through the interaction *%BBOD*ISLAMIC*, we find that the coefficients on this interaction term report an inverse direction for the expected associations across all models, with significant and negative (positive) coefficients on *ROAE* (*COST/INCOME*). These results indicate that Islamic banks with busy boards have significantly poor performance relative to their conventional counterparts. Accordingly, for IBs, the beneficial effects of busy BOD on bank profitability and cost efficiency tend to be diminished.

For the control variables, the coefficient on board size (*LogBSIZE*) is significantly and negatively associated with *ROAE* but positively related to *COST/INCOME*, indicating that banks with large BOD tend to exhibit low profitability and high cost to income. This result is in line with Pathan and Faff (2013). The result for independent non-executive directors *(%INDEP*)

indicates that a high representation of those directors on boards tends to significantly reduce bank profitability, which is in line with previous findings (e.g., Wintoki et al. 2012). We also find that the outside directors' qualification *(%INDQ*) is significantly and positively linked to *ROAE*. Additionally, the larger audit committee (*LogACSIZE*) is related to higher bank profitability and lower cost to income. This can be explained by the fact that large boards constitute many directors with different expertise; hence, they are more capable of the effective oversight of banking operations (Sun and Liu 2014). Moreover, we find that larger banks (*LogTA*) and highly leveraged banks (*LEV*) are likely to experience higher operating performance as well as a lower cost-to-income ratio. Furthermore, *GDP_GROWTH* is associated with higher bank performance[17].

Results for examining bank risk indicators, reported in *Table 4, Panel B,* for the full sample show that the coefficients of busy BOD are significantly and positively associated with indicators for insolvency risk (*logZscore),* liquidity risk (*LA/DSF),* and asset risk (*ROA/SDROA*). Moreover, busy BOD is negatively associated with both credit risk (*NP/TA)* and operational risk (*SDROA)*. These results indicate lower insolvency risk, liquidity risk, asset risk, credit risk and operational risk for banks with busy boards. These findings suggest that banks with busy BOD exhibit an overall low-risk profile and, hence, high financial stability. Interactions between the *ISLAMIC* dummy variable and busy BOD (*%BBOD*ISLAMIC*) show that IBs with busy BOD have significantly higher insolvency risk, liquidity risk, and asset risk and with significant and negative coefficients on *LogZscore, LA/DSF* and *ROA/SDROA*, respectively. Moreover, the opposite coefficient signs of *%BBOD*ISLAMIC* relative to the coefficient signs of the *%BBOD* in models of *NP/TA* and *SDROA* further assert that IBs exhibit higher credit risk and operational risk than CBs.

[Insert Table 4 here]

The findings of Table 4 support our first hypothesis $\boldsymbol{H_{01}}$, indicating the positive impact of busy BOD on bank financial performance and stability. Busy BODs appear to possess valuable knowledge and proficiency that permit them to contribute positively to bank operational activities. These findings are in line with those of Field et al. (2013). However, conditional on the bank type, board busyness shows a differential effect on performance and financial stability; busy BOD in IBs adversely affects performance and financial stability, which is in line with the second hypothesis ($\boldsymbol{H_{02}}$). The positive effect of board busyness on CB performance and financial stability indicates that reputational benefits dominate their business model; hence, busy BODs are likely to facilitate CBs' access to market sources in addition to promoting greater expertise

and skills/knowledge in profitability management (Zahra and Pearce 1989). In contrast, IBs operating on a complex business model appear to benefit less from their busy boards.

5.2. Tests for the classifications of the degree of board of directors' busyness

Based on our findings above, board busyness could bring either reputational benefits or detrimental effects depending on the bank type. According to Jiraporn et al. (2009), the link between directorships and bank stability might not be fully captured using a simple linear regression[18]. At lower degrees of board memberships, directors' reputation and expertise might not yet be established. However, at higher degrees, directors with a greater number of board seats can observe that reputation benefits tend to outweigh the cost of the busyness effect.

To test the impact of the different degrees of busyness on bank performance and stability, we define four different classifications for the degree of board busyness: "*Non-busy*", "*Less-busy*", "*More-busy*" and "*Super-busy*" across the two bank types. We follow Field et al. (2013) to define the degrees of busyness for BOD by employing quantiles based on the average number of directorships held by each BOD. BOD in the top quantile 4 is classified as "*Super-busy*"; BOD in the middle quantile 3 and 2 are defined as "*More-busy*" and "*Less busy*", respectively; and others are considered "*Non-busy*" BOD[19]. Based on these, we create four dummy variables (super-busy BOD dummy, more-busy BOD dummy, less-busy BOD dummy and non-busy BOD dummy) and then consider separate tests for the sub-samples of the different classifications of board busyness.

Table 5 presents the results for bank performance and risk for IBs (*Panel A*) and CBs (*Panel B*), allowing for the classifications of busyness. In *Panel A*, we find that within IBs, when BODs are characterised as being "*More-busy*" or "*Super-busy*" BODs, this significantly reduces bank profitability performance and promotes higher risk-taking due to high insolvency, credit, liquidity, asset and operational risks. In contrast, the results for the "*Non-busy*" BODs show positive effects on IBs' performance and financial stability, with significant and positive coefficients on *ROAE* (i.e., higher profitability), *LogZscore* (i.e., lower insolvency risk), *LA/DSF* (i.e., lower liquidity risk), and *ROA/SDROA* (i.e., lower asset risk), and with negative coefficients on *COST/INCOME* (i.e., better operating efficiency) and *NP/TA* (i.e., lower credit risk). This result indicates that IBs benefit more from the presence of the "*Non-busy"* BOD classification.

In *Panel B*, we note that CBs with "*More-busy*" or "*Super-busy*" BODs show significantly enhanced bank financial performance and lower bank risk. This finding is consistent with the reputation hypothesis and prior studies (e.g., Elyasiani and Zhang 2015). Nonetheless, "*Less-busy*" or "*Non-busy*" BODs are generally associated with low financial performance as well as

high risk-taking for this bank type. This suggests that due to the higher advisory demand of CBs, BODs with a small degree of busyness may not have superior advising capacities, sufficient valuable experience and resource connections to benefit their banks.

[Insert Table 5 here]

In summary, our findings for the BOD classifications suggest that the adverse effects of busy BOD are more pronounced on IBs' performance and financial stability. They are more pronounced when the degree of busyness increases. Super busy BODs within IBs tend to fail in effectively monitoring risk-taking activities. These findings support the distinctiveness of the roles played and value added from BOD in both CBs and IBs. They also support our main findings for the preferential effects of board busyness on CB performance and financial stability. Unlike IBs, the reputation effects within CBs appear to increase proportionally as the board multiple directorship increases. Hence, the reputation effect seems to outweigh the cost of the busyness effect in this banking model.

5.3. Tests for the outside board of directors' expertise

The main findings in Section 5.1 indicate that busy boards in general terms and within CBs are likely to improve bank performance and promote higher financial stability. In line with the reputational hypothesis, busy boards are likely to have better expertise in managing different types of risk and in supporting high profitability/efficiency performance. We test this argument in this section by capturing the effect of superior financial expertise of busy independent directors across both bank types. Prior studies suggest that outside financial experts could influence bank policies and disclosure; however, they tend to spend their significant portion of time advising rather than monitoring (Adams and Ferreira 2007; Güner et al. 2008). Moreover, according to Elyasiani and Zhang (2015), experienced and busy board members can lead to higher bank stability.

We consider outside directors to be financial experts only when they have held or currently hold executive positions within banks and/or financial institutions (Minton et al. 2014). The outside directors' expertise (i.e., *%INDEXP*) is measured by the percentage of outside experts to total outside members of BOD. We interact this variable with the busy board measure (i.e., *%INDEXP*%BBOD)* to identify the influence on performance for being a busy board with superior expertise. Similar to Minton et al. (2014), we predict a busy board to have a superior experience that should positively contribute to performance.

Table 6 reports the results testing for the combined effects of board busyness and independent director expertise on bank financial performance (Panel A) and risks (Panel B). We find that the effect of busy BOD on bank performance and financial stability is enhanced for banks employing outside financial experts. This is observed by the significant and positive relationships between *%INDEXP*%BBOD* and *ROAE, logZscore, LA/DSF* and *ROA/SDROA*. Additionally, this interaction term reports significant and negative associations with *COST/INCOME* and *NP/TA*.

In line with $\boldsymbol{H_{02}}$**,** we expect that the positive effect of *%INDEXP*%BBOD* is lower when conditioning it for IBs. To capture this, we introduce the interactions between *%INDEXP*%BBOD* and Islamic dummy indicator (i.e., *%INDEXP*%BBOD*ISLAMIC*). The results under both Panels A and B show adverse effects of being a busy BOD with expertise on IB performance and stability. These findings suggest that unlike CBs, IBs are less likely to benefit from the reputation of experienced and busy BODs. In other words, the superior expertise of outside directors plays an important role in promoting the positive impacts of busy BOD on bank performance and financial stability. However, such a role is found to be less pronounced in IBs than CBs. Within IBs, BODs who are busy and have financial expertise might not necessarily meet the effective monitoring needs required for a complex system of governance such as that for IBs.

[Insert Table 6 here]

5.4. Tests for the influence of busy boards on bank agency relationships

The enhanced performance and financial stability of a bank could be attained when BODs can mitigate agency problems. However, overcommitted BODs might have limited time to effectively scrutinise management transactions and decision-making processes, leading to severe agency costs. This, in turn, is likely to limit the busy board's positive impacts on bank performance and financial stability. In this section, we test whether BOD busyness can either diminish or exacerbate bank agency costs. This is achieved via the simultaneous models given by Equations (5) and (6):

$$CASH/TA_{i,t} = \beta_0 + \beta_1 \mathrm{BBOD}_{i,t} + \beta_2 \mathrm{ISLAMIC}_{i,t} + \beta_3 \mathrm{BBOD}_{i,t} * \mathrm{ISLAMIC}_{i,t} + \phi P + \mu \mathrm{Year\ effects} + \varepsilon_{i,t} \quad (5)$$

$$BBOD_{i,t} = \beta_0 + \beta_1 \mathrm{CASH/TA}_{i,t} + \beta_2 \mathrm{ISLAMIC}_{i,t} + \beta_3 \mathrm{BBOD}_{i,t} * \mathrm{ISLAMIC}_{i,t} + \phi P + \mu \mathrm{Year\ effects} + \varepsilon_{i,t} \quad (6)$$

where bank agency cost is measured by the ratio of cash to total assets (*CASH/TA*) (Farag et al. 2018). A lower value of *CASH/TA* implies lower agency costs or lower directors' private benefits. We interact (*%BBOD*) with the Islamic banking dummy (*ISLAMIC*) to test for differential effects of busy BOD on agency costs between two bank types in the models

describing agency costs. We follow Farag et al. (2018) and include a comprehensive set of controls (ϕP), such as BOD size (*LogBSIZE*), independence *(%INDEP*), CEO duality (*DUAL*), bank size (*LogTA*), bank age (*LogAge*), bank risk-taking (*LogZscore*), and profitability (*ROAA*) measured by the net income over average assets. We also control for the country effect by adding the GDP growth variable (*GDP GROWTH*) and control for bank types using the *ISLAMIC* dummy.

Table 7 shows that the *%BBOD* is negatively associated with *CASH/TA*, and *%BBOD*ISLAMIC* is positively related to *CASH/TA*. This indicates that having a busy BOD can reduce agency conflicts within banks; however, this is less likely to be observed in IBs. This can be attributable to the constrained business model of IBs, which requires extended monitoring to protect the minority rights of investment account holders/depositors who engage with the bank under the profit and loss sharing arrangements. Therefore, busy BODs are less likely to mitigate associated agency costs related to this business model.

[Insert Table 7 here]

5.5. Shari'ah supervisory board busyness within Islamic banks

In this section, we extend our base models in Equations (1) – (4) to further explore the association between busy SSB and Islamic bank performance and financial stability. We measure the busyness of Shari'ah supervisory boards (BSSB) by the percentage of busy Shari'ah advisors (%BSSB). This measure reflects the percentage of busy Shari'ah advisors on the board, estimated as the number of Shari'ah advisors serving on at least two outside organisations divided by the number of Shari'ah advisors on the board. In line with our third hypothesis ($\boldsymbol{H_{03}}$), a busy SSB has a significant and negative effect on financial performance and stability.

Table 8 (Panel A) reports the results for bank performance, and Panel B shows the results of the bank risk. In *Panel A*, we find that busy SSBs (*%BSSB*) significantly reduce financial performance, with a negative coefficient on *ROAE* and a positive coefficient on the *COST/INCOME* ratio. The results in *Panel B* report a considerably high bank risk, with significant and negative coefficients on *logZscore* (i.e., high insolvency risk), *LA/DSF* (i.e., high liquidity risk) and *ROA/SDROA* (i.e., high asset risk), as well as significant and positive coefficients on *NP/TA* ratio (i.e., high credit risk) and *SDROA* (i.e., high operational risk).

Overall findings support $\boldsymbol{H_{03}}$ and suggest that SSB busyness significantly damages IBs' financial performance and stability[20]. Busy SSBs may fail to ensure the mandatory compliance

of Islamic banks to the rulings of Shari'ah, which promotes a reputation risk and, hence, could trigger the failure of IBs and cause systematic risk. To examine whether there is a significant difference between the two-board busyness (BOD versus SSB), we compare the coefficients on *%BBOD* and *%BSSB*. The reported F-test (i.e., Wald test) indicates that the two coefficients are significantly different.

[Insert Table 8 here]

5.6. Tests for the classifications of the degree of Shari'ah Supervisory Board busyness

In this section, we additionally examine the influence of different classifications of SSB busyness (i.e., characterised as "*Non-busy*", "*Less-busy*", "*More-busy*" and "*Super-busy*") on IBs' performance and financial stability[21]. We create four dummy variables (super-busy SSB dummy, more-busy SSB dummy, less-busy SSB dummy and non-busy SSB dummy) and then test them in separate models.

Table 9 reports our results and shows that only "*Super-busy*" SSBs significantly reduce bank performance and increase bank risks across all models. "*More-busy*" SSBs are likely to be associated with low profitability and high risks. These results support our main findings and highlight the detrimental effect of employing busy SSBs on IBs' performance and financial stability. Meanwhile, "*Less-busy*" and "*Non-busy*" SSBs generally report significantly longer financial stability. Overall, findings indicate that as the degree of SSB busyness increases, this board might inversely jeopardise the IBs' performance and financial stability due to substantial lax screening.[22]

[Insert Table 9 here]

6. Additional tests and robustness check

6.1. Busyness of BOD and the probability of becoming problem BOD

We further assess whether board busyness adversely affects a board member's responsibilities, such as the responsibility of attending the board meetings. We examine the relationship between board busyness and the probability of becoming a problem board. A BOD is defined as a problem board if outside directors, on average, fail to attend at least 75% of the board meetings (Elyasiani and Zhang 2015), which will have implications on bank financial performance and stability. Our model is specified in Equation (7) as follows:

$$Problem\ BOD = \beta_0 + \beta_1 \text{Busy BOD Dummy} + \phi P + \varepsilon_{i,t} \quad (7)$$

where the dependent variable (i.e., *Problem BOD*) takes the value of 1 if the BOD is a problem board. The main independent variable (i.e., *Busy BOD Dummy*) is also an indicator variable that is set to 1 if at least 50% outside directors are busy and is otherwise 0 (Fich and Shivdasani 2006). If a busy BOD has a greater (lower) probability of becoming a problem board, the coefficient of the *Busy BOD Dummy* should be significantly positive (negative). Other control variables include the board size (*LogBSIZE*), the board independence (*%IND*), the average number of board meetings (*BODMET*), the qualifications of outside directors (*%INDQ*), the percentage of busy directors serving on audit committee (*%BAC*), bank size (*LogTA*), bank age (*LogAg*e), bank profitability as measured by return on average total assets (*ROAA*), and bank risk (*logZscore*). We also add GDP growth (*GDP_GROWTH*) to control for country-level characteristics. Our sample consists of both busy and non-busy BODs. We use probit and logit models with robust standard errors to test whether being a busy BOD is related to a higher probability of becoming a problem board. These two specifications employ different probability functions. Although neither probit nor logit is superior to the other, they provide a robustness check of the findings based on one another (Elyasiani and Zhang 2015).

Table 10 reports the probit and logit results for the probability of becoming a problem board of a busy BOD for CBs (Panel A) and IBs (Panel B) subsamples. We find that busy BODs are significantly and positively related to the probability of becoming problem boards (i.e., its failure to attend 75% of the meeting) in IBs, with no evidence for CBs. The results for CBs are in line with the findings of Elyasiani and Zhang (2015) and Adams and Ferreira (2012), who find insignificant evidence that the busyness of a director increases his/her probability of becoming a problem director. Our findings alleviate concerns that busy BODs tend to be exhausted and shirk their duties in providing advising and monitoring services for their CBs. In contrast, in IBs, busy BODs are more likely to become a problem board. These results can further justify our main findings for IB, in which board busyness is associated with lower performance and poor financial instability.

[Insert Table 10 here]

6.2. The effects of boards' compensation on their busyness

In the main result section, we conclude that the low financial performance of IBs can be attributed to the limited availability of Shari'ah scholars worldwide and their expensive appointments, which suggest lower cost efficiency and hence poor profitability positions. To examine this argument, we provide additional testing for the influence of the compensation of BOD (and SSB

in Islamic banks) on board busyness within the two bank types. We measure BOD compensation as the percentage of a board's total compensation (i.e., annual directors' fixed fees, such as salaries, meeting and committee fees, bonus, and in-kind benefits) to the bank's net income (e.g., Jensen and Murphy, 1990)[23]. Our model for BOD busyness is specified in Equation (8) as follows:

$$BBOD_{i,t} = \beta_0 + \beta_1 \mathrm{BODC/NI}_{i,t} + \phi P + \mu\text{Year effects} + \varepsilon_{i,t} \quad (8)$$

where *BODC/NI*$_{it}$ represents the ratio of BOD compensation to net income. Similarly, for the IB subsample, our model for SSB busyness is specified in Equation (9) as follows:

$$BSSB_{i,t} = \beta_0 + \beta_1 \mathrm{SSBC/NI}_{i,t} + \phi P + \mu\text{Year effects} + \varepsilon_{i,t} \quad (9)$$

where *SSBC/NI*$_{it}$ represents the ratio of SSB compensation to net income.

Table 11 reports results for OLS estimations with robust standard error for the effects of boards' compensation (BOD and SSB) on their busyness for the full sample (Panel A), CBs (Panel B) and IBs subsample (Panel C). Findings for the full sample and CBs report significant and negative coefficients on the ratio of BOD compensation to net income (*BODC/NI*). These results indicate that low compensation leads to more BOD busyness. Accordingly, low BOD compensation could be one determinant for outside directors to serve on many boards across several banks. This effect is more evidential in CBs than IBs, showing an insignificant association between *BODC/NI* and *%BBOD* (Panel C).

Moreover, in Panel C, we find a significant and positive relationship between the ratio of SSB compensation to net income (i.e., *SSBC/NI*) and SSB busyness (*%BSSB*). This implies that it is more expensive to recruit busy Shari'ah advisors relative to their non-busy counterparts. This may further support our main findings for poor inefficiency and the overall poor performance within Islamic banks.

[Insert Table 11 here]

6.3. Robustness check: Alternative Instrumental Variables

To check whether our results are sensitive to the chosen exogenous IVs, we employ an alternative IV. This IV represents the year-average of the board busyness variable of other banks in the same country for our sample. This approach of instrumenting has been previously tested and used by prior studies (e.g., John et al. 2008; Laeven and Levine 2009; Aggarwal et al. 2010; Anginer et

al. 2014; Safiullah and Shamsuddin 2018). An application of this instrument suggests that a change in the performance and/or risk of one bank is less likely to influence the board busyness of other banks. Hence, it is expected to be correlated with the potential endogenous variable (board busyness) and at the same time be less likely to correlate with unobserved factors that affect dependent variables (i.e., performance and financial stability of individual banks)[24].

The results in Table 12 (Panels I and II) for both performance (Panel A) and financial stability (Panel B) are consistent with the main findings in Tables 4 and 8. Specifically, IBs with busy BODs are more likely to exhibit lower performance and higher risks than CBs. Moreover, busy SSBs have detrimental effects on IB performance and financial stability[25].

[Insert Table 12 here]

7. Conclusion

Motivated by the long on-going controversy regarding multiple directorships, this study investigates whether board busyness affects firm performance and financial stability. The analysis is novel in two respects. It is the first study to identify the impact of institutional bank characteristics on board busyness. This institutional context is particularly interesting under, both, the ongoing debate of the influence of bank type on performance/risk-taking and the growing arguments around the Islamic banking model. Moreover, our study is among the first attempts to recognise that different degrees of board busyness might correspond to distinctive performance and risk profiles across the two banking sectors. In addition to examining busy boards of directors controlling for bank type, we take a step ahead to analyse if busy Shari'ah supervisory boards can affect Islamic banking performance and stability.

Consistent with our expectations, findings indicate that a busy board of directors generally promotes high financial performance and lower risk. However, the differential effects of board busyness do exist and are conditional on the bank type. For the full sample, we find strong evidence for the beneficial effect of the busy board on bank performance and financial stability. However, such preferential impacts are less pronounced in Islamic banks. We also find that as the degree of the board of directors' busyness increases, Islamic banks' performance and financial stability deteriorates. However, the opposite finding applies to conventional banking. Furthermore, investigations of the underlying mechanisms related to factors influencing board busyness in banks reveal interesting findings. First, we find that the superior financial expertise

of outside directors plays an important role in generating positive effects of their busyness on bank performance and financial stability; however, this role is less significant in Islamic banks. Second, we find that having busy boards of directors can reduce agency costs within banks. Nevertheless, in Islamic banks, board busyness exacerbates agency conflicts and, hence, shows an adverse impact on bank performance and risk. Finally, our results show that busy Shari'ah boards are detrimental to performance and financial stability within Islamic banking.

The findings in this study imply that although the multi-layer governance model of Islamic banking creates a certain level of comfort, convenience, and trust for stakeholders, these objectives may be lost with the limited availability of outside board members. This new insight contributes to an ongoing debate about the need to reconsider double mechanisms of governance in mitigating risky activities in global banking business models. Islamic banks might learn from their conventional counterparts about how to utilise the reputational, expertise and preferential resources that can accrue from employing a busy board of directors. Moreover, the study sheds light on the scarcity of Shari'ah scholars experienced in the considerations of Shari'ah-compliant banking. Furthermore, the findings raise a call to regulators and policymakers for the need to develop stricter criteria and guidelines to govern multiple directorships by the SSB. Finally, the comparative research of banking business models between Islamic and conventional sectors can investigate the busyness issue under the considerations of financial expertise, professional training and continuing education of the different boards.

Notes

1. We refer to Islamic banking as those banks that follow Islamic Shari'ah principles in their business transactions. These banks operate on a banking model that prohibits usury, excessive uncertainty and speculation while encouraging risk and profit sharing between the bank and its depositors. Conventional banks refer to traditional commercial banks that operate on the interest basis (Hoepner et al. 2011; Alnasser and Muhammed 2012).
2. The annual growth of Islamic banking is approximately 20% in 2012 (Malkawi 2013). Until 2015, their total assets reached $1.38 trillion, which is projected to further increase to $6.5 trillion by 2020 (IFSB 2017). Between 1998 and 2005, Islamic banks showed tremendous growth in their assets by 111%, while conventional banks only grew by 6% (Khan 2010).
3. The AAOIFI standard defines Shari'ah advisors as "*specialised jurists, particularly in Islamic law and finance, entrusted with the duty of directing, reviewing and supervising the activities related to Islamic finance to ensure they comply with Shari'ah rules and principles*" (Lahsansa 2010; p.217). The SSB has both consultative and supervisory functions to support the board of directors.
4. With the absence of representation on the board of directors for depositors, Islamic bank managers have full control of the investment process of depositors' funds, which suggests high agency problems. While depositors receive a fixed rate of return (interest) on investments in the conventional banking system, Islamic banks use the profit-sharing contract to invest funds on behalf of depositors who earn their returns by sharing in the profits generated from their funds and bear their share in any investment losses incurred (Aysan et al. 2017).
5. Unique risks include a rate of return risk, Shari'ah non-compliance risk, displaced commercial risk and equity investment risk (Abedifar et al. 2013).
6. Social norms refer to the external rules and values shared by a group of individuals. Individuals are expected to comply with the understandings and reactions of their peer groups to avoid sanctions associated with non-adherence to the common values and beliefs. Accepted attitudes are likely to be widely supported and socially approved by the community.

7. Reputational risk is defined as the probability that activities of Islamic banks are not compliant with the rules of *Shari'ah.*
8. For the treatment of the outliers, we winsorise each variable in our test model at the 1st and 99th percentiles.
9. Conventional banks with Islamic windows refer to banks with an independent department providing Islamic products with an SSB. Consistent with Johnes et al. (2014) and Elnahass et al. (2018), the reason for excluding these banks is that *supervisory issues* and *accountancy requirements* are expected to be different from those of full-ledged Islamic banks (Islamic Financial Service Board 2005).
10. We calculate the standard deviation of return on assets over the entire sample period. In robustness checks, a 3-year and 5-year rolling average of standard deviation are employed (Beck et al. 2013; Safiullah and Shamduddin 2018). However, our results are not sensitive to this change.
11. Because of the scarcity of data for the directorships in other financial firms, we can only examine the number of directorships in all for-profit private and public firms.
12. For example, the annual report in 2014, Albarala Banking Group in Bahrain, indicates the profile of Mr Abdulla Saleh Kamel (Vice Chairman of the board of directors) that is "…*Mr. Abdulla Kamel has also been and remains very active in public and charitable activities through his membership of many international and local organisations and associations, such as Jeddah Chamber of Commerce (twice as Board Member), Young Presidents' Organization, Friends of Saudi Arabia, The Centennial Fund and the Board of Trustees of the Prince of Wales Business Leaders Forum*." (Page 11).
13. We performed the Wu-Hausman endogeneity test across all our test models to examine whether endogeneity exists. The test statistics suggest the presence of endogeneity bias.
14. Middle- and high-income nations are classified by the World Bank (2015). As of 1 July 2015, countries are defined as low-income if their Gross National Income (GNI) per capita is equal to or less than $1,045 or less in 2014; as middle-income countries if GNI per capita is between $1,045 -$12,736; and as high-income countries if GNI per capita is $12,736 or more.
15. In line with Elyasiani and Jia (2008), an appropriate IV must be correlated with that endogenous variable (predicting reasonably the endogenous variable) and uncorrelated with the error term. We performed two diagnostic tests to identify the validity of both the IVs and the specification of our system equations, the Sargan test and the Breusch and Pagan LM test. Both IVs theoretically and statistically satisfy the necessary conditions for validity and relevance, and hence, 3SLS results tend to be consistent and more efficient than OLS.
16. Diagnostic tests for multicollinearity, including VIF and Pearson pair-wise matrix, indicate that correlations among all variables are within acceptable limits and raise no concerns on multicollinearity. This is supported by the low correlation coefficients of the Pearson pair-wise correlation matrix for the independent variables (p-values <0.8), low individual VIF values (<10), low means of VIFs (<6) and low condition numbers (<15).
17. In unreported sensitivities, we captured cross-country variations in governance perceptions for our sample. We followed Čihák and Hesse (2010) to develop a country governance index (COUNTRY_GOV) as an additional control variable. This variable is estimated as the average of six key country-governance measures: corruption, government effectiveness, political stability, and regulatory quality, the rule of law, and voice and accountability. We obtained consistent results to the main findings across all estimated models.
18. At lower degrees of board directorship, board busyness is expected to increase more than proportionally as the board seats increase. This effect is associated with the learning curve effects, and once this learning curve is mature, board busyness may increase only proportionally or even less with board seats. However, at higher degrees of board directorship, the reputation effect may grow more than proportionately with an increase in board seats (Jiraporn et al. 2009).
19. The cut-off for quantile 75 in IBs (CBs) is *4.5* (3.33) directorships; the cut-off for quantile 50 in IBs (CBs) is *2.75* (2) directorships, and the cut-off for quantile 25 in IBs (CBs) is *1* (0.5) directorships.
20. As a sensitivity, we used an alternative measure of board busyness, which is the ratio of (1) *outside directorships per outside director* (*ABOD*) and (2) *outside directorships per Shari'ah advisors* (*ASSB*). These ratios represent the average number of external (outside) board seats held by each outside director/Shari'ah advisor. They are computed as the total number of external boards occupied by outside directors divided by the number of outside directors on the board (*ABOD*) and the total number of external directorships divided by the total number of Shari'ah advisors on board (*ASSB*) (Ferris et al. 2003). We conducted the same set of estimation procedures as in Tables 4 through 8, and our results remain consistent with the main findings. Tables are available upon request.
21. We classified the degrees of busyness for SSBs using quantiles based on the average number of directorships held by each SSB. SSBs in the top quantile 4 are categorised as "Super-busy"; SSBs in quantiles 3 and 2 are categorised as "More-busy" and "Less-busy", respectively; and SSBs in the bottom quantile 1 are categorised as "Non-busy" SSBs. The cut-off for quantile 75 is 19.083 directorships; the cut-off for quantile 50 is 11 directorships; and the cut-off for quantile 25 is 4 directorships.
22. In unreported tests, we further investigate the effect of having busy SSBs who are characterised with superior expertise. Due to the unique role of this board, SSB expertise (*%SSBEXP*) is defined as the percentage of Shari'ah scholars who satisfy at least one of the following criteria: (i) having background of Islamic rulings/law;

and/or (ii) having held or currently hold positions within at least one of the international Shari'ah standard-setting institutions (e.g., the Accounting and Auditing Organization for Islamic Financial Institutions AAOIFI and the Islamic Financial Services Board IFSB) (Safiullah and Shamsuddin 2018); and/or (iii) having held SSB positions prior to being appointed as Shari'ah member of the current IBs. Our results suggest that having SSBs who are busy but hold superior financial expertise can promote high profitability and efficiency as well as better mitigate different types of risks for IBs. This implies that experienced SSBs who serve on multiple boards offer effective monitoring and advisory services to their banks.

23. Data for bank compensation are limited for private banks. We investigate this effect for listed banks only.
24. We performed diagnostic tests (i.e., Sargan test and the Breusch and Pagan LM test) for this instrument, which show that this IV statistically satisfies the necessary conditions for validity and relevance.
25. In unreported tests, we further examine the robustness of our results using a two-step system Generalized Method of Moments (GMM) estimator (Arellano and Bover 1995; Blundell and Bond 1998). The GMM estimation procedure controls for the unobserved effects by transforming the variables into first-differences to eliminate unobserved heterogeneity and omitted variable bias. It also allows us to treat all bank characteristic variables as endogenous and orthogonally employs the lag values of endogenous variables as internal IVs (Mollah and Zaman 2015; Mollah et al. 2017). Country and macroeconomic control variables are treated as strictly exogenous. Our main findings remain after controlling for unobserved heterogeneity, simultaneity and dynamic endogeneity.

References

Abdelsalam, O., P. Dimitropoulos, M. Elnahass, and S. Leventis. 2016. "Earnings management behaviours under different monitoring mechanisms: The case of Islamic and conventional banks." *Journal of Economic Behavior and Organization* 132: 155-173.

Abedifar, P., P. Molyneux, A. Tarazi. 2013. "Risk in Islamic banking." *Review of Finance* 17 (6): 2035-2096.

Adams, R. B., and D. Ferreira. 2007. "A theory of friendly boards." *The Journal of Finance* 62 (1): 217-250.

Adams, R. B., and D. Ferreira. 2012. "Regulatory pressure and bank directors' incentives to attend board meetings." *International Review of Finance* 12 (2): 227-248.

Adams, R., and H. Mehran. 2003. "Is Corporate Governance Different for Bank Holding Companies?" *Economic Policy Review* 9: 123–142.

Alnasser, S. A. S., J. Muhammed. 2012. "Introduction to corporate governance from Islamic perspective." *Humanomics* 28 (3): 220-231.

Alsaadi, A., M. S. Ebrahim, and A. Jaafar. 2017. "Corporate Social Responsibility, Shariah-Compliance, and Earnings Quality." *Journal of Financial Services Research* 51 (2): 169-194.

Altunbas, Y., M. H. Liu, P. Molyneux, and R. Seth. 2000. "Efficiency and risk in Japanese banking." *Journal of Banking & Finance* 24 (10): 1605-1628.

Anginer, D., A. Demirguc-Kunt, and M. Zhu. 2014. "How does competition affect bank systemic risk?." *Journal of Financial Intermediation* 23 (1): 1-26.

Arellano, M., and O. Bover. 1995. "Another look at the instrumental variable estimation of error-components models." *Journal of econometrics* 68 (1): 29-51.

Arnaboldi, F., B. Casu, E. Kalotychou, and A. Sarkisyan. 2018. "The performance effects of board heterogeneity: what works for EU banks?" *The European Journal of Finance* 1-28.

Ashraf, D., and M. S. Rizwan. 2016. "A net stable funding ratio for Islamic banks and its impact on financial stability: An international investigation." *Journal of Financial Stability* 25: 47-57.

Aysan, A. F., M. Disli, M. Duygun, and H. Ozturk. 2017. "Islamic banks, deposit insurance reform, and market discipline: evidence from a natural framework." *Journal of Financial Services Research* 51 (2): 257-282.

Barth, J. R., C. Lin, Y. Ma, J. Seade, and F. M. Song. 2013. "Do bank regulation, supervision and monitoring enhance or impede bank efficiency?" *Journal of Banking & Finance* 37 (8): 2879-2892.

Beck, T., A. Demirgüç-Kunt, and O. Merrouche. 2013. "Islamic vs. conventional banking: Business model, efficiency and stability." *Journal of Banking & Finance* 37 (2): 433-447.

Berger, A. N., T. Kick, and K. Schaeck, 2014. "Executive board composition and bank risk taking." *Journal of Corporate Finance* 28: 48-65.

Bitar, M., M. K. Hassan, and T. Walker. 2017. "Political systems and the financial soundness of Islamic banks." *Journal of Financial Stability* 31: 18-44.

Black, B. S., H. Jang, and W. Kim. 2006. "Does corporate governance predict firms' market values? Evidence from Korea." *The Journal of Law, Economics, and Organization 22* (2): 366-413.

Blundell, R., and S. Bond, S. 1998. "Initial conditions and moment restrictions in dynamic panel data models." *Journal of econometrics* 87 (1): 115-143.

Bo, H., T. Li, and Y. Sun. 2016. "Board attributes and herding in corporate investment: evidence from Chinese-listed firms." *The European Journal of Finance* 22 (4-6): 432-462.

Brennan, N. M., C. E. Kirwan, and J. Redmond, 2016. "Accountability processes in boardrooms: A conceptual model of manager-non-executive director information asymmetry." *Accounting, Auditing and Accountability Journal* 29 (1): 135-164.

Brick, I. E., O. Palmon, and J. K., Wald. 2006. "CEO compensation, director compensation, and firm performance: Evidence of cronyism?" *Journal of Corporate Finance* 12 (3): 403-423.
Brown, K., R. Jha, and P. Pacharn. 2015. "Ex ante CEO severance pay and risk-taking in the financial services sector." *Journal of Banking & Finance* 59: 111-126.
Cashman, G. D., S. L., Gillan, and C. Jun. 2012. "Going overboard? On busy directors and firm value." *Journal of Banking & Finance* 36 (12): 3248-3259.
Chakravarty, S., L. G., Rutherford. 2017. "Do busy directors influence the cost of debt? An examination through the lens of takeover vulnerability." *Journal of Corporate Finance* 43: 429-443.
Chan, K. K., and A. Milne. 2014. "Bank competition, fire-sales and financial stability." *The European Journal of Finance* 20 (10): 874-891.
Chen, C. W. 2008. "Two Essays on Multiple Directorships. University of South Florida: Graduate Theses and Dissertations." http://scholarcommons.usf.edu/etd/171. [Accessed 15 Mar. 2017]
Chronopoulos, D. K., H. Liu, F. J. McMillan, and J. O. Wilson. 2015. "The dynamics of US bank profitability." *The European Journal of Finance* 21 (5): 426-443.
Čihák, M., and H. Hesse. 2010. "Islamic banks and financial stability: An empirical analysis." Journal of Financial Services Research 38 (2-3): 95-113.
Core, J. E., R.W. Holthausen, and D. F. Larcker. 1999. "Corporate governance, chief executive officer compensation, and firm performance." *Journal of financial economics* 51 (3): 371-406.
Elnahass, M., Izzeldin, M., and G. R. Steele. 2018. "Capital and earnings management: Evidence from alternative banking business models." *The International Journal of Accounting* 53(1), 20-32.
Elyasiani, E., and J. J. Jia. 2008. "Institutional ownership stability and BHC performance." *Journal of Banking & Finance* 32 (9): 1767–1781.
Elyasiani, E., and L. Zhang. 2015. "Bank holding company performance, risk, and "busy" board of directors." *Journal of Banking & Finance* 60: 239-251.
Falato, A., D. Kadyrzhanova, and U. Lel. 2014. "Distracted directors: Does board busyness hurt shareholder value?." *Journal of Financial Economics* 113 (3): 404-426.
Faleye, O., and K. Krishnan. 2017. "Risky Lending: Does bank corporate governance matter?" *Journal of Banking & Finance* 83: 57-69.
Fama, E. F., and M. C. Jensen. 1983. "Separation of ownership and control." *The Journal of Law and Economics* 26 (2): 301-325.
Farag, H., C. Mallin, and K. Ow-Yong. 2018. "Corporate governance in Islamic banks: New insights for dual board structure and agency relationships." *Journal of International Financial Markets, Institutions and Money* 54: 59-77.
Ferris, S. P., M. Jagannathan, A. C. Pritchard. 2003. "Too busy to mind the business? Monitoring by directors with multiple board appointments." *Journal of Finance* 58 (3): 1087-1111.
Fich, E. M., and A. Shivdasani. 2006. "Are busy boards effective monitors?" *Journal of Finance* 61 (2): 689-724.
Field, L., M. Lowry, and A. Mkrtchyan. 2013. Are busy boards detrimental? *Journal of Financial Economics* 109 (1): 63-82.
Güner, A. B., U. Malmendier, and G. Tate. 2008. "Financial expertise of directors." *Journal of Financial Economics* 88 (2): 323-354.
Harris, I. C., and K. Shimizu. 2004. "Too Busy to Serve? An examination of influence of over-boarded directors." *Journal of Management Studies* 41 (5): 775-798.
Hauser, R. 2018. "Busy directors and firm performance: Evidence from mergers." *Journal of Financial Economics* 128 (1); 16-37.

Hoepner, A. G., H. G. Rammal, and M. Rezec. 2011. "Islamic mutual funds' financial performance and international investment style: evidence from 20 countries." *The European Journal of Finance* 17 (9-10): 829-850.
Islamic Financial Services Board. 2005. "Capital adequacy standard for institutions (other than insurance institutions) offering only Islamic financial services." Available at: http://www.ifsb.org. [Accessed 15 Mar. 2017]
Islamic Financial Services Board. 2017. "Islamic financial services industry stability report 2017." Available at: http://www.ifsb.org. [Accessed 03 August. 2018]
Jensen, M.C., and Murphy, K.J. 1990. "Performance pay and top-management incentives." *Journal of political economy 98*: 225-264.
Jiraporn, P., M. Singh, and C. I., Lee. 2009. "Ineffective corporate governance: director busyness and board committee memberships." *Journal of Banking & Finance* 33 (5): 819-828.
John, K., L. Litov, and B. Yeung. 2008. "Corporate governance and risk-taking." *The Journal of Finance* 63 (4): 1679-1728.
Johnes, J., M. Izzedin, and V. Pappas. 2014. "A comparison of performance of Islamic and conventional banks 2004–2009." *Journal of Economic Behavior and Organization* 103: S93–S107.
Johnson, J., C. Daily, and A. Ellstrand. 1996. "Boards of directors: A review and research agenda." *Journal of Management* 22 (3): 409-438.
Khan, F. 2010. "How 'Islamic' is Islamic banking?" *Journal of Economic Behavior and Organization* 76 (3): 805-820.
Körner, T. 2017. "Board Accountability and Risk Taking in Banking: Evidence from a Quasi-Experiment". *Journal of Financial Services Research* 52 (3): 155-190.
Kress, J. C. 2018. "Board to Death: How Busy Directors Could Cause the Next Financial Crisis". *Boston College Law Review* 59: 877.
Kutubi, S. S., K. Ahmed, and H. Khan. 2018. "Bank performance and risk-taking - Does directors' busyness matter?." *Pacific-Basin Finance Journal* 50: 184-199.
Laeven, L., and R. Levine. 2009. "Bank governance, regulation and risk taking." *Journal of financial economics* 93 (2): 259-275.
Lahsansa, A. 2010. "Introduction to fatwa, Shariah supervision and governance in Islamic finance." Kuala Lumpur, CERT Publications.
Lei, A. C. H., and J. Deng. 2014. "Do multiple directorships increase firm value? Evidence from independent directors in Hong Kong." *Journal of International Financial Management and Accounting* 25 (2): 121-181.
Liu, B., J., Shilling, and T. F. Sing. 2018. "Large Banks and Efficient Banks: How Do They Influence Credit Supply and Default Risk?" *Journal of Financial Services Research*, forthcoming.
Malkawi, B. H. 2013. "Shari'ah Board in the Governance Structure of Islamic Financial Institutions." *The American Journal of Comparative Law* 61 (3): 539-578. Oxford University Press.
Minton, B. A., J. P. Taillard, and R. Williamson. 2014. "Financial expertise of the board, risk taking, and performance: Evidence from bank holding companies." *Journal of Financial and Quantitative Analysis* 49 (2): 351-380.
Mollah, S., and M. Zaman. 2015. "Shari'ah supervision, corporate governance and performance: Conventional vs. Islamic banks." *Journal of Banking & Finance* 58: 418-435.
Mollah, S., M. K., Hassan, O. Al Farooque, and A. Mobarek. 2017. "The governance, risk-taking, and performance of Islamic banks." *Journal of Financial Services Research* 51 (2): 195-219.
Nguyen, D. D., J. Hagendorff, and A. Eshraghi. 2015. "Which executive characteristics create value in banking? Evidence from appointment announcements." *Corporate Governance: An International Review* 23(2): 112-128.

Olson, D., and T. A. Zoubi. 2008. “Using accounting ratios to distinguish between Islamic and conventional banks in the GCC region”. *The International Journal of Accounting* 43 (1):45-65.
Pappas, V., S. Ongena, M. Izzeldin, and A. M. Fuertes. 2017. “A survival analysis of Islamic and conventional banks.” *Journal of Financial Services Research* 51 (2): 221-256.
Pathan, S., and M. Skully, 2010. “Endogenously structured boards of directors in banks.” *Journal of Banking & Finance* 34 (7): 1590-1606.
Pathan, S., and R. Faff. 2013. “Does board structure in banks really affect their performance?” *Journal of Banking & Finance* 37 (5): 1573-1589.
Rumler, F., and W. Waschiczek. 2016. “Have changes in the Financial structure Affected bank profitability? Evidence for Austria.” *The European Journal of Finance* 22 (10): 803-824.
Safieddine, A. 2009. “Islamic financial institutions and corporate governance: New insights for agency theory.” *Corporate Governance: An International Review* 17 (2): 142-158.
Safiullah, M., and A. Shamsuddin. 2018. “Risk-adjusted efficiency and corporate governance: Evidence from Islamic and conventional banks.” *Journal of Corporate Finance.*
Saghi-Zedek, N., and A. Tarazi. 2015. “Excess control rights, financial crisis and bank profitability and risk.” *Journal of Banking & Finance* 55: 361-379.
Sun, J., and G. Liu. 2014. “Audit committees’ oversight of bank risk-taking.” *Journal of Banking & Finance* 40: 376-387.
Sun, L., and T. P. Chang. 2011. “A comprehensive analysis of the effects of risk measures on bank efficiency: Evidence from emerging Asian countries.” *Journal of Banking & Finance* 35 (7): 1727-1735.
Unal, M., and C. Ley. 2011. “Shari’ah Scholars in the GCC – A network Analytic Perspective. The Investment Industry’s Strategy Consultant.” Available at: https://www.scribd.com. [Accessed 15 Mar. 2017]
Wilson, R. 2010. “Why Islamic Banking is successful? Islamic banks are unscathed despite of Financial Crisis.” www.islamonline.net.
Wintoki, M. B., J. S. Linck, and J. M. Netter. 2012. “Endogeneity and the dynamics of internal corporate governance.” *Journal of Financial Economics* 105 (3): 581-606.
World Bank. 2015. World Bank country and lending groups. Available at: https://datahelpdesk.worldbank.org. [Accessed 15 Jul. 2016]
World Bank. 2016. Labor market polarization in developing countries: challenges ahead. Available at: http://blogs.worldbank.org. [Accessed 01 Aug. 2017]
Zahra, S., and J. A. Pearce. 1989. “Boards of directors and corporate financial performance: A review and integrative model.” *Journal of Management* 15 (2): 291-344.

Table 1. Sample Distributions

Country	Observations (Islamic Banks)	Observations (Conventional Banks)	Observations (Full Sample)	% (Islamic Banks)	% (Conventional Banks)	% (Full Sample)
Bahrain	88	45	133	21.84	9.43	15.11
Bangladesh	12	58	70	2.98	12.16	7.95
Egypt	6	15	21	1.49	3.14	2.39
Indonesia	42	111	153	10.42	23.27	17.39
Jordan	18	41	59	4.47	8.60	6.70
Kuwait	18	18	36	4.47	3.77	4.09
Malaysia	57	24	81	14.14	5.03	9.20
Pakistan	42	11	53	10.42	2.31	6.02
Qatar	24	24	48	5.96	5.03	5.45
Saudi Arabia	24	6	30	5.96	1.26	3.41
Lebanon	6	36	42	1.49	7.55	4.77
Turkey	6	78	84	1.49	16.35	9.55
UAE	48	6	54	11.91	1.26	6.14
Oman	12	4	16	2.98	0.84	1.82
Bank-year observations	**403**	**477**	**880**	**100**	**100**	**100**
Number of banks	**70**	**84**	**154**	-	-	-

Note: Our initial sample includes 3038 banks; 196 Islamic banks and 2842 conventional banks in 36 countries. After filtering the sample following similar criteria applied in other banking studies (see Beck et al., 2013; Field et al., 2013; Mollah et al., 2017), the final sample comprises of 154 banks (880 observations) with 70 Islamic commercial banks (403 observations) and 84 conventional commercial banks (477 observations) in 14 countries for the period from 2010 to 2015.

Table 2. Variable definitions

Variables	Abbreviations	Definitions
Return on Average Equity	ROAE	Net income divided by average total equity
Cost to Income	COST/INCOME	Cost to Income ratio
Insolvency Risk	LogZscore	The Z-score is the distance to default which calculated as a sum of the return on assets (ROA) plus Capital Assets Ratio (CAR) scaled by the standard deviation of ROA. We proxy for insolvency risk by using the natural logarithm of Z-score. The higher the log of Z-score, the lower the insolvency risk.
Credit Risk	NP/TA	Non-performing loans divided by total assets. The higher the ratio, the higher the credit risk.
Liquidity Risk	LA/DSF	Liquidity assets divided by deposits and short-term funding. The higher the ratio, the lower the liquidity risk.
Asset Risk	ROA/SDROA	ROA divided by the standard deviation of ROA. The higher the ratio, the lower asset risk.
Operational Risk	SDROA	Three-year rolling standard deviation of ROA. The higher value implies higher operational risk.
% Busy Outside Directors	%BBOD	Percentage of busy independent directors on the board (%), calculated as number of independent directors serving on two or more additional (outside) firms divided by number of independent directors on the board.
% Busy Shari'ah Advisors	%BSSB	Percentage of busy Shari'ah advisors on the board, calculated as number of Shari'ah advisors serving on two or more outside firms divided by the number of Shari'ah advisors on the board.
Shari'ah Supervisory Board Size	SSBSIZE	The total numbers of Shari'ah advisors on the board.
Shari'ah Supervisory Board Qualifications	%SSBQ	Percentage of Shari'ah advisors with doctoral degrees of the total SSB members.
Outside Directors' Qualifications	%INDQ	Percentage of independent directors with doctoral degrees of the total outside directors.
Outside Directors' Expertise	%INDEXP	The number of independent directors who have held or currently hold executive positions within financial institutions, as the percentage of the total outside directors.
Shari'ah Scholars' Expertise	%SSBEXP	Percentage of Shari'ah scholars who satisfies at least one of the following criteria: (i) having background of Islamic rulings/law; and/or (ii) have held or currently hold positions within at least one of the international Shari'ah standard-setting institutions (e.g. the Accounting and Auditing Organization for Islamic Financial Institutions AAOIFI and the Islamic Financial Services Board IFSB) (Safiullah and Shamsuddin 2018); and/or (iii) have hold SSB positions prior to be appointed as Shari'ah member of the current IBs.
Board of Directors Size	LogBSIZE	Natural logarithm of the total number of board of directors' members.
Board Independence	%INDEP	Percentage of independent non-executive directors on the board of directors.

Board Meetings	BODMET	The number of board of directors' meetings
CEO Duality	DUAL	Dummy variable, 1 if CEO is also the Chairman of board of directors; otherwise 0.
Audit Committee Size	LogACSIZE	Natural logarithm of the number of audit committee members.
% Busy Audit Committee Members	%BAC	Percentage of busy directors on the audit committee (%), calculated as number of audit committee members serving on two or more outside firms divided by audit committee size.
Bank Size	LogTA	Natural logarithm of total assets of a bank at the end of the year.
Bank Age	LogAge	Natural logarithm of the difference between the sample year and the year of a bank's first appearance.
Herfindahl-Hirschman Index	HHI	The Herfindahl-Hirschman Index as a measure of bank concentration. Higher HHI shows higher bank concentration. It is calculated by the square of the sum of the ratio of total assets of each bank-year to total assets of all banks each year. It has a value between zero and one.
Bank Leverage	LEV	Bank leverage, measured by total liability divided by Equity
Big 4 Audited	BIG4	Dummy variable: 1 if the bank is audited by Big4 company, 0 otherwise.
Listed Bank	LISTED	Dummy variable: 1 if the bank is listed in a stock market, 0 otherwise.
Islamic Bank	ISLAMIC	Dummy variable: 1 if the bank is Islamic, 0 otherwise.
Bank Risk-Taking	1/z	Bank risk-taking behaviour calculated by the inverse of LogZscore.
The Number of Public Firms	No of Public firms	The number of public firms headquartered in the same country.
High income countries	HIGHINC	Dummy variable, 1 if a bank is based in a country classified as high-income nation.
The Year-average of BOD Busyness of other Banks	YABBOD	The IV which is measured by the year-average of board of director busyness of other banks in the country.
The Year-average of SSB Busyness of other Banks	YABSSB	The IV which is measured by the year-average of SSB busyness of other banks in the country.
GDP Growth rate	GDP_GROWTH	Annual Gross Domestic Products (GDP) growth rate.
Control of corruption	CORRUPTION	Measuring the national quality of governance performance. It reflects the perceptions of petty and grand forms of corruption and capture of the state by elites and private interests. Its value range between -2.5 (weak) to +2.5 (strong) governance performance.
Return on Average Assets	ROAA	Net income divided by average total assets.
Busy BOD Dummy	Busy BOD Dummy	Dummy variable: 1 if 50% or more outside directors are busy, 0 otherwise.
Problem BOD Dummy	Problem BOD Dummy	Dummy variable: 1 if outside directors, on average, fails to attend 75% board meetings, 0 otherwise.

Note: This table presents definitions and measurements of all variables employed in models tested.

Table 3. Descriptive Statistics for variables in the main tests

	FULL SAMPLE						Islamic Banks	Conventional Banks	Two-Sample *t*-
Variables/ Ratios	N	Mean	Median	Std.	Min	Max	Sample Mean	Sample Mean	Test (two-tailed)
ROAE	880	0.098	0.112	0.123	-1.272	0.476	0.067	0.124	7.034***
COST/INCOME	880	0.637	0.502	0.803	0.005	12.442	0.787	0.51	-4.958***
LogZscore	878	3.509	3.549	1.009	-1.714	5.941	3.302	3.683	5.619***
NP/TA	679	0.030	0.021	0.040	0	0.450	0.040	0.025	-3.859***
LA/DSF	811	0.341	0.228	0.591	0.012	7.984	0.468	0.241	-4.936***
ROA/SDROA	880	5.006	3.323	6.265	-2.993	37.170	0.038	0.060	5.268***
SDROA	880	0.013	0.004	0.038	0.000	0.322	0.018	0.008	-3.829***
CASH/TA	837	0.092	0.077	0.089	0.000	0.829	0.098	0.087	
%BBOD	778	51.87	50	0.388	0	100	57.87	47	-3.946***
%BSSB	391	81.69	100	0.278	0	100	81.69		
SSBSIZE	403	3.799	3	1.394	1	10	3.799		
%SSBQ	403	0.738	0.8	0.281	0	1	0.738		
%SSBEXP	379	0.774	1	0.279	0	1	0.774		
BSIZE	868	8.578	9	3.055	2	23	8.445	8.688	2.292**
%INDEP	832	0.397	0.4	0.243	0	1	0.423	0.382	-1.857*
DUAL	880	0.025	0	0.156	0	1	0.010	0.038	2.771***
%INDQ	841	0.156	0	0.245	0	1	0.113	0.189	4.675***
%INDEXP	819	0.349	0.333	0.341	0	1	0.420	0.287	-5.714***
ACSIZE	810	3.523	3	1.054	2	8	3.592	3.464	-1.737*
%BAC	810	0.495	0.5	0.346	0	1	0.541	0.456	-3.500***
LogTA	880	15.55	15.419	1.927	10.37	22.451	14.838	15.544	-0.106
LogAge	880	3.106	3.367	0.961	0	5.220	2.655	3.488	13.756***
BIG4	880	0.844	1	0.363	0	1	0.881	0.822	-2.029**
HHI	880	0.127	0.105	0.088	0.051	0.672	0.139	0.116	
LISTED	880	0.611	1	0.488	0	1	0.514	0.694	5.517***
LEV	880	7.952	7.731	4.025	0.005	27.465	7.642	8.214	2.057**
ISLAMIC	880	0.458	0	0.499	0	1			
GDP_GROWTH	880	4.69	4.71	0.026	-2.37	19.59			
CORRUPTION	880	-0.079	0.055	0.666	-1.071	1.569			

Note: The table presents descriptive statistics of all variables used in the regression models of the study for the full sample and each banking sector. The sample period is between 2010 and 2015. The Std. is the standard deviation. Min and Max are the minimum and maximum values of each variable, respectively. The N is the number of the bank-year observations. We also report on the paired sample mean test (T-test). The ***, **, * represents p-values of 0.01, 0.05, and 0.10. See *Table 2* for variable definitions.

Table 4. Tests for the Effect(s) of Board Busyness on bank financial performance and stability- Full Sample

	Panel A: Financial Performance		Panel B: Financial Stability				
VARIABLES	Profitability (ROAE)	Cost to income (COST/INCOME)	Insolvency risk (LogZscore)	Credit risk (NP/TA)	Liquidity risk (LA/DSF)	Asset risk (ROA/SDROA)	Operational risk (SDROA)
%BBOD	0.111***(0.001)	-0.720***(0.002)	0.888***0.003)	-0.080***(0.000)	0.626***(0.002)	0.075***(0.000)	-0.046***(0.000)
ISLAMIC	-0.032**(0.045)	0.229**(0.029)	-0.308**(0.036)	0.016**(0.043)	0.256**(0.021)	-0.021**(0.038)	-0.038***(0.000)
%BBOD*ISLAMIC	-0.060**(0.046)	0.414**(0.046)	-0.620**(0.027)	0.030**(0.033)	-0.423**(0.028)	-0.039**(0.040)	0.065***(0.000)
LogBSIZE	-0.039***(0.000)	0.132**(0.014)	-0.212***(0.007)	0.029***(0.000)	0.083*(0.087)	-0.014**(0.011)	0.001(0.928)
%INDEP	-0.049***(0.003)	0.002(0.975)	0.008(0.959)	0.037***(0.000)	0.087(0.255)	-0.008(0.419)	-0.017***(0.005)
DUAL	0.025(0.206)	-0.024(0.801)	0.170(0.388)	-0.007(0.438)	0.007(0.934)	0.014(0.286)	-0.011(0.133)
%INDQ	0.022*(0.098)	-0.098(0.321)	-0.380**(0.019)	0.033***(0.000)	-0.275***(0.007)	-0.051***(0.000)	0.009(0.137)
LogACSIZE	0.047***(0.000)	-0.207*(0.054)	0.472***(0.000)	0.006(0.356)	-0.093(0.223)	0.005(0.555)	-0.016***(0.000)
%BAC	-0.058***(0.000)	0.377***(0.002)	0.184(0.127)	0.033***(0.000)	0.238***(0.006)	0.023***(0.008)	0.027***(0.000)
LogTA	0.021***(0.000)	-0.124***(0.000)	0.065***(0.000)	-0.015***(0.000)	-0.045***(0.000)	0.006***(0.000)	-0.009***(0.000)
LogAge	-0.003(0.390)	-0.001(0.957)	0.075**(0.013)	0.015***(0.000)	-0.071***(0.000)	0.003(0.132)	-0.003**(0.029)
BIG4	-0.008(0.349)	-0.012(0.821)	0.134(0.119)	0.007(0.194)	0.084*(0.077)	0.015***(0.008)	0.012***(0.001)
HHI	0.102**(0.023)	-0.296(0.155)	0.518(0.104)	-0.037*(0.093)	0.041(0.855)	-0.012(0.625)	0.019(0.260)
LISTED	0.009(0.135)	-0.036(0.588)	0.059(0.287)	0.001(0.844)	-0.044(0.207)	0.005(0.252)	-0.004(0.154)
GDP_GROWTH	0.285**(0.013)	-1.017(0.162)	-3.583**(0.011)	-0.053(0.397)	-1.124(0.199)	-0.102(0.285)	-0.013(0.809)
CORRUPTION	-0.004(0.541)	-0.080(0.123)	0.076(0.222)	0.008**(0.015)	0.018(0.630)	-0.004(0.374)	0.009***(0.001)
LEV	0.006***(0.000)	-0.034***(0.000)					
1/Z	-0.001(0.631)						
COST/INCOME			-0.179***(0.000)	-0.006**(0.010)	0.070***(0.000)	-0.007***(0.000)	0.011***(0.000)
Constant	-0.235***(0.000)	3.010***(0.000)	2.082***(0.000)	0.152***(0.000)	0.728***(0.000)	-0.049*(0.050)	0.179***(0.000)
Year dummies	YES	YES	YES	YES	YES	YES	YES
Observations	776	776	776	607	729	776	776
Overall R2	0.217	0.094	0.197	0.082	0.065	0.124	0.288
Wald Chi2	503***	355***	305***	287***	247***	325***	436***
LM Statistics (p-value)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sargan test (p-value)	0.517	0.417	0.601	0.702	0.279	0.653	0.463

Note: The table presents Three-Stage Least-Square (3SLS) estimations for the full sample (pooled Islamic and conventional banks) identifying the impact of busy board of directors on a bank's financial performance which is represented by profitability, cost to income ratio (Panel A); and bank stability as measured through the insolvency risk, credit risk, liquidity risk, asset risk, and operational risk (Panel B). Our estimated models are defined as:

$$Performance/Risk_{i,t} = \beta_0 + \beta_1 \text{BBOD}_{i,t} + \beta_2 \text{ISLAMIC}_{i,t} + \beta_3 \text{BBOD}_{i,t} * \text{ISLAMIC}_{i,t} + \phi P + \mu\text{Year effects} + \varepsilon_{i,t}$$

$$BBOD_{i,t} = \beta_0 + \beta_1 \text{Performance/Risk}_{i,t} + \beta_2 \text{ISLAMIC}_{i,t} + \beta_3 \text{BBOD}_{i,t} * \text{ISLAMIC}_{i,t} + \phi P + \mu\text{Year effects} + \varepsilon_{i,t}$$

Where, $Performance_{i,t}$ represents {ROAE, COST/INCOME}; $Risk_{i,t}$ represents {LogZscore, NP/TA; LA/DSF; ROA/SDROA; SDROA}; $BBOD_{i,t}$ represents {%BBOD}; ϕP is a vector of control variables in the performance/risk model including bank-level indicators, country-level indicators, and country governance indicators. Models are tested for the period of six-year from 2010. P-values in parentheses, *p < 0.10, **p < 0.05, ***p < 0.01. We interacted %BBOD with ISLAMIC dummy variable ($BBOD_{i,t} * ISLAMIC_{i,t}$) to test for the possible differential effects of busy board of directors on bank performance/risk between Islamic and conventional banks. LM and Sargan test show that our models are correctly identified, and our selected IVs are valid.

Table 5. Tests for the Board of Directors' Degrees of Busyness - Islamic versus Conventional banks

	Panel A: Islamic Banks				**Panel B: Conventional Banks**			
	Quantile 1 (0-25)	*Quantile 2 (25-50)*	*Quantile 3 (50-75)*	*Quantile 4 (75-100)*	*Quantile 1 (0-25)*	*Quantile 2 (25-50)*	*Quantile 3 (50-75)*	*Quantile 4 (75-100)*
Cut-offs	*<=1 directorships*	*1-2.75 directorships*	*2.75-4.5 directorships*	*>4.5 directorships*	*<=0.5 directorships*	*0.5-2 directorships*	*2-3.33 directorships*	*>3.33 directorships*
Degrees of busyness	Non-busy BOD	Less-busy BOD	More-busy BOD	Super-busy BOD	Non-busy BOD	Less-busy BOD	More-busy BOD	Super-busy BOD
ROAE	0.058***(0.008)	-0.073**(0.032)	-0.196**(0.010)	-0.109***(0.004)	-0.415***(0.000)	-0.094**(0.036)	0.354**(0.014)	0.102***(0.000)
COST/INCOME	-2.519**(0.037)	-1.157(0.670)	1.712**(0.011)	1.506**(0.045)	0.222*(0.080)	0.151*(0.059)	-0.516***(0.000)	-0.148**(0.046)
LogZscore	0.531**(0.029)	1.764*(0.081)	-1.335***(0.000)	0.154(0.688)	-0.925***(0.004)	-0.879*(0.077)	0.548**(0.048)	0.544***(0.009)
NP/TA	-0.074**(0.018)	0.127**(0.013)	0.088***(0.003)	0.081***(0.002)	-0.012(0.173)	0.014**(0.027)	-0.073**(0.017)	-0.050***(0.001)
LA/DSF	1.489***(0.008)	-2.823***(0.000)	-0.865***(0.001)	-1.059***(0.007)	-0.187***(0.004)	0.193**(0.016)	0.699***(0.000)	0.283***(0.000)
ROA/SDROA	0.087**(0.043)	-0.180**(0.017)	-0.082***(0.000)	-0.044***(0.009)	-0.092***(0.000)	-0.229***(0.000)	0.144**(0.027)	0.069***(0.003)
SDROA	-0.217(0.124)	-0.200**(0.021)	0.039***(0.000)	0.057***(0.001)	0.017**(0.029)	0.032***(0.001)	-0.025***(0.007)	-0.027***(0.008)

Note: This table presents the results for different degrees of board of directors' busyness which are classified as "non-busy", "less busy", "more-*busy*" and "*super-busy*" across Islamic banks (Panel A) and conventional banks (Panel B). We, following the design of Field et al. (2013), to define BOD as "super-busy" if the average number of directorships of BOD is in the top quantile 4 (75-100), "more-busy" if the average number of directorships of BOD is in the quantile 3 (50-75), "less-busy" if the average number of directorships of BOD is in the quantile 2 (25-50), otherwise "*Less-busy*" BOD. P-values in parentheses, *p < 0.10, **p < 0.05, ***p < 0.01. Models include full set of control variables such as bank-level indicators, country-level indicators, and country governance indicators, but not reported.

Table 6. Board Busyness on bank financial performance and stability (Tests for the effect of boards' financial expertise)

	Panel A: Financial Performance		Panel B: Financial Stability				
VARIABLES	Profitability (ROAE)	Cost to income (COST/INCOME)	Insolvency risk (LogZscore)	Credit risk (NP/TA)	Liquidity risk (LA/DSF)	Asset risk (ROA/SDROA)	Operational risk (SDROA)
%BBOD	0.039**(0.039)	-0.440***(0.008)	0.743***0.000)	-0.032***(0.001)	0.199*(0.084)	0.027**(0.042)	-0.053***(0.007)
%INDEXP*%BBOD	0.100***(0.000)	-0.614**(0.022)	0.539*(0.093)	-0.030**(0.045)	0.725***(0.000)	0.047**(0.029)	0.011(0.663)
%INDEXP*%BBOD*ISLAMIC	-0.084***(0.000)	0.497**(0.014)	-0.762***(0.001)	0.020*(0.071)	-0.368***(0.002)	-0.052***(0.002)	-0.001(0.734)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-0.250***(0.000)	3.112***(0.000)	1.036***(0.011)	0.181***(0.000)	0.898***(0.000)	-0.087***(0.001)	0.179***(0.000)
Year dummies	YES	YES	YES	YES	YES	YES	YES
Observations	776	776	776	607	729	776	776
Overall R2	0.253	0.095	0.220	0.219	0.102	0.187	0.199
Wald Chi2	500***	261***	401***	346***	328***	257***	924***
LM Statistics (p-value)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sargan test (p-value)	0.452	0.593	0.715	0.527	0.323	0.865	0.202

Note: This table reports the 3SLS estimation results for associations between BOD busyness and bank performance (Panel A) and stability (panel B), while identifying the effect of the outside directors' expertise. *%INDEXP* represents financial expertise of the board, which is measured by the percentage of independent directors who have held or currently hold executive positions in financial institutions including banks. Full control variables and year dummies are included but unreported. P-values in parentheses, *p < 0.10, **p < 0.05, ***p < 0.01.

Table 7. The effects of Board Busyness on Bank Agency Costs

VARIABLES	*CASH/TA*
%BBOD	-0.391**(0.042)
%BBOD*ISLAMIC	0.373**(0.039)
LogBSIZE	0.125***(0.004)
%INDEP	0.063(0.120)
DUAL	-0.008(0.810)
LogTA	-0.009**(0.023)
LogAge	-0.014**(0.048)
LogZscore	0.021**(0.021)
ROAA	-0.288(0.146)
GDP_GROWTH	-0.059(0.792)
ISLAMIC	-0.175**(0.045)
Constant	0.103*(0.075)
Year dummies	YES
Observations	776
Overall R2	0.398
Wald Chi2	25***
LM Statistics (p-value)	0.000
Sargan test (p-value)	0.972

Note: This table reports the 3SLS estimation results on the effect of the board of directors' busyness on bank agency costs for full sample. Our model is specified as follows:

$$CASH/TA_{i,t} = \beta_0 + \beta_1 \text{BBOD}_{i,t} + \beta_2 \text{ISLAMIC}_{i,t} + \beta_3 \text{BBOD}_{i,t} * \text{ISLAMIC}_{i,t} + \phi P + \mu\text{Year effects} + \varepsilon_{i,t}$$

$$BBOD_{i,t} = \beta_0 + \beta_1 \text{CASH/TA}_{i,t} + \beta_2 \text{ISLAMIC}_{i,t} + \beta_3 \text{BBOD}_{i,t} * \text{ISLAMIC}_{i,t} + \phi P + \mu\text{Year effects} + \varepsilon_{i,t}$$

$CASH/TA_{i,t}$ represents agency costs within banks, which is measured by the ratio of cash divided by total assets. P-values in parentheses, *p $<$ 0.10, **p $<$ 0.05, ***p $<$ 0.01. See *Table 2* for variable definitions.

Table 8. Tests for the Effect(s) of Sharia'h Supervisory Board Busyness on Islamic Banks Financial Performance and Stability

	Panel A: Financial Performance		Panel B: Financial Stability				
VARIABLES	Profitability (ROAE)	Cost to income (COST/INCOME)	Insolvency risk (LogZscore)	Credit risk (NP/TA)	Liquidity risk (LA/DSF)	Asset risk (ROA/SDROA)	Operational risk (SDROA)
%BBOD	-0.048**(0.025)	0.572**(0.040)	-0.513**(0.035)	0.074***(0.000)	-0.397**(0.022)	-0.030**(0.034)	0.033***(0.000)
%BSSB	-0.047***(0.003)	0.416***(0.004)	-0.367***(0.009)	0.122***(0.000)	-0.359***(0.006)	-0.082***(0.000)	0.089***(0.000)
LogBSIZE	-0.058***(0.000)	0.225*(0.090)	0.548***(0.002)	-0.007(0.531)	1.416***(0.000)	0.019*(0.068)	-0.021***(0.002)
%INDEP	0.021(0.342)	-0.311(0.295)	0.528**(0.036)	-0.018(0.272)	0.695***(0.005)	0.022(0.135)	-0.029***(0.002)
DUAL	0.029(0.486)	-0.774(0.177)	0.921*(0.061)	-0.126***(0.000)	-0.292(0.327)	0.011(0.700)	-0.028(0.111)
%INDQ	-0.027(0.227)	-0.131(0.524)	0.423(0.112)	0.001(0.986)	-0.275(0.131)	0.001(0.956)	-0.018*(0.072)
%SSBQ	0.042*(0.062)	0.430*(0.086)	-0.273(0.282)	-0.086***(0.000)	0.092(0.571)	-0.003(0.857)	0.014(0.153)
LogACSIZE	0.016(0.415)	-0.031(0.904)	-0.441**(0.015)	-0.051***(0.001)	0.295(0.148)	-0.026*(0.064)	-0.011(0.192)
%BAC	0.041**(0.011)	-0.067(0.759)	-0.208(0.129)	-0.041***(0.002)	0.434***(0.005)	0.038***(0.001)	0.005(0.450)
LogTA	0.011***(0.003)	-0.237***(0.000)	0.189***(0.000)	-0.015***(0.000)	-0.196***(0.000)	0.009***(0.000)	-0.006***(0.000)
LogAge	0.021***(0.000)	-0.120*(0.076)	0.178***(0.002)	0.016***(0.000)	-0.079*(0.067)	0.009**(0.012)	-0.005**(0.029)
BIG4	-0.033**(0.047)	0.019(0.932)	-0.218(0.223)	0.031***(0.008)	0.123(0.471)	-0.011(0.282)	0.014**(0.032)
HHI	0.146***(0.006)	-0.115(0.876)	-0.463(0.460)	0.027(0.475)	0.173(0.782)	-0.074**(0.019)	0.021(0.352)
LISTED	0.029**(0.020)	-0.051(0.625)	-0.072(0.617)	-0.012(0.242)	-0.370**(0.030)	0.010(0.225)	-0.005(0.352)
GDP_GROWTH	0.600***(0.004)	0.067(0.972)	-0.511(0.782)	-0.036(0.749)	-3.168(0.152)	-0.011(0.930)	0.046(0.409)
CORRUPTION	0.001(0.952)	-0.100(0.428)	0.114(0.220)	0.009(0.131)	0.018(0.849)	-0.001(0.812)	-0.003(0.268)
LEV	0.005***(0.000)	-0.010(0.452)					
1/Z	-0.071***(0.000)						
COST/INCOME			-0.095*(0.053)	-0.010***(0.001)	0.075**(0.033)	-0.005*(0.054)	0.004***(0.002)
Constant	-0.108*(0.085)	3.918***(0.000)	0.460(0.518)	0.250***(0.000)	0.408(0.602)	-0.042(0.389)	0.068***(0.007)
Year dummies	YES	YES	YES	YES	YES	YES	YES
Observations	339	340	339	251	307	340	340
Overall R2	0.525	0.189	0.211	0.167	0.069	0.051	0.036
Wald Chi2	389***	124***	145***	297***	115***	150***	329***
LM Statistics (p-value)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Sargan test (p-value)	0.096	0.343	0.392	0.123	0.186	0.119	0.214
%BBOD = %BSSB (F-Test)	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note: The table presents 3SLS regression results for examining the influence of SSB busyness on Islamic banks financial performance and Stability. Our estimation models are defined as follows:

$$Performance/Risk_{i,t} = \beta_0 + \beta_1 \text{BBOD}_{i,t} + \beta_2 \text{BSSB}_{i,t} + \phi P + \mu\text{Year effects} + \varepsilon_{i,t}$$

$$BBOD_{i,t} = \beta_0 + \beta_1 \text{Performance/Risk}_{i,t} + \beta_2 \text{BSSB}_{i,t} + \phi P + \mu\text{Year effects} + \varepsilon_{i,t}$$

Where, $BSSB_{i,t}$ represents {%BSSB}. P-values in parentheses, *p < 0.10, **p < 0.05, ***p < 0.01. LM and Sargan test show that our models are correctly identified, and our selected IVs are valid.

Table 9. Tests for the Shari'ah Supervisory Boards' Degrees of Busyness

	Quantile 1 (0-25)	*Quantile 2 (25-50)*	*Quantile 3 (50-75)*	*Quantile 4 (75-100)*
Cut-offs	*<=4 directorships*	*4-11 directorships*	*11-19 directorships*	*>19 directorships*
Degrees of busyness	Non-busy SSB	Less-busy SSB	More-busy SSB	Super-busy SSB
ROAE	0.069***(0.009)	0.053*(0.082)	-0.109**(0.040)	-0.062**(0.018)
COST/INCOME	-0.880**(0.023)	-0.924**(0.040)	-0.564(0.352)	0.786**(0.023)
LogZscore	1.372***(0.000)	1.032***(0.001)	-1.146*(0.083)	-0.961***(0.000)
NP/TA	-0.041*(0.036)	0.030**(0.011)	0.126***(0.009)	0.037***(0.009)
LA/DSF	0.361***(0.009)	-0.977***(0.000)	-1.714***(0.000)	-0.337**(0.037)
ROA/StdROA	0.054***(0.005)	0.042***(0.006)	-0.097***(0.001)	-0.026***(0.006)
StdROA	-0.041***(0.001)	-0.045***(0.000)	0.089***(0.005)	0.033***(0.000)

Note: This table presents the results for different degrees of board of directors' busyness which are classified as "non-busy", "less busy", "more-*busy*" and "*super-busy*" within Islamic banks. We, following the design of Field et al. (2013), to define SSBs as "super-busy" if the average number of directorships of SSB is in the top quantile 4 (75-100), "more-busy" if the average number of directorships of SSB is in the quantile 3 (50-75), "less-busy" if the average number of directorships of SSB is in the quantile 2 (25-50), otherwise "*Less-busy*" SSB. P-values in parentheses, *p < 0.10, **p < 0.05, ***p < 0.01. Models include a full set of control variables such as bank-level indicators, country-level indicators, and country governance indicators.

Table 10. Tests for Probability of a Problem Board Member

	Panel A: Conventional Banks		**Panel B: Islamic Banks**	
VARIABLES	*Probit model*	*Logit model*	*Probit model*	*Logit model*
Busy BOD Dummy	0.194(0.495)	0.540(0.343)	0.447**(0.027)	0.761**(0.027)
LogBSIZE	0.289(0.363)	0.323(0.599)	-0.380*(0.094)	-0.665*(0.087)
%INDEP	-0.895(0.196)	-2.283(0.134)	-0.697*(0.077)	-1.213*(0.086)
BODMET	0.024**(0.014)	0.044**(0.014)	0.012(0.473)	0.024(0.495)
%INDQ	0.025(0.951)	-0.063(0.929)	-0.295(0.434)	-0.481(0.452)
%BAC	0.299(0.413)	0.369(0.604)	-0.654***(0.009)	-1.085**(0.010)
LogTA	-0.200**(0.017)	-0.349**(0.041)	0.151***(0.007)	0.253***(0.009)
LogAge	-0.250*(0.073)	-0.420(0.137)	-0.265***(0.001)	-0.433***(0.001)
ROAA	12.744(0.272)	26.716(0.216)	0.466(0.801)	0.824(0.785)
LogZscore	-0.034(0.824)	-0.153(0.619)	-0.096(0.271)	-0.181(0.232)
GDP_GROWTH	0.455(0.903)	0.792(0.910)	1.914(0.649)	3.608(0.622)
Constant	1.428(0.288)	3.271(0.239)	-1.062(0.205)	-1.681(0.236)
Year dummies	YES	YES	YES	YES
Observations	279	279	330	330
Pseudo R^2	0.146	0.151	0.093	0.092
Wald X^2	38**	35**	35**	31**

Notes: Table reports the probit and logit results on the association between the probability of becoming a problem board (i.e. the failure of board members to attend 75% board meetings) and being a busy BOD. Our model is specified as follows:

$$Problem\ BOD = \beta_0 + \beta_1 \text{Busy BOD Dummy} + \phi P + \varepsilon_{it}$$

The sample contains both busy BOD and non-busy BOD. The dependent variable ($Problem\ BOD$) takes value of 1 if the outside directors, on average, fail the 75% board meeting attendance, 0 otherwise. The main independent variable ($Busy\ BOD\ Dummy$) takes value of 1 if the BOD is busy (at least 50% outside directors are busy) and 0 otherwise. BODMET is the average number of board meetings. P-values based on robust standard errors in parentheses, *p < 0.10, **p < 0.05, ***p < 0.01. See *Table 2* for variable definitions.

Table 11. Tests for the Effect(s) of Board Compensation on Board Busyness

VARIABLES	**Panel A: Full Sample**	**Panel B: Conventional Banks**	**Panel C: Islamic Banks**	
	%BBOD	*%BBOD*	*%BBOD*	*%BSSB*
BODC/NI	-0.159**(0.024)	-0.130**(0.041)	0.087(0.811)	
SSBC/NI				0.561**(0.021)
LogBSIZE	0.372***(0.000)	0.445***(0.000)	0.262***(0.003)	-0.110**(0.010)
%INDEP	0.582***(0.000)	0.445***(0.000)	0.712***(0.000)	0.185***(0.000)
ROAA	-0.003(0.537)	0.015(0.429)	-0.001(0.858)	-0.006***(0.001)
LogTA	-0.026*(0.075)	-0.023(0.810)	-0.033(0.141)	0.020**(0.046)
GDP_GROWTH	-1.382**(0.024)	-0.198(0.810)	-2.484***(0.001)	-0.627(0.127)
ISLAMIC	-0.137***(0.000)			
SSBSIZE				-0.483***(0.000)
Constant	0.001(0.997)	-0.235(0.461)	0.224(0.534)	1.453***(0.000)
Year dummies	YES	YES	YES	YES
Observations	386	236	150	150
Overall R2	0.176	0.154	0.277	0.790
Wald Chi2	12***	6***	10***	86***

Note: The table reports the OLS regression results for the effects of BOD/SSB compensation on BOD/SSB busyness for the full sample (Panel A), conventional banks (Panel B) and Islamic banks subsamples (Panel C) for years 2010-2015. Our model is specified as follows:

$$BBOD_{i,t} = \beta_0 + \beta_1 \text{BODC/NI}_{i,t} + \phi P + \mu\text{Year effects} + \varepsilon_{i,t}$$

$$Or,\ BSSB_{i,t} = \beta_0 + \beta_1 \text{SSBC/NI}_{i,t} + \phi P + \mu\text{Year effects} + \varepsilon_{i,t}$$

BOD (SSB) compensation ($\text{BODC/NI}_{i,t}$; $\text{SSBC/NI}_{i,t}$) is measured as percentage of net income. P-values based on robust standard errors in parentheses, *p < 0.10, **p < 0.05, ***p < 0.01.

Table 12. Robustness Checks: Using Alternative Instrument Variables (IVs)

	Panel A: Financial Performance		Panel B: Financial Stability				
VARIABLES	Profitability (ROAE)	Cost to income (COST/INCOME)	Insolvency risk (LogZscore)	Credit risk (NP/TA)	Liquidity risk (LA/DSF)	Asset risk (ROA/SDROA)	Operational risk (SDROA)
I. Using alternative IV: the year-average of the busy BOD variables of other banks in the country – Full Sample							
%BBOD	0.102***(0.003)	-0.733***(0.001)	1.108***0.001)	-0.078***(0.000)	0.674***(0.001)	0.098***(0.000)	-0.054***(0.000)
ISLAMIC	-0.034**(0.033)	0.201*(0.052)	-0.291*(0.070)	0.017**(0.035)	0.281**(0.011)	-0.018*(0.083)	-0.041***(0.000)
%BBOD*ISLAMIC	-0.059**(0.046)	0.458**(0.025)	-0.753**(0.015)	0.028**(0.046)	-0.469**(0.014)	-0.054**(0.008)	0.070***(0.000)
Control Variables	YES	YES	YES	YES	YES	YES	YES
Constant	-0.257***(0.000)	3.107***(0.000)	2.138***(0.000)	0.150***(0.000)	0.706***(0.001)	-0.043*(0.081)	0.179***(0.000)
Year dummies	YES	YES	YES	YES	YES	YES	YES
Observations	776	776	776	607	729	776	776
Overall R2	0.221	0.094	0.162	0.089	0.051	0.059	0.263
Wald Chi2	504***	353***	319***	279***	247***	389***	422***
LM Statistics (p-value)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
II. Using alternative IV: the year-average of the busy BOD/SSB variables of other banks in the country – within Islamic Banks							
%BBOD	-0.043**(0.041)	0.578**(0.037)	-0.575**(0.018)	0.070***(0.000)	-0.762***(0.000)	-0.039***(0.007)	0.029***(0.001)
%BSSB	-0.051***(0.001)	0.379***(0.006)	-0.325**(0.014)	0.176***(0.000)	-0.322***(0.004)	-0.085***(0.000)	0.078***(0.000)
Control Variables	YES	YES	YES	YES	YES	YES	YES
Constant	-0.073(0.227)	4.004***(0.000)	0.381(0.596)	0.173***(0.001)	-1.131(0.186)	-0.045(0.351)	0.087***(0.001)
Year dummies	YES	YES	YES	YES	YES	YES	YES
Observations	339	340	339	251	307	340	340
Overall R2	0.512	0.189	0.207	0.078	0.266	0.022	0.130
Wald Chi2	399***	122***	144***	288***	197***	156***	320***
LM Statistics (p-value)	0.000	0.000	0.000	0.000	0.000	0.000	0.000
%BBOD = %BSSB (F-Test)	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Note: This table reports the robustness checks for main findings by employing alternative IVs (i.e. the year-average of the busy BOD/SSB variables of other banks in the country). In both panels, control variables and year dummies are included but unreported. P-value in parentheses, *p < 0.10, **p < 0.05, ***p < 0.01.