Shari'ah Supervision, Corporate Governance and Performance: Conventional vs. Islamic Banks

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Abstract

The performance and accountability of boards of directors and effectiveness of governance mechanisms continue to be a matter of concern. Focusing on differences between conventional banks and Islamic banks, we examine the effect of (i) Shari'ah supervision boards, (ii) board structure and (iii) CEO-power on performance during the period 2005-2011. We find Shari'ah supervision boards positively impact on Islamic banks' performance when they perform a supervisory role, but the impact is negligible when they have only an advisory role. The effect of board structure (board size and board independence) and CEO power (CEO-chair duality and internally recruited CEO) on the performance of Islamic banks is overall negative. Our findings provide support for the positive contribution of Shari'ah supervision boards but also emphasize the need for enforcement and regulatory mechanism for them to be more effective.

Keywords: Shari'ah Supervision, Corporate Governance, Islamic Banks, Boards of Directors, Ethical Banking.

JEL Classification Codes: G34, G21, G01

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1. Introduction

The global financial crisis has heightened interest in the relationship between the governance and performance of banks (Aebi et al., 2012; Pathan and Faff, 2013). The performance and accountability of the boards of directors and their attitude towards risk-taking and ethical principles in banking has come under increased scrutiny. The unprecedented amounts of losses recognized by some of the world leading financial institutions have brought into the spotlight issues concerning regulatory oversight, risk management, and disclosure. Many observers attribute the current financial crisis to failures in corporate governance, such as lax board oversight and flawed executive compensation practices that encourage aggressive risk taking (Erkens et al., 2012; Kirkpatrick, 2009; Sharfman, 2009). Some researchers have lately focused on comparing the performance of conventional banks (CBs) with Islamic banks (IBs). Wilson (2010) notes the potential contributions of IBs and governance reforms in restoring credibility and stability in the international financial market. In contrast to the failures in the conventional banking sector, IBs did not announce substantial write-offs but have been rather resilient during the financial crisis (see Chapra, 2009, 2010; Green 210)[2]. While CBs faced significant difficulties, IBs seem to have fared better during the global financial crisis.

There are significant differences between CBs and IBs. The latter provide Shari'ah compliant finance and have Shari'ah Supervision Boards (SSB) as a key feature of their governance. As Beck et al. (2013) note, IBs are prohibited from charging interest (*riba*) payments, are not allowed to engage in speculation, and are based on a profit and loss and thus risk-sharing model. SSBs are a significant feature of IBs and are considered as the 'Supra Authority' (Choudhury and Hoque, 2006). They represent an additional layer of governance. Together with the regular boards of directors and routine executive and other operational committees, the institution of SSBs in IBs changes their governance into what we call "multi-layer" governance. This contrasts with the "single-layer" governance structure, which typically comprises the board of directors and executive/board subcommittees, in CBs. SSBs are an additional layer of monitoring and oversight as well as a constraint on operations. SSBs might restrain boards of directors and management from engaging in aggressive lending and major risk taking activities. At the root of

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[2] IBs generally comply with Basel II and follow Islamic Financial Services Board (IFSB) guidelines. IBs build up a profit equalization reserve, which is used to finance pay-outs during difficult years. They were neither exposed to toxic securities (Desai, 2008; Brewster, 2008) nor offered products like collateralized debt obligations (CDOs) and mortgage backed securities (MBS) due to Shari'ah prohibitions (Ahmed, 2009). Derivative products like credit derivative swap (CDS) are prohibited under Islamic law, Shari'ah, due to the existence of risky or hazardous sale.

Islamic banking is a theoretical commitment to ethical behavior, key manifestation of which is the adoption of profit-and-loss sharing schemes and prohibition of interest. The spiritual underpinning of Islamic banking together with the prohibition of interest suggests that IBs and their executives ought to be averse to unethical practice.

This paper examines whether "multi-layer" corporate governance model in Islamic banking and the expected adherence of IBs to ethical behavior, which is theoretically the cornerstone of IBs, is associated with performance. Specifically, we examine the effect of Shari'ah supervision and corporate governance on the performance of IBs vis-à-vis CBs. Given concerns about the relationship between governance and performance (Aebi et al., 2012; Pathan and Faff, 2013), we focus on the role of (i) Shari'ah supervision, (ii) board structure and (iii) CEO-power in affecting bank performance. By using a matched pair sample of 86 IBs with 86 CBs from 25 countries for the period 2005-2011, including 2005-2007 as pre-crisis, 2008-2009 as during-crisis, and 2010-2011 as post-crisis, we find that SSBs have a significant positive effect on the performance of IBs, but the results are mixed when we split our sample into pre-crisis, crisis and post-crisis periods. Notably, we find board structure (board size and board independence) has a negative and significant influence and CEO power (CEO-Chair duality and internally recruited CEO) has a negative, though insignificant, association with performance of IBs. For the CBs sample, we find board structure generally has a positive relationship, while CEO power has a negative, though insignificant, relationship with performance. Interestingly, interaction terms between board structure and CEO power variables seem to influence performance of IBs positively. We also provide additional insights from a survey of SSB members. The findings shed light on current practices and emphasize the need for well-functioning, independent and diligent Shari'ah boards, working in concert with the regular boards of directors, to better realise the ethical goals of Islamic banking in practice. Overall, our paper demonstrates that SSBs positively impact on IB performance when they have a supervisory role, but that impact is negligible when it has only an advisory role. There is a need for some form of enforcement or regulatory mechanism for SSBs to be more effective.

Our focus on IBs vis-à-vis CBs is important because there is renewed debate about the role and performance of IBs and some recent studies on stability, efficiency, and profitability cast doubt on the current state of IBs (see Abedifar et al., 2013; Ariss, 2010; Beck et al., 2013; Bourkhis and Nabi, 2013;

Hasan and Dridi, 2010; and Olson and Zoubi, 2008). Our paper differs from prior research and contributes to the literature in a number of ways. First, to the best of our knowledge, this is the first paper to examine the relationship between Shari'ah supervision, corporate governance and performance. The literature relating to Islamic banking often tends to be normative and theoretical and there is limited empirical evidence on their performance, especially evaluation of the performance of IBs vis-à-vis CBs. We thus consider our comparison of IBs with CBs to be an important and timely contribution to this field and recognition of the paucity of research on the governance of IBs. In contrast to research which has focused mainly on the performance of CBs (e.g. Adams and Mehran, 2012; Andres and Vallelado, 2008; Francis et al., 2012; Pathan and Faff, 2013; Sierra et al., 2006; and Wintoki et al., 2012) or provides theoretical contributions about the uniqueness of IBs due to Shari'ah governance (Chowdhury and Hoque, 2006; Grais and Pellegrini, 2006; Hassan, 2011; Lewis, 2005; Safieddine, 2009), we provide empirical evidence on the effect of governance on the performance of IBs vis-à-vis CBs. In spite of the popular thinking that SSBs in IBs play a vital governance role, we are not aware of any study examining the effect of Shari'ah supervision and corporate governance on the performance of IBs vis-à-vis that of CBs.

Second, in examining the effect of Shari'ah supervision and corporate governance on bank performance, we extend our base model by investigating the impact of Shari'ah supervision, including supervisory or advisory role of SSBs, on performance. We also investigate whether Shari'ah board is integrated or segmented with regular board. We also extend our base model by examining the effect of Shari'ah supervision and corporate governance on bank performance in the context of small or large banks and large or small country. We thus augment the literature on the performance and governance of banks by offering an extended analysis on Shari'ah supervision and more specifically extend the comparative literature (IBs vis-à-vis CBs) such as Abedifar et al. (2013), and Beck et al. (2013) and Cihak and Hesse (2010).

Third, the recent global financial crisis emphasizes the need for further research[3]. Using panel data we also examine if during the financial crisis the effect of governance on banks performance was

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[3] Kashyap et al. (2008) argue that while the failure to offload subprime risk has resulted in the credit crisis, the root cause of the crisis lies in the breakdown of shareholder monitoring and ill-conceived managerial incentives. Cornett et al. (2009) observe that bank performance has decreased dramatically during the financial crisis. They also note that corporate governance weakened significantly just before and during the financial crisis. Erkens et al. (2012) add that the focus of independent boards and institutional investors on short-term profitability has encouraged risk taking by

different. This enables us to capture governance effects that might only manifest in exceptional times. We split our sample into pre-crisis, during-crisis and post-crisis periods. By splitting the sample, we add to previous research, e.g. Aebi et al. (2012), Andres and Vallelado (2008), Ariss (2010), Beck et al. (2013), Johnes et al. (2013), and Pathan and Faff (2013), in terms of different effect of corporate governance on bank performance due to different time periods.

Fourth, we complement the analysis of our panel data for IBs by adding the findings from a questionnaire survey of SSB members, thus providing additional insights into the nature and role of SSBs in IBs. Fifth, in measuring bank performance, we include a range of accounting measures as well as market-based measure Tobin's Q to proxy for shareholder value. Our research thus complements Adams and Mehran (2012), Andres and Vallelado (2008), Aebi et al. (2012), Francis et al. (2012), Pathan and Faff (2013), Sierra et al. (2006), and Wintoki (2012) who focused entirely on CBs, whereas our study captures both IBs and CBs.

The rest of the paper is organized as follows. Section 2 outlines the literature review and hypotheses development. Section 3 specifies the model applied and the description of the data used in the paper. The empirical results are reported in section 4 and the concluding remarks are in section 5.

2. Prior Literature and Hypotheses Development

Given the focus of our paper is on the effects of three important dimensions of governance (i.e. Shari'ah supervision, structure of boards of directors and CEO-power) on bank performance, in this section we provide a brief review of the pertinent literature. The scope of the review is limited to issues related to the development of hypotheses concerning the relationship between firm performance and (i) Shari'ah supervision, (ii) board structure and (iii) CEO-power. We first discuss the performance and governance link before considering each of the these dimensions.

Performance and Governance

A sizeable literature investigates the relationship between governance mechanisms and firm performance including shareholder value in non-financial firms (see Stanwick and Stanwick, 2010 and Weir et al., 2002). The empirical evidence is however mixed (see Bauer et al., 2008; Gani and Jermias, 2006; Larcker et al.,

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firms before the crisis, which exacerbated the losses suffered during the crisis. Weisbach (1988), Volpin (2002), and Parrino et al. (2003) advocate that CEO turnover is more sensitive to shareholder losses for firms with greater board independence and larger institutional ownership because these external monitors' fiduciary duty is to focus on the creation of shareholder value.

2007; and Stannwick and Stanwick, 2010). A number of studies report a positive effect of corporate governance on the value of non-financial firms (e.g. Lee et al., 1992). Hutchinson (2002) for instance reports a negative association between corporate governance and firm value while Gupta et al. (2009) do not find that corporate governance affects firm value. The empirical literature examining the relationship between governance and performance in the banking sector is not very extensive. The few exceptions, for example, are Adams and Mehran (2012), Anders and Valledado (2008), Cornett et al. (2009), Francis et al. (2012), Pathan and Faff (2013), Sierra et al. (2006), and Wintoki et al. (2012). Sierra et al. (2006) suggest that strong boards improve bank performance. Adams and Mehran (2012) also find similar results for board size, but they fail to identify any relationship between performance and independent directors. Anders and Valledado (2008), on the other hand, report a positive effect of both board size and independent directors on bank performance. In contrast, Pathan and Faff (2013) report that both board size and independence are negatively related to firm performance. Cornett et al. (2009) note that higher stock returns and operating performance are associated with higher proportion of outside directors on boards. But Wintoki et al. (2012) do not find a significant relationship between board size or board independence and firm performance. However, Francis et al. (2012) report that better governed firms performed well during the financial crisis.

The existing literature on the relationship between governance and performance is mixed – with some finding no relationship, while others finding either a positive or a negative relationship. Since our focus is on the relationship in the banking sector, more specifically relating to Islamic banking next we briefly review literature on this issue.

The recent literature on Islamic banking compares stability, efficiency, and profitability issues between IBs and CBs. Beck et al. (2013) and Bourkhis and Nabi (2013) stress that there is no significant difference in business orientation between IBs and CBs, but Hasan and Dridi (2010) report contrasting results using data for global crisis. They find that business models in IBs are different from those prevalent in CBs. Abedifar et al. (2013) report that IBs face extra risks because of the complexity of Islamic modes of financing and limitations in their funding, investment, and risk management activities. Beck et al. (2013) and Bourkhis and Nabi (2013) note that IBs are less cost effective than CBs, but have a higher intermediation ratio and higher capital-asset ratio suggesting a more conservative approach to risk

taking. During the financial crisis period however IBs appear cost-effective (Bourkhis and Nabi, 2013). Hasan and Dridi (2010) also support the findings of Bourkhis and Nabi (2013) and suggest that the business models of IBs helped reduce the impact of the crisis on their profitability. Abedifar et al. (2013) and Olson and Zoubi (2008) add that since IBs experience excessive risks due to their business complexity, it helps them produce higher profits.

Overall, existing research casts doubt on the current state of IBs and underpins the need for further research on the contributions and efficacy of Islamic banking. There is popular thinking that Shari'ah supervision plays a vital role in distinguishing IBs from the CBs and that SSBs play a vital governance role in Islamic banking (Lewis, 2005). The literature on Islamic banking (e.g., Chowdhury and Hoque, 2006; Grais and Pellegrini, 2006; Hassan, 2011; and Lewis, 2005) however is mainly normative and or theoretical, and there is a lack of empirical research on the governance of IBs. Research on Shari'ah supervision is not only limited, there is an absence of research examining the effect of Shari'ah supervision and governance on the performance of IBs vis-à-vis CBs.

Shari'ah Supervision

There has been unprecedented growth in Islamic banking and finance not just in Muslim majority countries, but in western countries too (Khan and Bhatti, 2008). The existence and operations of IBs may be differentiated at least theoretically from their conventional counterparts by a commitment to social justice. In order to contribute to the achievement of social justice IBs are expected to adhere to Islamic rulings relating to fairness and just earning of income such as profit and loss sharing, equitable distribution and the prohibition of riba (interest). A central feature of IBs is the institution of SSBs to help ensure compliance with the principles of Shari'ah. Advocates of Islamic banking argue that Shari'ah supervision enables IBs to contribute to social justice. The expected role and function of SSBs includes ensuring the operations of IBs do not involve dealing with any prohibited activity. For instance the Shari'ah governance framework for Islamic financial institutions issued by Bank Negara (2013: 1) declares that:

> "Shari'ah principles are the foundation for the practice of Islamic finance through the observance of the tenets, conditions and principles espoused by Shari'ah. Comprehensive compliance with Shari'ah principles would bring confidence to the general public and the financial markets on the credibility of Islamic finance operations."

The role and responsibilities of SSBs typically include: advising the boards of directors; providing input to Islamic financial institutions on Shari'ah matters to enable firms to comply with Shari'ah principles; setting Shari'ah related rules and principles and overseeing compliance to ensure that policies and procedures prepared by Islamic financial institutions are in conformity with Shari'ah and issuing verdict (*fatwa*) to create confidence with respect to Shari'ah compliance (see Safieddine, 2009).

The key differentiation between CBs and IBs in terms of governance is the ethical underpinning and the existence of SSBs in Islamic banking. Working under guidance of SSBs, management of IBs have opportunity to raise operational issues with Shari'ah scholars who can examine them in the light of Islamic rules and principles and give specific rulings (Usmani, 1998). Contrasting IBs with CBs, Zaher and Hassan (2001: 159) observe that:

> "Under the Islamic financing system, investments or financing is targeted to the specific needs of the entity. Financiers or investors will need to satisfy themselves as to the reliability of the project, their lease rentals or the return promised in any financing deal. The investors and financiers have to exercise due diligence and careful monitoring of their investment. There is not much room for raising a variety of unsecured debts that are not targeted to the specific needs of borrowers."

[*Insert Figure 1 about here*]

In addressing our research question we adopt a multi-layer view of corporate governance in IBs, as depicted in Figure 1. The boards of directors, in the multi-layer governance of IBs, are prohibited from creating credit against credit due to prohibitions of interest (*riba*) under Shari'ah law. The boards of directors are also expected to avoid doubtful (*gharar*) investments in products such as CDOs and CDS. The religious beliefs and commitment to ethics also means that in IBs the boards of directors are expected to contribute towards social justice and avoid poor quality lending, aggressive risk taking while aiming to achieve social justice. Overall, the governance features of IBs with Shari'ah supervision as an additional mechanism suggest that IBs ought not to face the type of financial difficulties that have been experienced by their conventional counterparts. The role of SSBs in IBs means that their products are likely to be Shari'ah compliant and less risky. This may in turn have an effect on the performance of IBs. Our first hypothesis in null form is:

H_{01}: *There is no relationship between Shari'ah supervision and performance.*

Board structure and CEO power

The literature on the role of the boards of directors has focused on board effectiveness in monitoring management (Fama and Jensen, 1983). The board of directors is a powerful internal governance mechanism affecting firm performance (Cerbioni and Parbonetti, 2007; Khanchel 2007). Board size negatively affects firm performance (Hermalin and Weisbach, 2003) because of coordination costs and free-rider problems and due to individual director incentives to acquire information and monitor managers being low in large boards (see Bushman et al., 2001; Cerbioni and Parbonetti, 2007). In contrast, small boards are deemed to augment company monitoring capabilities (e.g., Jensen, 1993; Khanchel, 2007; Yermack, 1996). CEO-chair role duality is another aspect of internal governance. Scholars argue that role duality diminishes board independence, reduces flexibility of boards of directors and consequently reduces the possibility that boards can properly execute their oversight role (Cerbioni and Parbonetti, 2007; Krause et al., 2014; Li et al., 2008).

The literature on the impact of board composition, specifically the ratio of inside *versus* outside directors, and firm performance suggests that boards dominated by outsiders, i.e. independent directors, are deemed better suited to monitor and control managers. A number of studies link the proportion of outside directors to financial performance and shareholder wealth (Byrd and Hickman, 1992; Pathan and Faff, 2013; Rosenstein and Wyatt, 1990). These studies consistently find that higher stock returns and operating performance are associated with higher proportion of outside directors on boards. In contrast, compared to independent board members, inside and affiliated board members are more susceptible to CEO influence. In this paper we capture two key aspects of board structure (board size and independence) and CEO power (CEO chair duality and internally recruited CEO). The existing evidence suggests that better governance would have at least mitigated some of the effects of the financial crisis if not prevented them from occurring in the first place. Our second and third hypotheses in null form are:

H_{02}: There is no relationship between board structure and performance.

H_{03}: There is no relationship between CEO power and performance.

3. Data and Empirical Method

3.1 Sample

For the purpose of this paper we have selected IBs based on their 2005 asset size and matched them with CBs based on firm size and country of registration. There were 147 IBs listed in BankScope database but due to data availability limitations we matched 86 IBs with 86 CBs. Our final sample covers the seven year period 2005-2011, including 2005-2007 pre-crisis, 2008-2009 crisis, and 2010-2011 post-crisis periods, and covers 25 countries. We merged data from BankScope, Datastream, World Bank country level macroeconomic data with hand collected data on Shari'ah supervision and corporate governance from annual reports of 172 banks for the sample period. The final sample consists of 1204 bank-year observations for 86 IBs and 86 CBs giving us 602 bank-year observations in each sub-sample. The sample distribution is presented in Table 1.

[*Insert Table 1 about here*]

3.2 Measures of bank performance

We test Shari'ah supervision and a set of corporate governance variables against bank performance using both accounting and market-based measures. Consistent with prior literature we include accounting-based variables return on equity[4] and return on asset[5], and market-based variable Tobin's Q[6]. ROIAE is our first measure of performance of banks in terms of shareholders' equity. Generally, the higher the figure the better is the expected performance, except when a bank is highly leveraged. ROIAA is our second measure. It is useful in comparing the efficiency and operational performance of banks as it looks at the returns generated from assets. Third, we use ROAE (return on average equity), which is a measure of return on shareholder funds. Again the higher the figure the better it is, except when a bank is highly leveraged. Our fourth measure is ROAA. This is perhaps the most powerful single ratio for comparing the efficiency and operational performance of banks as it looks at the returns generated from the assets. Finally, for the market-based performance measure we use Tobin's Q which provides an estimate of the value of both tangible and intangible assets, such as market power, goodwill, quality of the management, and growth opportunities (see Pathan and Faff, 2013; and Weir et al., 2002).

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[4] We considered both operating income and net income to calculate the performance measures.
[5] Hutchinson and Gul (2004) and Gani and Jermias (2006) have implemented similar measures in their studies.
[6] Yermack (1996) and Weir et al. (2002) have implemented similar measures in their studies.

3.3 Measures of explanatory variables

The explanatory variables used in our model are described in Table 2. We include Shari'ah board size (*SSB*) as the proxy for Shari'ah supervision. Board structure related variables include board size (*lnBoard*), board independence (*Board_indep*), i.e. the proportion of independent non-executive directors on the board. CEO power related variables include whether the CEO and the board chair is the same person (*CEO_chair*) and whether the CEO was internally recruited (*CEO_internal*). Company specific variables include company size (*Log_TA*), default risk (*1/z-score*), which is estimated using the average ROA plus capital to asset ratio divided by the standard deviation of ROA. Following Pathan (2009), we use *1/z* as a proxy for risk taking. Additionally, we also include equity to total assets (*EQTA*) to measure the level of protection afforded to banks by the equity, and net loan to total assets (*NLTA*) as an indicator of the proportion of assets that are tied up in loans. The higher the ratio the less liquid the banks will be. We also include measures for Big4 auditor (using a dummy) and disclosure of risk (*Risk_disclosure*), i.e. credit risk, liquidity risk, market risk, operational risk, and fund management risk. We give a score of 0.2 for each of the five items when disclosed, thus the maximum possible score is 1. Country related factors in our model include log of GDP per capita (*lnGDP_percapita),* percentage of Muslim population (*Muslim_population*) as a proxy of major religion of the country in which the bank operates, and the rate of inflation (*Inflation*). Finally, we use a dummy variable for IBs (*Islamic*) in the full sample, where 1 represents an IB, and 0 otherwise.

3.4 Empirical model

We use the following model to test our hypotheses.

$$Performance_{i,t} = \alpha_0 + \alpha_1 * SSB_{i,t} + \beta_1 * CG_{i,t} + \gamma * X_{i,t} + \delta * ME_t + \varepsilon_{i,t} \ \ldots\ldots\ldots\ (1)$$

where $Performance_{i,t}$ is the proxy for the firm performance variable of bank i at time t,

$SSB_{i,t}$ is the firm level Shari'ah supervision variable of bank i (IBs only) at time t,
$CG_{i,t}$ is a matrix of firm level corporate governance variables of bank i at time t,
$X_{i,t}$ is a matrix of firm level control variables of bank i at time t,
ME_t is a matrix of country level macroeconomic variables at time t,
$\varepsilon_{i,t}$ is the error term, α_0 is the constant, and
α, β, γ and δ are the vectors of coefficient estimates.

We use the model to analyze the effect of (i) Shari'ah supervision *(SSB),* (ii) board structure (*lnBoard* and *Board_indep*), and (iii) CEO power (*CEO_chair and CEO_internal*) variables on bank performance (both accounting and market-based) using return on asset, return on equity, and hybrid (Tobin's Q) proxies. The choice of big audit firm (*Big4_adtr*), risk disclosure index (*Risk_disclosure*), capitalization (*EQTA*), liquidity (*NLTA*), firm size (*Log_TA*), risk-taking (*1/z*) and country specific variables GDP per capita (*lnGDP_percapita*), Muslim population (*Muslim_population*), inflation rate (*Inflation*) and an Islamic bank dummy *(Islamic)* are included in our model. The description of the variables is elaborated in Table 2.

[*Insert Table 2 about here*]

3.5 Estimation method

We use random-effect GLS technique (see Baltagi and Wu, 1999) in this paper. There are several reasons for considering random-effect estimation suitable for our research. First, OLS ignores the panel structure of the data (Gambin, 2004). Second, the time-invariant parameter like religion cannot be estimated with fixed-effect. Third, the board structure (*lnBoard* and *Board_indep*) and CEO power (*CEO_chair* and *CEO_internal*) variables do not vary much over time and hence applying fixed-effect estimations would lead to massive loss of the degrees of freedom (Baltagi, 2005: 14; Wooldridge, 2002: 286).

3.6 Descriptive statistics

We report descriptive statistics for the full sample in Table 3 (columns 2-10). We present mean for IBs, CBs and two-sample T-test (comparison of means for IBs and CBs) in columns 11-13. With respect to the dependent variables, we find that for the IBs sample (CBs sample, full sample) the mean ROIAE is 10.44% (9.99%; 10.22%), ROAE is 8.63% (8.88%; 8.75%), ROIAA is 1.29% (1.52%; 1.41%), ROAA is 1.24% (1.40%; 1.32%) and Tobin's Q is 0.9256 (09589; 0.9411). T-tests do not reveal any significant difference in performance between CBs and IBs.

We find the mean size of Shari'ah supervisory boards (*SSB*) is 4.1714. For corporate governance variables, the mean board size for the IB sample (CB sample; full sample) is 9.07 (9.088; 9.08), proportion of independent directors (*Board_indep*) is 0.3678 (0.1519; 0.2671), CEO-Chair duality (*CEO_chair*) is 9.9% (12.17%; 10.97%), internally recruited CEO (*CEO_internal*) is 19.37% (39.89%; 28%), Big4 auditor (*Big4_adtr*) is 78.29% (78.95%; 78.61%), and score for the risk disclosure index (*Risk_disclosure*) is 0.709

(0.650; 0.679). There is a significant difference between IBs and CBs in terms of board independence, internally recruited CEO and risk disclosure, i.e. IBs have higher risk disclosure and higher proportion of independent directors, but lower proportion of internally recruited CEOs.

The means for the company specific variables for the IBs sample (CBs sample; full sample) are: log of Z-score measure of risk is 2.8006 (2.7504; 2.7751); equity to total asset (*EQTA*) ratio is 0.1786 (0.1457; 0.1612); net loan to total asset (*NLTA*) ratio is 0.4797 (0.4739; 0.4768); while the log of total assets (*Log_TA*) is 21.0725 (21.3067; 21.1903). The T-tests (see column 13) reveal that there is a significant difference between the IBs and CBs only for the equity to total asset ratio (*EQTA*). The means for the country specific variables are as follows: *lnGDP_percapita* is 8.6888; *Muslim_population* is 79.2093; and *Inflation* is 6.5228.

[*Insert Table 3 about here*]

4. Empirical Findings

4.1 Tests of Hypotheses

(i) Accounting Performance, Shari'ah supervision and Corporate Governance

In Tables 4 and 5 we present the regression results examining the effect of Shari'ah supervision, board structure and CEO-power on bank performance. Models 1-4 are for IBs (Panel A), models 5-8 are for CBs (Panel B), and models 9-12 are for the full-sample (Panel C). For each panel we present the results for the full period (Table 4). The Wald Chi2 tests are highly significant for all the models and the R-squares are relatively high which indicates that the models are appropriate and the chosen parameters are good estimators of performance. All the models are fitted with Random-effect GLS (see section 3.5 for justification of the model). With respect to H_{01}, we find that the *SSB* coefficients are positively related to performance for the full period, even though all of them are not significant, indicating that *SSB* influences firm performance (positively) (see models 1-4: Table 4). Overall, Shari'ah supervision has a positive effect on the performance of IBs.

The board structure variables (*lnBoard* and *Board_indep*) have a negative and significant association with performance for the IBs sample (Table 4). The results are quite consistent with previous research (Anders and Vallelado, 2012; and Pathan and Faff, 2013). Large boards are often deemed ineffective;

therefore, the negative relationship between board size and performance is not surprising. The interaction between board size and board independence has a highly significant and positive association with performance for the IBs sample. These results reject the null hypotheses H_{02} for the IBs sample. More independent directors in the board negatively impacts on performance. This may be due to the fact that either independent directors are chosen more for conforming to regulatory requirements or the market for high performing independent directors is limited (see Pathan and Faff, 2013; Wintoki et al., 2012; Yermack, 1996). The CEO power variables (*CEO-chair* and *CEO_internal*) have a negative and insignificant, but the interaction between *CEO-chair* and *CEO_internal* has a positive (insignificant), relationship with the performance of IBs (Table 4). These results reject H_{03} for the IBs sample and are consistent with Aebi et al. (2012) and Francis et al. (2012).

We find that *Muslim_population, lnGDP_percapita* have a positive association with the performance of IBs. Interestingly, we find that risk-taking behavior (*1/z*) has a significant positive and EQTA has a negative significant association with performance of IBs. These results indicate that higher risk-taking is rewarded with higher profitability and high capital protection is penalized with lower profitability. In addition, firm size (*Log_TA*) is also a significant variable affecting performance of IBs. Overall, we find that board structure and CEO power play a role in explaining the performance of IBs.

In CBs, we find board structure variables are positively related to performance. In contrast CEO duality (*CEO_chair*) has a negative effect on performance. The effect of internally recruited CEO (*CEO_internal*) is mixed for CBs. Similar to our findings for IBs, risk taking (*1/z*) has a significant positive effect on the performance of CBs (see Panel B). These findings are generally consistent with Adams and Mehran (2012), Aebi et al. (2012), Francis et al. (2012) and Sierra et al. (2006).

[*Insert Tables 4 about here*]

We further explore the effect of Shari'ah supervision and corporate governance on bank performance by separating our sample into pre-crisis period (2005-7), crisis period (2008-9) and post-crisis period (2010-11) and report the results in Table 5. Models 1-4 are for IBs (Panel A), models 5-8 are for CBs (Panel B), and models 9-12 are for the full-sample (Panel C). As Panel A shows during the crisis period we find Shari'ah supervision (*SSB*) and CEO duality (*CEO_chair*) generally have a positive effect on the performance of IBs. The results provide some support for the view that Shari'ah supervision

ameliorates the negative effects of excessive risk taking and contribute to better performance of IBs. The effect of internally recruited CEOs (*CEO_internal*) on the performance of IBs during the crisis period is mixed. The board structure variables (*lnBoard* and *Board_indep*) for IBs are generally insignificant, but negative for the crisis period. For the CBs sample, we find that board structure (*lnBoard* and *Board_indep*) has a positive effect whereas CEO power (*CEO_chair* and *CEO_internal*) generally has a significant negative effect on performance during the crisis period. The differences between the periods could be due to changes in board structure between the sub-periods. For example, board size in full period is 9.47, whereas we notice a variation of board size across sub-periods as 9.31 (pre-crisis), 9.59 (during-crisis) and 9.56 (post-crisis). The same is true for *Board_indep*. The distribution for full sample and sub-samples are as 0.37 (full period), 0.32 (pre-crisis), 0.47 (during-crisis) and 0.32 (post-crisis). We find that both board size and *Board_indep* increases during crisis compared to pre and post crisis period.

[*Insert Table 5 about here*]

(ii) Market-Based Performance, Shari'ah Supervision and Corporate Governance

Besides using accounting-based measures, we also use market-based measure of performance (*Tobin's Q*) to examine our three hypotheses. Models 1-4 are for IBs (Panel A), models 5-8 are for CBs (Panel B), and models 9-12 are for the full-sample (Panel C). For each panel, first model is for full sample, second, third, and fourth models are for pre-crisis, during-crisis, and post-crisis respectively. We report the results in Table 6. The models include Shari'ah supervision (*SSB*), board structure (*lnBoard* and *Board_indep*), CEO power (*CEO-chair* and *CEO_internal*), and several firm-level (*1/z, Log_TA, EQTA, NLTA*), and country-level control variables. The Wald Chi2 is highly significant in all the models indicating that the models are appropriate and the chosen parameters are precise estimators of firm performance. All the models are fitted with Random-effect GLS (see the model justifications in section 3.5). With respect to our first hypothesis (H_{01}), we find that the *SSB* coefficients are positively related to market based performance, even though coefficients are insignificant, indicating that H_{01} is rejected.

With respect to H_{02}, we find that board structure variables (*lnBoard* and *Board_indep*) have a negative association with the performance of IBs, but the directions of the coefficients vary when we divide the sample into pre-crisis, crisis and post-crisis periods. This could be due to changes in board structure, noted earlier, during the sub-periods. The coefficients are not significant and thus we fail to

reject this hypothesis. Our results here are consistent with Aebi et al. (2012), Adams and Mehran (2012), Francis et al. (2012) and Sierra et al. (2006). With respect to H_{03}, we find that CEO power variables are negatively (significant) associated with the performance of IBs. This is consistent with the general findings of Aebi at al. (2012) and Francis et al. (2012). Although the results for the pre-crisis, crisis and post-crisis periods offer mixed results both in sign and significance, we generally find negative influence of CEO power variables on market-based performance in IBs. The coefficients are generally insignificant. Interestingly, the interaction term (*CEO_chair*CEO_internal*) has a significant positive association with the performance of IBs for all period, but for the sub-periods the results are mixed. Overall, our results reject H_{03}.

For the CBs sample (Panel B) and the full sample (Panel C), we find mixed results similar to that we found when using accounting-based measures of performance. This is consistent with Wintoki et al. (2012). For all the sub-periods, we find that equity protection (*EQTA*) has a negative significant relationship with performance. We find *Muslim_population* and *lnGDP_percapita* generally have positive significant effect on performance in both the IBs and the full sample.

[*Insert Table 6 about here*]

(iii) Extended Analysis of IBs

In this section, we extend our base model for the relationship between Shari'ah supervision, corporate governance and IB performance. First, we examine if accounting-based performance of IBs is affected by whether Shari'ah boards perform a supervisory or an advisory role. Second, we examine the relationship between Shari'ah supervision and accounting-based performance when bank size and country size vary. Third, we examine the effect of the supervisory/advisory roles as well as bank and country size effects on the market-based performance of IBs.

iii.i Is the performance of IBs affected by whether Shari'ah boards are supervisory or advisory?

We managed to hand collect the Shari'ah board data for 75 IBs out of the 86 IBs we have in our sample. Out of these 75 IBs, in 61 (427 bank-year observations) IBs the Shari'ah boards perform a supervisory role, whereas in 14 IBs (98 bank-year observations) the Shari'ah boards perform an advisory role. We thus extend our investigation to examine the effect on accounting-based performance when Shari'ah boards play either a supervisory or an advisory role. We present regression results for each

accounting-based performance proxy (see Table 7). Model 1 reports the results when the Shari'ah boards have a supervisory role whereas model 2 presents the result when the Shari'ah boards have an advisory role. We find the effect of Shari'ah supervision (*SSB*) on accounting-based performance is positive when Shari'ah boards have a supervisory role (Models 1, 4, 7, and 10). In contrast the effect is negative when Shari'ah boards have an advisory role (Models 2, 5, 8 and 11). We also find that board structure (*lnBoard* and *Board_indep*) negatively (significant), and CEO power (*CEO_chair* and *CEO_internal*) negatively (insignificant) influence accounting-based performance. The coefficients for the board structure variables are highly significant when Shari'ah boards have a supervisory role. These results suggest that Shari'ah supervision is an important instrument affecting the performance of IBs, but the effect could be positive or negative depending on whether Shari'ah boards have a supervisory or an advisory role.

We further examine the interaction between Shari'ah supervision (*SSB*) and strong board[7] and CEO power[8] (*SSB*Strong_Board*, *SSB*CEO_Power*) for IBs. The results are reported in models 3, 6, 9 and 12. The coefficients do not have similar signs and are not significant. Therefore, we conclude Shari'ah boards and regular boards are segmented. The coefficients for Shari'ah supervision (SSB), board structure (*lnBoard* and *Board_indep*) and CEO power (*CEO_chair* and *CEO_internal*) provide similar interpretations as those obtained from results when Shari'ah boards have a supervisory role (i.e. same as Models 1, 4, 7, and 10). We also find that firm-level variables risk taking (*1/z*) has a positive, *EQTA* has a negative, whereas country-level variables *Muslim_population* and *lnGDP_percapita* have a positive influence on accounting-based performance. The results are consistent with the earlier findings we reported in Tables 4 and 5. Overall, we reject H_{01} and H_{02}, but fail to reject H_{03}.

[*Insert Table 7 about here*]

iii.ii) Does bank size or country size matter for the impact of Shari'ah supervision on IBs performance?

We investigate the effect of Shari'ah supervision and corporate governance on accounting-based performance when bank size and country size differ. In Table 8 we report the results with variation in bank size (Panels A and B) and country size (Panel C and D). We define large (small) banks as those with higher (lower) than median asset-size and big (small) countries as those with higher (lower) than median country GDP. We find that Shari'ah supervision (*SSB*) has a significant positive, whereas board

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[7] We define strong board as board size less than median and board independence greater than median.
[8] CEO power is defined as CEO being the chair of the board as well as being internally recruited.

independence (*Board_indep*) has a significant negative, association with accounting-based performance when IBs are large (Panel A). We also find that in large IBs, CEO-chair duality (*CEO_chair*) has a positive, whereas internally recruited CEO (*CEO_internal*) has a significant negative, association with accounting-based performance. Overall, we strongly reject H_{01} when IBs are large. The results are inconclusive for small IBs and country differences. We find board structure has a significant negative association with performance in small countries. Thus, we reject H_{02} for small countries. We also reject H_{03} (partially) when the country is small, but the results are inconclusive for other differences.

[*Insert Table 8 about here*]

iii.iii) Does role of SSB, bank and country size affect market-based performance of IBs?

Similar to the analysis we reported above (see Tables 7 and 8), we further examine the effect of Shari'ah supervision and corporate governance this time using market-based performance instead of accounting-based performance. The results are reported in Table 9. Panel A reports the results when the Shari'ah boards have either a supervisory or an advisory role and the interaction between Shari'ah and regular boards. Similar to our findings when using accounting-based performance, we find *SSB* has a significant positive effect on the market-based performance of IBs when Shari'ah boards have a supervisory role. The effect is negative, though not significant, when they have an advisory role. Interestingly, board structure (*lnBoard* and *Board_indep*) and CEO-power (*CEO_chair* and *CEO_internal*) have a negative effect on market-based performance of IBs when Shari'ah boards have a supervisory role. Except for *CEO-internal*, the coefficients however are not significant. The interaction between *SSB* and strong board is negative and significant, whereas the interaction between *SSB* and CEO power is positive and not significant. This suggests that the Shari'ah boards and regular boards are segmented in IBs. The firm-level and country-level control variables produce mixed results and are dependent on whether Shari'ah boards have a supervisory or an advisory role.

In Table 9 (Panels B and C) we report the results for the effect of Shari'ah supervision and corporate governance on market-based performance when bank size and country size differ. The coefficients for *SSB*, board structure and CEO-power variables are mixed when we split the

sample based on bank size and country size. We find that SSB has as positive association with performance in both large banks and small banks as well as in large country and small country samples. The association is significant for the latter. Overall, we reject H_{01} when Shari'ah boards paly a supervisory role. Our results for H_{02} and H_{03} are inconclusive.

[*Insert Table 9 about here*]

(iv) Robustness Checks

iv.i Two-step system generalized method of moments (GMM)

We use the two-step system GMM approach adopted by Arellano and Bover (1995) and Blundell and Bond (1998) for endogeneity tests. This approach allows us to treat all the explanatory variables as endogenous and orthogonally use their past values as their respective instruments. It also creates a matching equation of the first differences of all variables and estimates the model via GMM using the lagged values of the right-hand side variables. First differencing eliminates unobserved heterogeneity and omitted variable bias. This approach means that we treat all bank characteristics as endogenous covariates, while treating the country and macro controls as strictly exogenous. We obtained system GMM estimates using Roodman's (2009) 'xtabond2' module in Stata.

The diagnostics tests reported in Table 10 show that the model is well fitted with statistically insignificant test statistics for both second-order autocorrelation in second differences (AR(2)) and the Hansen J-statistics of over-identifying restrictions. The residuals in the first difference should be serially correlated (AR(1)) by way of construction but the residuals in the second difference should not be serially correlated (AR(2)). Accordingly, the model fit and diagnostics in Table 10 show the desirable statistically significant AR(1) and statistically insignificant AR(2). Likewise, the Hansen J-statistics of over-identifying restrictions tests the null instrument validity, and the statistically insignificant Hansen J-statistics indicates that the instruments are valid in the two-step system GMM estimation (see Table 10). Overall, consistent with expectations, the 'system GMM' estimates show that after controlling for unobserved heterogeneity, simultaneity and dynamic endogeneity, SSB, strong board and CEO power are related to the performance of IBs.

[*Insert Table 10 about here*]

iv.ii Three-stage least squares (3SLS)

To eliminate the endogeneity problem from simultaneity bias (if any), first we endogenize both board size and independent directors based on the existing literature on board structure (e.g. Linck et al., 2008) by developing the following regression Eqs. (2)-(4):

$Performance_{i,t}$

$$= \alpha_0 + \beta_1 * SSB_{i,t} + \beta_2 * lnBoard_{i,t} + \beta_3 * Board\_indep_{i,t} + \beta_4 * CEO\_chair_{i,t}$$

$$+ \beta_5 * CEO\_internal_{i,t} + \gamma * X_{i,t} + \delta * ME_t + \varepsilon_{i,t} \dots \dots (2)$$

$$lnBoard_{i,t} = \alpha_0 + \beta_1 * SSB_{i,t} + \beta_2 * Board\_indep_{i,t} + \beta_3 * CEO\_chair_{i,t} + \beta_4 * CEO\_internal_{i,t}$$

$$+ \varepsilon_{i,t} \dots \dots (3)$$

$$Board\_indep_{i,t} = \alpha_0 + \beta_1 * SSB_{i,t} + \beta_2 * InBoard_{i,t} + \beta_3 * CEO\_chair_{i,t} + \beta_4 * CEO\_internal_{i,t}$$

$$+ \varepsilon_{i,t} \dots \dots (4)$$

The definitions of the variables used in the above models are described in Table 2. We obtained the 3SLS results using reg3 commands in Stata. Although there is variation in the significance levels for SSB, board size and board independence, the directions of the relationship is still similar to that we reported earlier in Tables 4-9. The coefficients for Shari'ah supervision, board structure and CEO power variables are the same as the results presented using two-step system GMM (Table 10) and the GLS random effect models (Tables 4-9). Thus, the interpretations of the results from 3SLS (Table 11) are consistent with the two-step system GMM and GLS-Random Effect models.

Overall, the robustness checks in this section show that after directly controlling for endogeneity with the two-step system GMM and 3SLS, the influence of Shari'ah supervision, board structure and CEO power on the performance of IBs is similar to the main results we presented earlier in Tables 4-9.

[*Insert Table 11 about here*]

(v) Additional survey evidence on effectiveness of Shari'ah Board

To complement the findings from our regression tests with respect to the effect of Shari'ah supervision on performance in this section we provide some evidence on the composition and nature of Shari'ah boards. This additional insight contributes towards better understanding the statistical associations we reported in the earlier sections. We conducted a survey of Shari'ah board members from our sample

countries. We sent out 71 questionnaires to the Shari'ah board members during April-July, 2012, but received a total of 11 responses from Bangladesh, Bahrain, Malaysia, Indonesia, Pakistan and the UK. The response rate is 15.49%[9]. To complement our findings in respect of H_{01}, i.e. the relationship between Shari'ah supervision and performance, drawing on our questionnaire survey findings we now consider board effectiveness issues relating to: SSB independence; the competency of SSB members; transparency and disclosures in relation to SSBs and finally the legal status of the pronouncements of SSBs.

Shari'ah Board Independence. We find from the survey that Shari'ah board members do not work for IBs as employees, but as advisors/consultants. A total of 55% of the respondents said that they are accountable to the boards of directors but 45% said they are accountable to the shareholders. However, 91% of the respondents opine that the shareholders have the power to appoint and dismiss Shari'ah boards and the Shari'ah boards report to the IB's boards of directors. All respondents opined that the power and responsibilities of Shari'ah boards are clearly defined in the articles of association.

Competency & Conflicts of Interest. Despite the fact that all the respondents agree that banks review the qualifications and expertise of Shari'ah board members, when asked about Shari'ah board members' training and their understanding of internal controls and risk management process the responses are mixed. Interestingly, all respondents report that their bank has never evaluated the performance of the Shari'ah board. When asked about Shari'ah board effectiveness, 63% say that they meet quarterly and 34% say that they meet monthly, and all of them report that they have not experienced quorum problems. Shari'ah board decisions are made based on consensus (82%) or on a 2/3rd majority basis (18%). The agenda of the Shari'ah board meeting is prepared and distributed between 3-7 days in advance. While 45% state internal Shari'ah officers handle administrative issues relating to Shari'ah board meetings, 55% report that the company secretary is responsible for it. Notably, all Shari'ah board members serve on a part time basis and serve on multiple Shari'ah boards. In some countries, the central banks restrict Shari'ah board members from serving on multiple boards. Interestingly, 91% of the respondents opine that non-disclosure agreements mitigate any conflicts of interest due to multiple Shari'ah board membership.

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[9] While the response rate is not as high as we desired, and perhaps not surprising given that Shari'ah board members may not be accustomed to participating in questionnaire surveys and have limited time, we believe that they still shed some light on the nature of Shari'ah supervision in the multi-layer governance system we described earlier in the paper.

Disclosure, Transparency & Consistency. First, all respondents confirm that Shari'ah boards are monitored either by national Shari'ah council or Shari'ah authority of the central bank. Second, 82% of respondents report that the bank has an independent Shari'ah board. Other IBs tend to either rely on an external Shari'ah advisory firm or on the internal Shari'ah officer. Third, internal Shari'ah review is conducted by an internal Shari'ah committee (73%). But 27% of the respondents report that it is the role of audit committees to conduct internal Shari'ah reviews. Fourth, 82% report that resolutions of the Shari'ah board are publicly available.

Legal Status of Shari'ah Board Pronouncements. A majority of the respondents (55%) report that SSBs have an advisory role and merely validate documentations. In contrast 45% report that Shari'ah boards have a supervisory role. With respect to Shari'ah board pronouncements, 73% of the respondents are of the view that IBs consider them binding whereas 27% consider them merely advisory.

As we noted earlier, Shari'ah boards are considered the key driving force for restraining IBs from excessive risk-taking in the multi-layer governance model of Islamic banking. We find empirical evidence that Shari'ah boards affect the performance of IBs (Tables 4-11). Our survey results provide additional insight with respect to our regression results for Shari'ah boards (H_{01}) and emphasize the need for SSBs to be independent and have monitoring capability. The survey results support our empirical analysis of the interaction between Shari'ah and regular boards. We find that these boards are segmented (Table 7: Models 3, 6, 9, and 12 and Table 9: Model 3) rather than integrated. Overall, our regression results and survey findings lead us to conclude that while Shari'ah boards do play a critical role in affecting the performance of IBs, they have the potential to make more substantive contribution to the future of Islamic banking and help achieve ethical goals through improved independence, better monitoring and coordination with the regular boards of directors.

5. Summary and Conclusions

The main objective of our paper is to examine whether Shari'ah supervision, as a cornerstone of Islamic banking and representing a multi-layer corporate governance model, helps IBs perform better and create shareholder value. In particular, our focus is on exploring the effect of (i) Shari'ah boards, (ii) board structure and (iii) CEO power on the performance of IBs vis-à-vis CBs. Our focus is motivated by the

paucity of research examining the effect of Shari'ah supervision and corporate governance on the performance of IBs.

Our analysis of bank performance and governance shows that boards of IBs are more independent compared with their conventional counterparts (CBs) and CBs recruit more internal CEOs than IBs. The small boards in IBs and Shari'ah boards seem to be profit driven, but independent directors are associated with a decline in IB performance. In addition, Muslim population of the country, bank capitalization and risk-taking behavior of IBs are a fundamental influence on their performance. We find different results between IBs and CBs. Therefore, we conclude that the "multi-layer" corporate governance model instituted in IBs helps them to perform better than the CBs, but this is due to inbuilt Shari'ah mechanisms in Islamic banking. Despite concerns about their independence and limited monitoring ability, we find that Shari'ah boards play a significant role in protecting shareholder interest and affect the performance of IBs. We also find that board structure and CEO power are also important influence on the performance of IBs. Our findings are robust across different measures and different methods.

Our statistical regression tests show that Shari'ah boards are a significant influence on the performance of IBs. The regression results and the survey results together provide support for the view that Shari'ah boards affect the performance of IBs. Our survey evidence suggests there is scope for improving Shari'ah supervision, especially the independence and monitoring ability of SSBs particularly due to their part-time nature, holding positions on multiple boards, and being often accountable to the boards of directors. These constraints faced by SSBs are not unique to the IB setting but are also akin to those faced by audit committees generally in corporate governance (see Turley and Zaman, 2007; Zaman et al., 2011). SSBs tend not to have any monitoring role beyond opining on the Shari'ah compliance of IB products and services. However, they do perform supervisory roles in majority of IBs and also advisory roles in some IBs and thus provide an additional check and add value. Well-functioning, independent and diligent Shari'ah boards, working in concert with the regular boards of directors, are however necessary to ensure that the ethical goals of Islamic banking are realized in practice.

Our findings have several implications for CBs, IBs and bank regulators. CBs can draw some lessons from their Islamic counter-parts and give attention to factors motivating management and boards

of directors. An implication of our findings for IBs is the need to ensure that Shari'ah supervision boards are independent and diligent and work in concert with the boards of directors. IBs also should consider the detrimental effect on their performance that can result from having the Chair-CEO role combined and having internally recruited CEOs.

The findings of our research can be a valuable source of knowledge for policy makers and regulators, particularly in the financial services sector, in devising strategies to mitigate future financial crises. Our research contributes to the literature regarding whether a multi-layer corporate governance model, like that prevalent in Islamic banking, based on ethics and moral values can result in different risk-taking behavior and in turn result in better financial performance. Future research may extend the issues explored in our paper and focus on examining, for instance, the role, independence and effectiveness of Shari'ah boards. We encourage further research on the nature, operation and effects of Shari'ah boards and their contribution to the governance and accountability of Islamic financial institutions.

Acknowledgements:

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Figure 1: Governance Framework in Islamic Banking (Proposed by Authors)

Shari'ah Board

- SUPRA AUTHORITY:
- Prohibits the Board of Directors in creating credit against credit due to the prohibitation of interest under Islamic Shari'ah Law
- Prohibits the Board of Directors in creating unethical products like the CDOs and CDS due to the involvement of doubtful investment (i.e., the Arabic word Gharar)

Boards of Directors

- RELIGIOUS BELIEF, ETHICS AND MORALITY DRIVEN BOARD:
- Refrain from generating poor quality lending
- Refrain from Aggressive Risk Taking
- Eventually protect banks against fallibility and thus, perform better and help create more value than conventional counterparts (CBs)
- Overall, the board ensures social justice

- **PERFORMANCE**
  - Performance, Risk Taking and Accountability of Islamic Banks

Table 1: Sample Distribution

The table describes the sample of the study. The study considers 172 banks (86 Islamic and 86 conventional) over 25 countries for the period of 2005-2011. The country-wise distribution of the banks, observations, and percentage are given in columns 2-6.

Country	Islamic Banks	Conventional Banks	Full Sample (all Banks)	Observations	Percentage
Bahamas	1	1	2	14	1%
Bahrain	8	8	16	112	9%
Bangladesh	5	5	10	70	6%
Brunei Darussalam	1	1	2	14	1%
Egypt	2	2	4	28	2%
Gambia	1	1	2	14	1%
Indonesia	1	1	2	14	1%
Iraq	1	1	2	14	1%
Jordan	3	3	6	42	3%
Kuwait	5	5	10	70	6%
Lebanon	1	1	2	14	1%
Malaysia	11	11	22	154	13%
Mauritania	1	1	2	14	1%
Pakistan	11	11	22	154	13%
Palestinian Territory	1	1	2	14	1%
Qatar	2	2	4	28	2%
Saudi Arabia	6	6	12	84	7%
Senegal	1	1	2	14	1%
Sudan	7	7	14	98	8%
Thailand	1	1	2	14	1%
Tunisia	1	1	2	14	1%
Turkey	4	4	8	56	5%
United Arab Emirates	7	7	14	98	8%
United Kingdom	3	3	6	42	3%
Yemen	1	1	2	14	1%
Total	86	86	172	1204	100%

Table 2: Description of Variables	
Variables	**Definitions and Coding**
Panel A: Dependent variables (bank performance)	
ROIAE=	Operational efficiency. Operating profit divided by average equity.
ROIAA=	Operational efficiency. Operating profit divided by total assets.
ROAE=	Operational efficiency. Net income divided by average total equity.
ROAA=	Return on average assets. Net income divided by average total assets.
Tobins'Q=	Market value of equity plus book value of liabilities divided by book value of assets.
Panel B: Shari'ah Supervision and Corporate Governance variables[a]	
SSB=	Shari'ah board size.
lnBoard=	Log of number of members on the board of directors.
Board_indep=	Proportion of independent non-execs on the board.
CEO_chair=	Duality, coded 1 if the chair and CEO are the same person.
CEO_internal=	CEO recruited internally, coded 1 if yes, otherwise 0.
Panel C: Company specific variables	
Big4_adtr=	Auditor is a Big4 firm, coded 1 if yes, otherwise 0.
Risk_disclosure=	Index of disclosure, 0.2 given for disclosure of each of the following risks: credit, liquidity, market, operational, and fund.
1/z=	1/z is the risk-taking variable. Z-scope measures the distance to default, which is estimated as ROA plus capital to asset ratio divided by standard deviation of ROA. We estimate 1/Z as 1/log Z-score.
EQTA=	Equity to total assets a measure of level of protection afforded to the bank by the equity.
NLTA=	Net loans to total assets an indicator of the proportion of assets that are tied up in loans.
Log_TA=	Log of the total asset of the bank, a proxy for size.
Panel D: Country specific variables	
lnGDP_percapita=	Log of GDP per capita.
Muslim_population=	Percent of Muslim population.
Inflation=	Inflation rate
Panel E: Islamic Bank Dummy	
Islamic=	Dummy for Islamic Bank in the full sample

[a]Note: lnBoard and Board_indep constitute board structure. CEO_chair and CEO_internal constitute CEO power.

Table 3: Descriptive Statistics

This table presents for the full sample the descriptive statistics for the variables used in the models. See Table 2 for variable definitions.

VARIABLES	Full Sample									IBs Sample Mean	CBs Sample Mean	Two-sample T-Test
	N	mean	sd	min	max	skew	kurt	p1	p99			
ROIAE	1204	0.1022	0.2314	-2.5625	1.0251	-2.8824	26.278	-0.8639	0.5922	0.1044	0.0999	0.3398
ROAE	1204	0.0875	0.1999	-2.5903	1.0924	-3.3558	37.6208	-0.7293	0.5085	0.0863	0.0888	-0.2111
ROIAA	1204	0.0141	0.0374	-0.2753	0.6605	3.7997	87.2752	-0.0912	0.095	0.0129	0.0152	-1.0688
ROAA	1204	0.0132	0.0373	-0.2753	0.6557	4.5623	91.5399	-0.0843	0.1034	0.0124	0.014	-0.7431
TobinsQ	668	0.9411	0.2661	0	2.4669	2.5701	7.8655	0.1779	1.7021	0.9256	0.9589	-1.6157
SSB	525	4.1714	1.8884	1	14	1.7606	9.9327	1	12	4.1714	-	-
Board_size	1070	9.0804	2.6245	3	24	0.9112	5.1757	4	18	9.0737	9.088	-0.089
Board_indep	877	0.2671	0.279	0	1	0.5368	1.9343	0	0.84	0.3678	0.1519	12.38***
CEO_chair	957	0.1097	0.3127	0	1	2.4975	7.2375	0	1	0.099	0.1217	-1.119
CEO_internal	882	0.28	0.4493	0	1	0.9797	1.9598	0	1	0.1937	0.3989	-6.868***
Big4_adtr	991	0.7861	0.4103	0	1	-1.3952	2.9467	0	1	0.7829	0.7895	-0.2501
Risk_disclosure	1091	0.679	0.3149	0	1	-1.1357	3.1911	0	1	0.709	0.6504	3.0827***
Log Z	1034	2.7751	0.9805	-5.0588	6.2165	-0.7965	7.7155	0.0417	5.0855	2.8006	2.7504	0.8224
EQTA	1204	0.1612	0.1723	-0.5893	1	2.1956	10.4442	0	0.916	0.1768	0.1457	3.1409***
NLTA	1046	0.4768	0.2196	0	0.9546	-0.5509	2.506	0.0012	0.8763	0.4797	0.4739	0.4286
Log_TA	1054	21.1903	1.7205	13.1803	25.1093	-0.2335	2.9145	17.2038	24.6133	21.0725	21.3067	-1.2137
Islamic	1204	0.5000	0	0	1	0	1	0	1	1	-	-
lnGDP_percapita	1190	8.6888	1.5428	6.0429	11.3948	-0.1297	1.6143	6.0475	11.1776	-	-	-
Muslim_population	1204	79.2093	22.9112	0	100	-1.9448	6.9605	0	100	-	-	-
Inflation	1138	6.5228	5.4706	-10.0675	53.2310	1.9879	13.5844	-1.0508	22.1112	-	-	-

Table 4: Shari'ah Supervisory Board (SSB), and Corporate Governance and Firm Performance – All Period (2005-2011)

This table presents the results for the governance and performance for sub-samples (Panel A, B, and C) for all period. Performance proxies ROIAE, ROAE, ROIAA, AND ROAA are used by employed in equation 1. See Table 2 for description of variables. lnBoard*Board_indep and CEO_chair*CEO_internal are interaction variables. Robust standard errors in parentheses. ***, **, and * are the level of significance at 1%, 5%, and 10% respectively.

VARIABLES	Panel A: Islamic Banks (IBs)				Panel B: Conventional Banks (CBs)				Panel C: Full Sample (IBs and CBs together)			
	(1) ROIAE	(2) ROAE	(3) ROIAA	(4) ROAA	(5) ROIAE	(6) ROAE	(7) ROIAA	(8) ROAA	(9) ROIAE	(10) ROAE	(11) ROIAA	(12) ROAA
SSB	0.016**	0.008	0.001	0.001								
	(0.007)	(0.005)	(0.001)	(0.001)								
lnBoard	-0.016**	-0.020***	-0.004**	-0.005***	0.004	0.004	0.001	0.001	0.000	-0.000	-0.000	0.000
	(0.008)	(0.007)	(0.002)	(0.002)	(0.003)	(0.003)	(0.001)	(0.001)	(0.002)	(0.002)	(0.000)	(0.000)
Board_indep	-0.479**	-0.465***	-0.089**	-0.103***	0.145	0.120	0.017	0.015	-0.054	-0.071	-0.014	-0.019
	(0.190)	(0.152)	(0.040)	(0.038)	(0.112)	(0.097)	(0.020)	(0.018)	(0.065)	(0.055)	(0.014)	(0.014)
CEO_chair	-0.054	-0.051	-0.011	-0.010	-0.024	-0.029	-0.009	-0.010	-0.049	-0.052	-0.011	-0.011
	(0.077)	(0.054)	(0.013)	(0.010)	(0.072)	(0.070)	(0.022)	(0.022)	(0.055)	(0.040)	(0.011)	(0.009)
CEO_internal	-0.007	-0.012	-0.001	-0.002	0.017	0.001	-0.002	-0.003	0.001	-0.009	-0.003	-0.004**
	(0.021)	(0.020)	(0.004)	(0.004)	(0.020)	(0.015)	(0.003)	(0.003)	(0.014)	(0.011)	(0.002)	(0.002)
lnBoard*Board_indep	0.049**	0.047***	0.009**	0.010***	-0.016	-0.013	-0.002	-0.002	0.005	0.007	0.001	0.002
	(0.019)	(0.015)	(0.004)	(0.004)	(0.012)	(0.011)	(0.002)	(0.002)	(0.007)	(0.006)	(0.001)	(0.001)
CEO_chair*CEO_internal	0.078	0.084	0.014	0.013	0.054	0.061	0.013	0.016	0.073	0.081*	0.015	0.015
	(0.085)	(0.061)	(0.015)	(0.012)	(0.081)	(0.077)	(0.023)	(0.022)	(0.061)	(0.044)	(0.012)	(0.010)
Big4_adtr	-0.029	-0.025	-0.006	-0.006	0.017	0.020	0.004	0.004	-0.001	0.001	-0.001	0.000
	(0.023)	(0.020)	(0.005)	(0.005)	(0.021)	(0.018)	(0.005)	(0.004)	(0.015)	(0.013)	(0.003)	(0.003)
Risk_disclosure	0.014	0.017	0.003	0.004	-0.063	-0.046	-0.014	-0.012	-0.012	-0.007	-0.003	-0.002
	(0.025)	(0.021)	(0.005)	(0.005)	(0.043)	(0.036)	(0.012)	(0.012)	(0.019)	(0.017)	(0.005)	(0.004)
1/z	0.116***	0.098***	0.014***	0.012***	0.113***	0.104***	0.011***	0.009***	0.113***	0.099***	0.012***	0.011***
	(0.019)	(0.019)	(0.004)	(0.005)	(0.016)	(0.015)	(0.003)	(0.003)	(0.012)	(0.012)	(0.002)	(0.002)
Log_TA	-0.011	-0.012**	-0.003**	-0.003**	0.007	0.002	-0.000	-0.000	0.001	-0.002	-0.001*	-0.001**
	(0.007)	(0.006)	(0.001)	(0.001)	(0.006)	(0.005)	(0.001)	(0.001)	(0.004)	(0.004)	(0.001)	(0.001)
EQTA	-0.238***	-0.188***	-0.043	-0.033	-0.280***	-0.229***	0.020	0.028	-0.244***	-0.199***	-0.012	-0.006
	(0.057)	(0.053)	(0.035)	(0.029)	(0.097)	(0.080)	(0.032)	(0.030)	(0.043)	(0.037)	(0.020)	(0.017)
NLTA	0.018	-0.029	0.001	-0.009	-0.035	-0.031	-0.016	-0.015	0.003	-0.027	-0.007	-0.014
	(0.060)	(0.058)	(0.014)	(0.014)	(0.112)	(0.088)	(0.017)	(0.014)	(0.049)	(0.042)	(0.009)	(0.009)
Muslim_population	0.002**	0.002**	0.000**	0.001***	0.000	0.001	0.000	0.000	0.001**	0.001***	0.000***	0.000***
	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)
lnGDP_percapita	0.015	0.023**	0.004**	0.005***	0.005	0.008	0.003	0.004**	0.010	0.017**	0.003***	0.004***
	(0.012)	(0.010)	(0.002)	(0.002)	(0.018)	(0.011)	(0.002)	(0.002)	(0.010)	(0.007)	(0.001)	(0.001)
Inflation	0.001	0.001	0.000	0.000	-0.000	-0.000	-0.000	-0.000	0.000	0.000	0.000	0.000
	(0.002)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.000)	(0.000)
Islamic									-0.022	-0.021	-0.004	-0.002
									(0.027)	(0.022)	(0.004)	(0.004)
Constant	-0.093	-0.054	0.014	0.005	-0.329	-0.297**	-0.040	-0.049*	-0.333**	-0.326***	-0.029	-0.039*
	(0.232)	(0.204)	(0.039)	(0.038)	(0.257)	(0.151)	(0.029)	(0.027)	(0.162)	(0.120)	(0.021)	(0.021)
Year Dummies	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Random Effect	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Pooled Observations	602	602	602	602	602	602	602	602	1204	1204	1204	1204
Overall R2	0.367	0.314	0.249	0.250	0.208	0.228	0.120	0.136	0.218	0.225	0.127	0.131
Wald Chi2	74.32***	60.97***	37.77***	36.96***	69.35***	69.75***	29.31***	27.17***	104.84***	95.64***	61.38***	58.51***

Table 5: Shari'ah Supervisory Board, CG and Performance: Pre, crisis, and post crisis

This table presents the results for the governance and performance for sub-samples (Panel A, B, and C) for crisis period. The results for company specific and country specific variables are not reported due to space. See Table 2 for description of variables. Robust standard errors in parentheses. ***, **, and * are the levels of significance at 1%, 5%, and 10% respectively.

Panel A: Islamic Banks (IBs)

VARIABLES	ROIAE			ROAE			ROIAA			ROAA		
	Pre-Crisis	Crisis	Post-Crisis	Pre-Crisis	Crisis	Post-Crisis	Pre-Crisis	Crisis	Post-Crisis	Pre-Crisis	Crisis	Post-Crisis
SSB	0.008	0.023***	0.013**	-0.008	0.011*	0.003	-0.000	0.001	-0.001	-0.001	-0.000	-0.002
	(0.010)	(0.008)	(0.006)	(0.007)	(0.006)	(0.006)	(0.002)	(0.001)	(0.002)	(0.002)	(0.001)	(0.002)
lnBoard	-0.001	-0.009	-0.006	0.032***	-0.010	-0.016	-0.000	-0.005	-0.002	-0.000	-0.003	-0.003
	(0.022)	(0.018)	(0.014)	(0.012)	(0.012)	(0.010)	(0.005)	(0.004)	(0.003)	(0.003)	(0.003)	(0.002)
Board_indep	-0.297	-0.384	-0.361	0.132	-0.231	-0.462*	-0.053	-0.079	-0.075	-0.045	-0.053	-0.084*
	(0.405)	(0.340)	(0.299)	(0.189)	(0.200)	(0.264)	(0.071)	(0.071)	(0.053)	(0.052)	(0.045)	(0.049)
CEO_chair	0.055	0.021	-0.348***	-0.050	0.027	-0.247***	-0.002	0.005	-0.044***	0.002	0.005	-0.029**
	(0.098)	(0.056)	(0.050)	(0.053)	(0.040)	(0.045)	(0.024)	(0.007)	(0.014)	(0.019)	(0.005)	(0.013)
CEO_internal	-0.106	-0.023	0.073	-0.006	-0.020	0.047	-0.005	0.000	0.014	-0.006	0.001	0.009
	(0.088)	(0.025)	(0.058)	(0.047)	(0.022)	(0.045)	(0.021)	(0.005)	(0.012)	(0.016)	(0.003)	(0.011)
Constant	-0.188	0.128	0.041	-0.606**	0.019	-0.048	-0.047	0.091	-0.088	-0.057	0.046	-0.091
	(0.386)	(0.344)	(0.320)	(0.294)	(0.264)	(0.292)	(0.103)	(0.066)	(0.079)	(0.085)	(0.050)	(0.076)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Random Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	602	602	602	602	602	602	602	602	602	602	602	602
Overall R2	0.400	0.449	0.332	0.303	0.426	0.307	0.222	0.349	0.211	0.243	0.379	0.275
Wald Chi2	83.28***	78.38***	21.40***	75.01***	80.87***	26.09***	41.17***	64.76***	27.10***	39.03***	79.85***	21.09***

Panel B: Conventional Banks (CBs)

VARIABLES	ROIAE			ROAE			ROIAA			ROAA		
lnBoard	0.003	0.011*	0.016*	0.003	0.013*	0.012*	0.000	0.002	0.002*	0.000	0.002	0.001*
	(0.004)	(0.006)	(0.009)	(0.003)	(0.007)	(0.006)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Board_indep	0.026	0.184	0.552**	-0.017	0.210	0.405**	0.005	0.037	0.068***	0.004	0.039	0.053***
	(0.181)	(0.145)	(0.223)	(0.173)	(0.159)	(0.160)	(0.048)	(0.029)	(0.024)	(0.046)	(0.032)	(0.019)
CEO_chair	-0.049	-0.177***	0.024	-0.047	-0.171***	0.041	0.005	-0.034***	0.000	0.000	-0.036***	0.003
	(0.098)	(0.062)	(0.072)	(0.075)	(0.051)	(0.051)	(0.019)	(0.011)	(0.008)	(0.018)	(0.009)	(0.006)
CEO_internal	-0.000	-0.020	0.027	-0.016	-0.023	0.009	-0.007	-0.007*	0.005	-0.007	-0.008*	0.004
	(0.027)	(0.022)	(0.051)	(0.024)	(0.024)	(0.039)	(0.007)	(0.004)	(0.005)	(0.008)	(0.004)	(0.004)
Constant	-0.615**	-0.720*	0.599*	-0.547***	-0.845**	0.223	-0.098*	-0.122**	0.021	-0.093*	-0.129**	-0.012
	(0.304)	(0.404)	(0.334)	(0.211)	(0.330)	(0.240)	(0.051)	(0.057)	(0.038)	(0.049)	(0.051)	(0.029)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Random Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	602	602	602	602	602	602	602	602	602	602	602	602
Overall R2	0.293	0.329	0.282	0.332	0.392	0.246	0.156	0.378	0.296	0.169	0.433	0.360
Wald Chi2	65.11***	62.87***	53.97***	55.92***	34.50***	52.38***	44.75***	42.01***	42.61***	34.65***	24.44***	27.22***

Panel C: Full Sample (IBs and CBs)

VARIABLES	ROIAE			ROAE			ROIAA			ROAA		
lnBoard	0.004	-0.001	0.007	0.003	0.001	0.004	-0.000	0.000	0.001	0.000	0.000	0.001*
	(0.004)	(0.006)	(0.006)	(0.003)	(0.005)	(0.004)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)
Baord_indep	0.011	0.030	0.003	-0.035	0.056	-0.014	-0.028	0.023	0.001	-0.026	0.022	0.004
	(0.103)	(0.118)	(0.140)	(0.082)	(0.095)	(0.116)	(0.021)	(0.017)	(0.026)	(0.021)	(0.014)	(0.020)
CEO_chair	-0.049	-0.002	-0.380***	-0.078**	0.008	-0.260***	0.010	-0.004	-0.045***	0.003	-0.004	-0.033***
	(0.041)	(0.045)	(0.039)	(0.039)	(0.034)	(0.034)	(0.010)	(0.006)	(0.009)	(0.010)	(0.004)	(0.006)
CEO_Internal	-0.018	-0.035**	0.034	-0.028	-0.027*	0.016	-0.010*	-0.005*	0.002	-0.010*	-0.005*	0.001
	(0.024)	(0.018)	(0.032)	(0.020)	(0.015)	(0.023)	(0.006)	(0.003)	(0.003)	(0.006)	(0.002)	(0.002)
Islamic	-0.028	-0.008	-0.036	-0.031	-0.010	-0.025	-0.008	0.002	-0.007*	-0.006	0.001	-0.006*
	(0.031)	(0.034)	(0.025)	(0.026)	(0.028)	(0.020)	(0.006)	(0.005)	(0.004)	(0.006)	(0.004)	(0.003)
Constant	-0.531***	-0.377	0.403*	-0.552***	-0.527**	0.116	-0.057	-0.065*	-0.001	-0.071*	-0.090***	-0.020
	(0.192)	(0.248)	(0.207)	(0.168)	(0.213)	(0.162)	(0.036)	(0.034)	(0.032)	(0.037)	(0.031)	(0.027)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Random Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1204	1204	1204	1204	1204	1204	1204	1204	1204	1204	1204	1204
Overall R2	0.235	0.281	0.580	0.254	0.299	0.539	0.156	0.241	0.448	0.185	0.250	0.386
Wald Chi2	77.53***	53.67***	95.38***	79.85***	58.59***	57.55***	50.59***	40.18***	133.11***	56.31***	49.15***	36.42***

Table 6: Shari'ah Supervisory Board (SSB), Corporate Governance and Firm Performance (Tobin's Q)

This table presents the results for the governance and performance for sub-samples (Panel A, B, and C) and for all period and crisis period. Performance proxy Tobin's Q is used by employed in equation 1. See Table 2 for description of variables. lnBoard*Board_indep and CEO_chair*CEO_internal are interaction variables. We define full period as 2005-2011, pre-crisis as 2005-2007, during crisis as 2008-2009, and post-crisis as 2010-2011. Robust standard errors are in the parenthesis. ***, **, and * are the level of significance at 1%, 5%, and 10% respectively.

VARIABLES	Panel A: Islamic Banks (IBs)				Panel B: conventional Banks (CBs)				Panel C: Full Sample (IBs and CBs together)			
	Full Period	Pre-crisis	Crisis	Post-crisis	Full Period	Pre-crisis	Crisis	Post-crisis	Full Period	Pre-crisis	Crisis	Crisis
SSB	0.015	0.026	0.018*	0.019								
	(0.011)	(0.023)	(0.011)	(0.014)								
lnBoard	-0.013	0.038	0.026	-0.005	-0.009	-0.006	-0.001	-0.011	-0.005	-0.000	0.002	-0.033***
	(0.025)	(0.074)	(0.025)	(0.026)	(0.006)	(0.009)	(0.021)	(0.014)	(0.006)	(0.011)	(0.005)	(0.012)
Board_indep	-0.024	1.689	0.454	0.256	0.020	0.862**	-0.669	-0.010	0.003	0.863***	-0.011	-0.424
	(0.388)	(1.241)	(0.407)	(0.795)	(0.298)	(0.419)	(0.887)	(0.396)	(0.152)	(0.309)	(0.102)	(0.277)
CEO_chair	-0.115	0.407	0.007	-0.269*	0.758	-0.083	1.523***	-0.151	0.303	-0.231***	0.153	-0.384**
	(0.076)	(0.339)	(0.037)	(0.151)	(0.551)	(0.087)	(0.071)	(0.101)	(0.354)	(0.080)	(0.164)	(0.180)
CEO_internal	-0.167**	-0.414	0.001	-0.397**	0.042	-0.041	0.073	0.092	-0.008	-0.122*	-0.006	0.087
	(0.073)	(0.326)	(0.038)	(0.142)	(0.041)	(0.067)	(0.082)	(0.105)	(0.031)	(0.072)	(0.017)	(0.074)
lnBoard*Board_indep	0.004	-0.163	-0.037	-0.047	0.009	-0.083*	0.056	-0.005	0.006	-0.085***	-0.001	0.048
	(0.040)	(0.135)	(0.039)	(0.078)	(0.035)	(0.045)	(0.086)	(0.038)	(0.017)	(0.032)	(0.008)	(0.034)
CEO_chair*CEO_internal	0.327***	0.000	-0.190	0.648***	-0.801	0.118	-1.602***	0.000	-0.272	0.359***	-0.338	0.326
	(0.120)	(0.000)	(0.143)	(0.215)	(0.554)	(0.116)	(0.080)	(0.000)	(0.354)	(0.110)	(0.208)	(0.210)
Big4_adtr	0.004	0.125	-0.031	0.250*	0.018	0.131*	0.094	-0.081	0.011	0.075	-0.005	-0.173*
	(0.066)	(0.162)	(0.038)	(0.132)	(0.042)	(0.072)	(0.093)	(0.070)	(0.035)	(0.064)	(0.023)	(0.097)
Risk_disclosure	-0.025	0.116	-0.080	-0.123	0.054	0.026	0.141	0.140	-0.015	0.092	-0.081***	0.140
	(0.072)	(0.326)	(0.050)	(0.131)	(0.077)	(0.101)	(0.119)	(0.135)	(0.048)	(0.111)	(0.031)	(0.097)
1/z	-0.027	0.069	-0.055	-0.052	0.025	-0.010	0.040	-0.005	0.011	0.004	0.002	-0.033
	(0.028)	(0.089)	(0.038)	(0.044)	(0.016)	(0.038)	(0.037)	(0.038)	(0.015)	(0.030)	(0.032)	(0.079)
Log_TA	-0.039**	-0.025	-0.019	-0.039**	0.006	0.009	-0.033	0.002	-0.013	-0.002	0.005	0.011
	(0.017)	(0.043)	(0.020)	(0.018)	(0.012)	(0.020)	(0.037)	(0.023)	(0.010)	(0.019)	(0.010)	(0.025)
EQTA	-0.311*	-0.475	-0.372***	-0.413**	-0.911***	-1.123***	-0.928***	-0.817***	-0.655***	-0.927***	-0.460***	-0.526
	(0.162)	(0.300)	(0.134)	(0.170)	(0.083)	(0.169)	(0.279)	(0.207)	(0.105)	(0.143)	(0.140)	(0.625)
NLTA	-0.025	-0.129	-0.257	0.475	0.099	0.004	-0.080	-0.002	-0.006	-0.092	-0.209	0.044
	(0.163)	(0.305)	(0.164)	(0.283)	(0.102)	(0.198)	(0.307)	(0.183)	(0.087)	(0.162)	(0.149)	(0.430)
Muslim_population	0.003**	0.007***	0.004***	-0.000	0.001*	0.003	0.001	-0.000	0.003***	0.005***	0.003**	0.000
	(0.002)	(0.002)	(0.001)	(0.003)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)	(0.002)	(0.002)	(0.003)
lnGDP_percapita	0.055***	0.152***	0.035	0.055	0.016	0.052**	0.002	0.005	0.049***	0.102***	0.046***	-0.246***
	(0.018)	(0.036)	(0.021)	(0.049)	(0.010)	(0.020)	(0.021)	(0.029)	(0.010)	(0.019)	(0.016)	(0.060)
Inflation	-0.004	-0.010	-0.004**	0.018	-0.001	0.000	-0.001	-0.005	-0.002	-0.002	-0.003**	-0.080***
	(0.004)	(0.022)	(0.002)	(0.017)	(0.003)	(0.009)	(0.005)	(0.013)	(0.002)	(0.008)	(0.001)	(0.019)
Islamic									0.026	0.144**	-0.091	0.200*
									(0.036)	(0.067)	(0.077)	(0.116)
Constant	1.302***	-0.900	0.840	1.165	0.614**	0.197	1.528	1.094**	0.715***	-0.231	0.504	3.759***
	(0.472)	(1.364)	(0.600)	(0.864)	(0.299)	(0.558)	(1.127)	(0.404)	(0.249)	(0.454)	(0.375)	(0.770)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Random Effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Pooled Observations	602	602	602	602	602	602	602	602	1204	1204	1204	1204
Overall R2	0.352	0.388	0.489	0.317	0.557	0.473	0.293	0.247	0.331	0.527	0.355	0.055
Wald Chi2	41.29***	43.21***	54.16***	27.25***	78.50***	36.63***	43.20***	23.00***	21.23***	31.21***	65.26***	33.34***

Table 7: Supervisory Role and Advisory Role of SSB and Firm Performance in IBs

This table presents the results for the governance and performance based on whether the Shari'ah boards perform a supervisory or an advisory role. See Table 2 for variable definitions. Robust standard errors are in the parenthesis. ***, **, and * are the level of significance at 1%, 5%, and 10% respectively.

VARIABLES	ROIAE			ROAE			ROIAA			ROAA		
	(1) Supervisory Board	(2) Advisory Board	(3) Interaction Between boards	(4) Supervisory Board	(5) Advisory Board	(6) Interaction Between boards	(7) Supervisory Board	(8) Advisory Board	(9) Interaction Between boards	(10) Supervisory Board	(11) Advisory Board	(12) Interaction Between boards
SSB	0.020***	-0.036*	0.019***	0.013**	-0.040**	0.007	0.001	-0.002	0.001	0.001	-0.002	0.000
	(0.007)	(0.021)	(0.007)	(0.006)	(0.016)	(0.006)	(0.001)	(0.006)	(0.001)	(0.001)	(0.005)	(0.001)
lnBoard	-0.019**	-0.005	-0.016**	-0.022***	-0.004	-0.019***	-0.004**	-0.004	-0.004**	-0.005***	-0.003	-0.005***
	(0.008)	(0.036)	(0.008)	(0.007)	(0.028)	(0.007)	(0.002)	(0.010)	(0.002)	(0.002)	(0.008)	(0.002)
Board_indep	-0.518**	-0.218	-0.482**	-0.482***	-0.110	-0.455***	-0.088**	-0.161	-0.088**	-0.106***	-0.102	-0.102***
	(0.201)	(0.741)	(0.192)	(0.158)	(0.575)	(0.151)	(0.043)	(0.207)	(0.041)	(0.040)	(0.169)	(0.038)
CEO_chair	-0.051	0.000	-0.059	-0.047	0.059	-0.055	-0.010	0.002	-0.011	-0.009	-0.000	-0.010
	(0.080)	(0.000)	(0.077)	(0.055)	(0.123)	(0.053)	(0.013)	(0.044)	(0.013)	(0.010)	(0.036)	(0.010)
CEO_internal	-0.020	-0.011	-0.009	-0.026	-0.004	-0.013	-0.004	-0.001	-0.001	-0.005	-0.001	-0.002
	(0.023)	(0.070)	(0.021)	(0.021)	(0.055)	(0.020)	(0.004)	(0.020)	(0.004)	(0.004)	(0.016)	(0.004)
Big4_adtr	-0.002	-0.113*	-0.028	0.001	-0.087*	-0.023	-0.001	-0.020	-0.006	-0.001	-0.018	-0.006
	(0.019)	(0.062)	(0.023)	(0.015)	(0.048)	(0.020)	(0.004)	(0.017)	(0.005)	(0.003)	(0.014)	(0.005)
Risk_disclosure	-0.026	0.138**	0.019	-0.024	0.145***	0.019	-0.004	0.020	0.003	-0.003	0.021	0.004
	(0.026)	(0.064)	(0.025)	(0.021)	(0.050)	(0.021)	(0.005)	(0.018)	(0.005)	(0.005)	(0.015)	(0.005)
1/z	0.108***	0.053	0.115***	0.099***	0.007	0.098***	0.011***	0.019*	0.014***	0.012**	0.011	0.012***
	(0.023)	(0.041)	(0.019)	(0.023)	(0.032)	(0.020)	(0.004)	(0.011)	(0.004)	(0.006)	(0.009)	(0.005)
Log_TA	-0.005	-0.077***	-0.011	-0.006	-0.078***	-0.012**	-0.002	-0.010	-0.003**	-0.002	-0.010*	-0.003**
	(0.007)	(0.024)	(0.007)	(0.007)	(0.019)	(0.006)	(0.001)	(0.007)	(0.001)	(0.001)	(0.005)	(0.001)
EQTA	-0.211***	-0.080	-0.240***	-0.151**	-0.028	-0.191***	-0.017	-0.036	-0.043	-0.025	-0.010	-0.034
	(0.069)	(0.142)	(0.057)	(0.070)	(0.110)	(0.053)	(0.025)	(0.040)	(0.035)	(0.028)	(0.032)	(0.029)
NLTA	-0.008	0.034	0.019	-0.066	-0.015	-0.029	-0.000	-0.007	0.001	-0.015	-0.015	-0.009
	(0.065)	(0.105)	(0.060)	(0.060)	(0.082)	(0.058)	(0.015)	(0.029)	(0.014)	(0.017)	(0.024)	(0.015)
SSB*Strong_board			-0.000			0.000			0.000			0.000
			(0.001)			(0.001)			(0.000)			(0.000)
SSB*CEO_power			-0.019			-0.015			0.000			0.000
			(0.015)			(0.012)			(0.003)			(0.003)
Muslim_population	0.002***	0.002	0.002**	0.003***	0.002**	0.002**	0.001***	0.000	0.000**	0.001***	0.000	0.001***
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
lnGDP_percapita	0.018	0.107***	0.014	0.030***	0.094***	0.023**	0.004**	0.025**	0.004**	0.006**	0.021**	0.005***
	(0.012)	(0.036)	(0.012)	(0.010)	(0.028)	(0.010)	(0.002)	(0.010)	(0.002)	(0.002)	(0.008)	(0.002)
Inflation	0.003	-0.003	0.001	0.003**	-0.005	0.001	0.001**	0.001	0.000	0.001**	0.001	0.000
	(0.002)	(0.005)	(0.002)	(0.001)	(0.004)	(0.001)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.000)
Constant	-0.266	0.796	-0.110	-0.313	1.031**	-0.062	-0.012	0.019	0.014	-0.027	0.061	0.006
	(0.218)	(0.611)	(0.234)	(0.192)	(0.475)	(0.206)	(0.038)	(0.171)	(0.039)	(0.043)	(0.139)	(0.039)
Observations	427	98	602	427	98	602	427	98	602	427	98	602
Overall R2	0.414	0.656	0.368	0.377	0.717	0.314	0.325	0.455	0.249	0.311	0.470	0.249
Wald Chi2	84.33***	17.91***	79.46***	82.65***	14.10***	61.37***	53.52***	15.85***	37.57***	47.61***	19.45***	36.59***

Table 8: Firm Performance differs in IBs due to Bank size and country size variations

This table presents the results for the governance and performance based on bank size and country size. See Table 2 for variable definitions. Robust standard errors are in the parenthesis. ***, **, and * are the level of significance at 1%, 5%, and 10% respectively.

	Panel A: Large IBs				Panel B: Small IBs			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
VARIABLES	ROIAE	ROAE	ROIAA	ROAA	ROIAE	ROAE	ROIAA	ROAA
SSB	0.041***	0.035***	0.005**	0.004**	0.008	0.003	-0.001	-0.000
	(0.014)	(0.010)	(0.002)	(0.002)	(0.009)	(0.007)	(0.002)	(0.002)
lnBoard	0.006	0.002	0.000	0.000	-0.004	-0.006	-0.001	-0.000
	(0.008)	(0.006)	(0.002)	(0.001)	(0.011)	(0.009)	(0.001)	(0.001)
Baord_indep	-0.096**	-0.092**	-0.030***	-0.027***	-0.003	-0.020	0.006	0.002
	(0.047)	(0.044)	(0.011)	(0.010)	(0.032)	(0.027)	(0.006)	(0.006)
CEO_chair	0.073	0.057	0.015	0.012	-0.028	-0.034	-0.012	-0.010
	(0.048)	(0.043)	(0.009)	(0.009)	(0.067)	(0.047)	(0.011)	(0.010)
CEO_inernal	-0.024	-0.017	-0.004	-0.001	-0.034	-0.015	0.000	-0.001
	(0.028)	(0.029)	(0.005)	(0.005)	(0.040)	(0.035)	(0.006)	(0.006)
Log_TA	-0.013	-0.003	0.000	0.002	-0.013	-0.023	-0.008	-0.008
	(0.024)	(0.019)	(0.004)	(0.004)	(0.024)	(0.023)	(0.005)	(0.005)
Constant	0.357	0.110	-0.050	-0.084	0.349	0.445	0.194	0.143
	(0.504)	(0.412)	(0.099)	(0.089)	(0.741)	(0.698)	(0.131)	(0.128)
Observations	124	124	124	124	142	138	142	142
Number of bank	40	40	40	40	47	46	47	47
Overall R2	0.246	0.208	0.151	0.144	0.261	0.256	0.123	0.145
Wald Chi2	15.16*	20.09**	21.22**	17.64**	16.43*	11.41	20.77**	19.13**

	Panel C: Big Countries				Panel D: Small Countries			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	ROIAE	ROAE	ROIAA	ROAA	ROIAE	ROAE	ROIAA	ROAA
SSB	0.010	0.014	0.002	0.002	0.014	0.005	-0.000	0.000
	(0.012)	(0.010)	(0.002)	(0.002)	(0.009)	(0.006)	(0.001)	(0.001)
lnBoard	-0.002	-0.003	-0.002	-0.002	-0.026***	-0.024***	-0.005**	-0.005**
	(0.012)	(0.010)	(0.003)	(0.003)	(0.009)	(0.008)	(0.002)	(0.002)
Board_indep	-0.330	-0.132	-0.043	-0.041	-0.554***	-0.693***	-0.122**	-0.158***
	(0.306)	(0.192)	(0.044)	(0.039)	(0.209)	(0.182)	(0.056)	(0.052)
CEO_chair	-0.126	-0.084	-0.019	-0.014	0.037	-0.028	-0.003	-0.009
	(0.106)	(0.084)	(0.019)	(0.014)	(0.082)	(0.068)	(0.015)	(0.014)
CEO_internal	0.005	0.009	0.005	0.004	-0.035	-0.067***	-0.014***	-0.017***
	(0.030)	(0.027)	(0.005)	(0.004)	(0.029)	(0.025)	(0.005)	(0.006)
Log_TA	-0.017**	-0.013**	-0.002	-0.001	0.001	-0.002	-0.002	-0.002
	(0.008)	(0.007)	(0.002)	(0.002)	(0.012)	(0.010)	(0.002)	(0.002)
Constant	-0.171	-0.199	-0.022	-0.027	0.159	0.222	0.078	0.062
	(0.290)	(0.231)	(0.056)	(0.050)	(0.386)	(0.361)	(0.078)	(0.085)
Observations	131	131	131	131	117	117	117	117
Overall R2	0.453	0.497	0.387	0.437	0.338	0.254	0.187	0.186
Wald Chi2	63.94***	70.89***	39.83***	52.42***	57.03***	64.08***	31.83***	42.41***

Table 9: Supervisory and Advisory board (SSB), bank size, country size variation – Tobin's Q

This table presents the results for the governance and market based performance based whether Shari'ah boards perform a supervisory or advisory role, and based on bank size and country size. See Table 2 for variable definitions. Robust standard errors are in the parenthesis. ***, **, and * are the level of significance at 1%, 5%, and 10% respectively.

VARIABLES	Panel A: SSB Supervisory vs. Advisory			Panel B: Bank Size Difference		Panel C: Country Size Difference	
	(1) Supervisory Board	(2) Advisory Board	(3) Interaction Between board	(4) Large Bank	(5) Small Bank	(6) Large Country	(7) Small Country
SSB	0.031**	-0.001	0.029*	0.031	0.022	0.021	0.031*
	(0.016)	(0.063)	(0.016)	(0.027)	(0.015)	(0.028)	(0.017)
lnBoard	-0.028	-0.013	-0.017	-0.009	-0.039	-0.040	-0.011
	(0.029)	(0.059)	(0.024)	(0.028)	(0.051)	(0.044)	(0.031)
Baord_indep	-0.223	0.452	-0.149	0.060	-0.372	-0.453	-0.223
	(0.432)	(1.083)	(0.372)	(0.463)	(0.771)	(0.622)	(0.536)
CEO_chair	-0.110	-0.025	-0.102	-0.016	-0.224**	-0.354***	-0.054
	(0.089)	(0.238)	(0.089)	(0.091)	(0.105)	(0.117)	(0.065)
CEO_internal	-0.224***	-0.036	-0.178**	0.095	-0.151*	-0.070	-0.295**
	(0.083)	(0.104)	(0.073)	(0.104)	(0.083)	(0.079)	(0.122)
Big4	0.065	-0.433**	0.005	-0.058	0.022	-0.055	0.045
	(0.062)	(0.182)	(0.066)	(0.093)	(0.084)	(0.117)	(0.076)
Risk_dissclosure	-0.074	0.078	-0.023	0.021	-0.120	-0.029	0.005
	(0.076)	(0.157)	(0.071)	(0.091)	(0.099)	(0.112)	(0.103)
1/z	-0.033	0.140	-0.028	0.017	-0.028	-0.049	-0.056
	(0.032)	(0.271)	(0.028)	(0.033)	(0.055)	(0.039)	(0.058)
Log_TA	-0.040**	0.001	-0.039**	-0.124**	-0.010	-0.062*	-0.034
	(0.019)	(0.157)	(0.016)	(0.054)	(0.033)	(0.033)	(0.021)
EQTA	-0.476***	-0.485	-0.338**	0.047	-0.827***	-0.307*	-0.153
	(0.183)	(0.447)	(0.154)	(0.235)	(0.167)	(0.176)	(0.245)
NLTA	0.041	0.261	-0.025	0.078	-0.252	0.124	-0.217
	(0.207)	(0.191)	(0.161)	(0.172)	(0.236)	(0.168)	(0.234)
SSB*Strong_board			-0.004*				
			(0.002)				
SSB*CEO_power			0.026				
			(0.052)				
Muslim_population	0.002	0.895	0.003**	0.006**	0.004*	0.003	-0.004
	(0.002)	(1.827)	(0.002)	(0.003)	(0.002)	(0.002)	(0.004)
lnGDP_percapita	0.074***	-0.239	0.055***	0.072**	0.076***	0.006	0.055**
	(0.023)	(0.626)	(0.018)	(0.034)	(0.029)	(0.033)	(0.026)
Inflation	-0.003	-0.013	-0.005	-0.007	-0.002	-0.011*	0.000
	(0.004)	(0.008)	(0.004)	(0.005)	(0.006)	(0.006)	(0.006)
Constant	1.333**	-83.319	1.294***	2.594**	0.968	2.615**	1.844**
	(0.541)	(175.140)	(0.437)	(1.079)	(0.734)	(1.020)	(0.787)
Observations	427	98	602	73	73	72	74
Overall R2	0.396	0.870	0.368	0.432	0.496	0.533	0.374
Wald chi2	44.24***	18.09***	44.56***	21.09	100.25***	132.47***	30.43**

Table 10: GMM Model- SSB, CG and Firm Performance

See Table 2 for variable definitions. Robust standard errors are in the parenthesis. ***, **, and * are the level of significance at 1%, 5%, and 10% respectively.

VARIABLES	(1) ROIAE	(2) ROAE	(3) ROIAA	(4) ROAA	(5) TOBINSQ
Performance$_{t-1}$	0.389***	0.340***	0.484***	0.505***	0.160**
	(0.093)	(0.075)	(0.118)	(0.099)	(0.112)
SSB	0.014**	0.005*	0.001*	-0.001	0.039**
	(0.006)	(0.006)	(0.001)	(0.001)	(0.033)
lnBoard	-0.012**	-0.012*	-0.001*	-0.001*	-0.038**
	(0.006)	(0.007)	(0.001)	(0.001)	(0.026)
Board_indep	-0.027**	-0.023**	-0.004*	-0.001*	-0.008**
	(0.056)	(0.055)	(0.013)	(0.006)	(0.131)
CEO_chair	-0.018**	-0.017**	-0.003*	-0.006**	-0.268*
	(0.073)	(0.046)	(0.013)	(0.010)	(0.164)
CEO_internal	-0.010*	-0.012*	-0.004*	0.008	0.123*
	(0.047)	(0.041)	(0.008)	(0.007)	(0.133)
Bg4	-0.022	-0.019	0.001	0.001	0.223*
	(0.036)	(0.037)	(0.009)	(0.005)	(0.126)
Risk_disclosure	-0.030	-0.037	-0.008	-0.006	-0.370*
	(0.049)	(0.046)	(0.016)	(0.009)	(0.216)
EQTA	-0.033	0.063	-0.010	-0.018	0.305
	(0.158)	(0.131)	(0.026)	(0.021)	(0.622)
NLTA	0.073	0.148	0.011	0.009	0.443***
	(0.136)	(0.109)	(0.021)	(0.013)	(0.093)
1/z	0.055	0.039	0.004	0.003	0.036
	(0.035)	(0.029)	(0.004)	(0.003)	(0.098)
Log_TA	-0.001	0.004	-0.000	0.000	-0.022
	(0.006)	(0.009)	(0.001)	(0.001)	(0.035)
Muslim_population	0.001**	0.001**	0.000**	0.001**	-0.000
	(0.001)	(0.001)	(0.000)	(0.004)	(0.002)
lnGDP_percapita	-0.009	-0.000	-0.001	-0.000	0.053
	(0.015)	(0.012)	(0.002)	(0.001)	(0.074)
Inflation	-0.001	-0.000	-0.000	-0.000	0.012
	(0.004)	(0.003)	(0.001)	(0.000)	(0.013)
Constant	0.052	-0.133	0.014	-0.007	1.231
	(0.321)	(0.385)	(0.053)	(0.039)	(1.260)
Pooled Observations	602	602	602	602	602
Year Dummy	Yes	Yes	Yes	Yes	Yes
F-statistics	36.49***	29.47***	31.36***	28.71***	23.56***
AR(1) test statistics (P-value)	-2.32	-2.43	-2.17	-2.15	-2.05
	(0.02)	(0.02)	(0.03)	(0.03)	(0.04)
AR(2) test statistics (P-value)	1.49	1.27	1.54	1.03	-0.56
	(0.14)	(0.22)	(0.12)	(0.30)	(0.58)
Hansen J-statistics (P-value)	18.47	18.88	13.26	12.51	11.14
	(0.95)	(0.89)	(0.99)	(0.99)	(0.99)

Table 11: 3SLS Model- SSB, CG and Bank Performance

See Table 2 for variable definitions. Robust standard errors are in the parenthesis. ***, **, and * are the level of significance at 1%, 5%, and 10% respectively.

VARIABLES	(1) ROIAE	(2) lnBoard	(3) Board_indep	(4) ROAE	(5) lnBoard	(6) Board_indep	(7) ROIAA	(8) lnBoard	(9) Board_indep	(10) ROAA	(11) lnBoard	(12) Board_indep	(13) TOBINSQ	(14) lnBoard	(15) Board_indep
SSB	0.019***	0.079	0.002	0.008*	0.079	0.002	0.002*	0.079	0.002	0.001*	0.079	0.002	0.037**	0.006	-0.004
	(0.005)	(0.041)	(0.008)	(0.005)	(0.041)	(0.008)	(0.001)	(0.041)	(0.008)	(0.001)	(0.041)	(0.008)	(0.036)	(0.052)	(0.012)
lnBoard	-0.011**		-0.046***	-0.010**		-0.046***	-0.003**		-0.046***	-0.002*		-0.046***	-0.036**		-0.047**
	(0.009)		(0.015)	(0.009)		(0.015)	(0.002)		(0.015)	(0.002)		(0.015)	(0.041)		(0.022)
Board_indep	-0.032***	-		-0.024***	-		-0.026*	-		-0.014**	-		-0.731***	-1.157**	
		1.118***			1.118***			1.118***			1.118***				
	(0.117)	(0.359)		(0.109)	(0.359)		(0.030)	(0.359)		(0.027)	(0.359)		(0.053)	(0.519)	
CEO_chair	-0.057*	0.067	0.246*	-0.071*	0.067	0.246*	-0.031	0.067	0.246*	-0.034*	0.067	0.246*	-0.324	-0.316	0.589***
	(0.090)	(0.669)	(0.136)	(0.084)	(0.669)	(0.136)	(0.023)	(0.669)	(0.136)	(0.021)	(0.669)	(0.136)	(0.017)	(0.913)	(0.201)
CEO_internal	-0.113	-0.775	-0.270	-0.131	-0.775	-0.270	-0.050	-0.775	-0.270	-0.052	-0.775	-0.270	-0.479	-0.311	-0.743***
	(0.140)	(0.940)	(0.192)	(0.130)	(0.940)	(0.192)	(0.035)	(0.940)	(0.192)	(0.032)	(0.940)	(0.192)	(0.085)	(1.069)	(0.233)
Big4	-0.012			0.081			-0.037			-0.017			1.272		
	(0.224)			(0.209)			(0.057)			(0.052)			(1.150)		
Risk_disclosure	-0.009			-0.069			0.013			0.002			-0.739		
	(0.138)			(0.128)			(0.035)			(0.032)			(0.561)		
1/z	0.089***			0.067***			0.013***			0.010***			-0.085		
	(0.013)			(0.012)			(0.003)			(0.003)			(0.124)		
EQTA	-0.115			-0.066			0.035			0.024			0.829		
	(0.226)			(0.210)			(0.057)			(0.052)			(1.340)		
NLTA	0.065			0.079			0.002			-0.001			0.703		
	(0.104)			(0.097)			(0.026)			(0.024)			(0.583)		
log_TA	-0.003			-0.002			-0.001			-0.000			-0.050		
	(0.007)			(0.006)			(0.002)			(0.002)			(0.092)		
lnGDP_percapita	-0.010			0.006			0.001			0.002			0.092		
	(0.011)			(0.010)			(0.003)			(0.003)			(0.136)		
Muslim_population	0.002***			0.003***			0.001***			0.001***			0.004		
	(0.000)			(0.000)			(0.000)			(0.000)			(0.005)		
Inflation	-0.004			-0.003			-0.001			-0.001			0.018		
	(0.004)			(0.003)			(0.001)			(0.001)			(0.031)		
Constant	-0.146	9.677***	0.881***	-0.277	9.677***	0.881***	-0.041	9.677***	0.881***	-0.062	9.677***	0.881***	0.628	9.609***	0.952***
	(0.286)	(0.288)	(0.142)	(0.266)	(0.288)	(0.142)	(0.072)	(0.288)	(0.142)	(0.066)	(0.288)	(0.142)	(1.313)	(0.400)	(0.208)
Year Dummy	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	602	602	602	602	602	602	602	602	602	602	602	602	602	602	602
R-squared	0.442	0.003	0.090	0.237	0.003	0.090	0.064	0.003	0.090	0.013	0.003	0.090	0.240	0.067	0.047
Chi2	169.73***	17.05***	13.94***	108.23***	17.05***	13.94***	55.82***	17.05***	13.94***	62.30***	17.05***	13.94***	44.26***	12.19**	15.81***