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# Corporate governance and shariah noncompliant risk in Islamic banks: Evidence from Indonesia and Malaysia

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# Corporate governance and shariah noncompliant risk in Islamic banks: Evidence from Southeast Asia


## ABSTRACT

***Purpose:*** This study investigates the relationship between corporate governance and shariah noncompliant risk (SNCR) that is unique for Islamic banks. The study examines the roles of shariah committee along with the board of directors in mitigating SNCR.

***Methodology:***

The paper empirically investigates the implications of characteristics of board of directors and shariah committee on the SNCR by using a sample of 29 full-fledge Islamic banks from Malaysia and Indonesia over the period 2007 to 2017. All data is hand collected from the Islamic banks' annual reports with the exception of country-level data collected from the World Bank database.

***Findings:*** The results show that banks with a smaller board size and higher proportion of independent board members are likely to have lower SNCR. The findings also indicate that the financial expertise and higher frequency of shariah committee meetings reduces the SNCR. Collectively, our analysis shows that banks with strong corporate governance environments reduce SNCR.

***Practical Implications:*** The findings of the study sheds light on the relationship between corporate go vernance practice, shariah committee characteristics and SNCR. The results can be used by different stakeholders such as policy makers, boards of directors and senior management of Islamic banks to mitigate SNCR.

***Originality/value:*** This study extends the literature on corporate governance and risk-taking by including additional dimensions of governance and risk type. The corporate governance mechanism at the board level is complemented by including the shariah committee characteristics and SNCR which is relevant to Islamic financial institutions is examined.



**Keywords:** corporate governance, Indonesia, Islamic bank, Malaysia, shariah committee, shariah governance, shariah noncompliant risk.

## 1. Introduction

The topic of risk and corporate governance in banks has received significant attention from regulators, bank managers, customers and academics due to the nature of high leverage, great opacity and the complexity of banking assets and activities, especially following the recent financial crisis. Evidence suggests that banks with poor governance engage in excessive risk-taking and do so even more during a crisis (Kirkpatrick, 2009; Chen and Lin, 2016; Díaz and Huang, 2017). Potentially, the risk exposure may be different and more complex when the agency relationship and governance setting deviate from their conventional form.

There are significant differences between conventional and Islamic banks. Firstly, the aim of the Islamic bank is to maximise shareholder value by adhering to the shariah law (Islamic law) (Grais and Pellegrini, 2006, Safieddine, 2009). In particular, Islamic banks are prohibited from taking and charging interest (*riba*), getting involved in excessive risk (*gharar*), and using different instruments such as derivatives. Secondly, the governance setting includes an additional element of shariah governance with the shariah committee playing a key role in assisting the board of directors and management to ensure that shariah law is adhered to throughout the business operations (Ahmed, 2011a, Choudhury and Haque, 2006). Lastly, Islamic banks are exposed to a new type of risk known as shariah non-compliance risk in addition to the traditional credit, market, operational and liquidity risks.

This paper examines the relationship between corporate governance and shariah non-compliance risk in Malaysian and Indonesian Islamic banks in Southeast Asia. These two countries are among the most progressive in the development of the Islamic financial services industry (IFSB, 2016). Moreover, they represent the majority of Islamic banks in the Southeast Asian region that includes Singapore, the Philippines, Thailand and Brunei.

This study contributes to the growing literature on the study of corporate governance and bank risk exposure. To our knowledge, this paper is among the first to examine shariah non-compliance risk and corporate governance that includes features of the shariah committee. Though the concept of shariah non-compliant risk has been recognized, we are aware of only one empirical paper that examines the impact of shariah non-compliant income assets, equity and income of Islamic banks. Our study is closely related to that of Mollah and Zaman (2015) who examine the relationship between the shariah committee and performance. We expand the governance structure of the shariah committee used in the literature by including additional variables such as financial expertise, meeting frequency and shariah committee compensation. Furthermore, previous studies on corporate governance and bank risk-taking have mostly focused on traditional risks such as credit risk, market risk, interest rate risk and insolvency risk or the interaction among the risk categories. However, no existing studies have examined shariah non-compliance risk which is only relevant to Islamic financial institutions. Thus, we complement the work of D'Amato and Gallo (2019), Yeh (2017), Vallascas et al. (2017), Chen and Lin (2016), Aebi et al. (2012) and Laeven and Levine (2009) by adding another dimension to the governance and risk literature.

To fill these gaps, we provide empirical evidence on the board of directors, shariah committee and shariah non-compliance risk. In this study, we examine the impact of individual

characteristics of the board (related to board size, independence directors, meeting frequency and compensation) and shariah committee (size, financial expertise, meeting frequency and compensation) on the shariah non-compliance risk. We performed our investigation using data on Islamic banks from Malaysia and Indonesia over the period 2007 to 2017. Based on 183 bank-year observations, we find that the smaller board and a higher proportion of independent non-executive directors are associated with lower shariah non-compliant risk. There is a possibility that the smaller board and independent board utilizing their oversight function demands additional and extensive shariah audit in order to certify their monitoring role and mitigate the reputational losses. In addition to these findings, we also report several new results. We find that the level of shariah committee monitoring on shariah non-compliant risk is driven by the members that equipped with financial expertise and higher frequency of meetings. Overall, our analysis suggests that the banks with effective board and shariah committee reduce shariah non-compliant risk. These results are robust to various model specifications and tests.

The remainder of this paper is organized as follows. Section two provides an overview of the shariah principles and risks and section three describes the background literature and hypotheses development. Section four presents the data and models specification. Section five reports the empirical findings and section six concludes.

## 2. Shariah principles, Islamic Banking and Risks

Starting in the 1970s from an urge to provide financial services to Muslims who would not deal with interest due to religious beliefs, Islamic banking has become a significant sector in many jurisdictions. The key distinguishing feature of Islamic banks is the adherence to shariah rules and principles. The Islamic guidelines prohibit engaging in sinful activities such as alcohol, pornography, casinos, pork-related products, etc., (El Hawary et. al 2004, Ullah et. al 2018, Usmani 1999). At the contract level, Islamic commercial law forbids *riba* (literally meaning 'excess'), *gharar* (legal ambiguity or excessive risk) and *maysir* (gambling) in transactions. While *riba* is usually translated as interest, it has wider connotations such as prohibition of sale of debt. Similarly, contemporary derivatives (forwards, futures, swaps, etc) are not permissible as they have elements of both *riba* and *gharar* (Ayub 2011, Usmani 1999).

A firm is considered shariah compliant if it satisfies two criteria. First, qualitative business activity screening eliminates companies that are involved in products and services that are considered prohibited such as alcohol, pornography, casinos, pork-related products, conventional financial institutions, etc. Companies that pass the qualitative screening are further evaluated using the second quantitative financial screening criteria which identify the permissible benchmarks and excludes companies with unacceptable levels of conventional debt, liquidity and impermissible income (BinMahfouz and Ahmed 2014, Derigs and Marzban 2008, Khatkhatay and Nisar 2006, Obaidullah 2005.[1] Any impermissible income such as interest earnings is 'cleansed' by deducting it from the income of the firm and donating the proceeds to charity.

[1] For example, the Dow Jones Islamic Index uses the following criteria to identify Shariah compliant stocks: total debt/market cap (moving average 24 month) less than 33%; cash and interest bearing securities/ market cap (moving average 24 month) less than 33%; account receivables/market cap (moving average 24 month) less than 33%; and impermissible income should not exceed 5% of total revenue (BinMahfouz and Ahmed 2014).

Since interest-bearing transactions are proscribed by Islamic law, Islamic banks use alternative permissible contracts. The key contracts used by Islamic banks can be broadly classified as sale, leasing, and partnerships. The sale based contracts create debt and include *murabahah* (cost-plus or mark-up sale), *bai-muajjal* (price-deferred or credit sale), *salaam* (object-deferred or pre-paid sale), *istisna* (construction/manufacturing contract). Although these contracts create debt, their underlying risk features are different than interest based loans since the former also entails market risks and are illiquid as they cannot be sold (Abedifar et al. 2013; Aggarwal and Yousef 2000). While leasing contracts (*ijarah*) are structured as operating leases or hire-purchase schemes, partnerships contracts of *mudarabah* and *musharakah* are profit-loss sharing (PLS) whereby the returns on investments are contingent on the performance of underlying assets or projects (Ayub 2007; Usmani 1999).

The dominant Islamic banking model uses PLS (*mudarabah*) based savings/investment accounts on the liability side and multiple financing tools on the assets side (Ahmed 2011b; Ali 2012). Using shariah principles in banking operations changes the nature of risks of financial products and introduces some new unique risks. For example, although in principle the depositors using PLS based accounts are expected to share the risks of performance of the underlying assets, paying negative or lower returns compared to the market rates could lead to withdrawal risks. The overall risk profile of the assets portfolio depends on its composition and type of contracts used for financing. Since the financial products are based on sale, leasing or partnership contracts, risk-return features of these instruments change as market risks become an integral part of the banking book along with credit risks. While Islamic banks can use different modes of financing, fixed-income contracts (*murabahah* and *ijarah*) form the bulk of financing (Ali 2012, Chong and Liu 2009, Khan 2010).

The Basel Committee on Banking Supervision (BCBS) defines operational risks as risks that are associated with failures of internal processes, people, and/or systems or the impact from external events (BCBS, 2009). In Islamic banks, the definition of operational risk also includes any risks arising from applying shariah and the failure to perform their fiduciary responsibilities (IFSB, 2005). A unique operational risk in Islamic banks is the shariah noncompliant risk (SNCR) which is defined as 'the risk arising from Islamic banks' failure to comply with the Shariah rules and principles determined by the Shariah board or the relevant body in the jurisdiction in which the Islamic bank operates' (IFSB 2005). Shariah non-compliant income is used as a proxy for shariah non-compliance risk (SNCR) (Oz et. al., 2016). Shariah non-compliance can result from different sources such as selling unapproved products or violations of terms approved by shariah committee in products and processes (Ginena 2014; Oz et. al. 2006). The failure to comply with shariah law in Islamic bank's operation and management results in the transaction being declared as void and, thus, income from such activities/products are not recognised in the bank's books and is given to charity. Since the revenue from these activities is excluded from the bank's income but the costs are incurred, this results in net-losses on these transactions for the bank.

Although the direct impact of SNCR is loss of income, there can also be other implications. Given the fiduciary role that an Islamic bank plays in managing the funds of depositors, shariah non-compliance can be construed as a breach of contractual obligations of adhering to shariah

principles (Ginena 2014). Furthermore, shariah non-compliance risk can also result in reputational risk. The Basel Committee on Banking Supervision (BCBS, 2009: 19) defines reputational risk as 'the risk arising from negative perception on the part of customers, counterparties, shareholders, investors, debt-holders, market analysts, other relevant parties or regulators that can adversely affect a bank's ability to maintain existing, or establish new, business relationships and continued access to sources of funding.' In the case of Islamic banks, a unique reputational risk arises due to shariah non-compliance (Abdullah et. al., 2011; Archer and Abdullah, 2017). Not only can the depositors and investors lose confidence in banks due to losses arising from shariah non-compliance, but there is a possibility that a segment of them who use Islamic banks for religious convictions would withdraw their funds or close their accounts due to reputational reasons. In a survey carried out in three countries, Chapra and Ahmed (2002) find that large percentage depositors and investors of Islamic financial institutions' would move their accounts to other banks if there are consistent violations of shariah over a period of time.

## 3. Related literature and hypotheses development

### *3.1. Agency theory, governance and shariah non-compliant risk in Islamic banks*

The dominant theory of corporate governance focuses on reducing the agency costs (monitoring costs, bonding costs and residual loss) arising from asymmetric information and conflicting interests between shareholders and managers (Jensen and Meckling 1976; Fama and Jensen 1983, Hart 1995; Shleifer and Vishny 1997). Since managers working on the basis of self-interest can produce results that are detrimental to the interests of shareholders, agency theory suggests instituting governance mechanisms to create incentive structures that reduce agency costs and align managers' actions with the interests of the shareholders.

The implications of agency theory for governance hold for Islamic banks also since shareholders and managers have asymmetric information and divergent interests. However, the goal of maximizing profits by applying shariah principles to create additional agency issues and challenges that raise distinctive governance concerns.[2] PLS based contracts on the liability side of Islamic banks change the agency relationships between the bank and depositors whereby the bank acts as an agent for depositors to provide shariah compliant services (Archer and Karim 2009; 2012, Mansour and Bhatti 2018). Neither do depositors have any information on how managers use their funds nor do they have any control which the shareholders have through the board of directors (BOD). Since most of the depositors expect the business and transactions to conform to their religious beliefs, shariah governance becomes an integral part of the governance architecture of Islamic banks (Malkawi, 2013; Grais and Pelligrini 2006a; Grais and Pelligrini 2006b).

[2] Other theories also may be relevant for shariah compliance in Islamic finance. Given the nature of Islamic banking model and products, the stakeholders' theory also becomes relevant to explain governance issues in these institutions (Hasan 2009; Iqbal and Mirakhor 2004, Grais and Pelligrini 2006a). The stakeholders' theory considers the interests of other stakeholders in the objectives of firms along with the shareholders' perspectives (Donaldson and Preston 1995, Freeman and Evan 1990 and Freeman et. al. 2004). Furthermore, legitimacy theory which explains the relationship between the organization and society at large in terms of a "social contract" may also be relevant for governance issues in Islamic banks (Suchman 1995, Chen and Roberts 2010, Kelton and Yang 2008).

To create confidence among the stakeholders and maintain the integrity of Islamic financial institutions, international standard setting bodies such as IFSB (2009) have issued shariah governance standards. IFSB's (2009) *Guiding principles on shariah governance systems for institutions offering Islamic financial services* identify four key elements of a robust shariah governance framework: issuance of shariah pronouncements by a shariah committee; ensuring compliance with shariah pronouncements by an in-house shariah compliance unit; internal shariah compliance review and audit carried out by an internal shariah review/audit unit; and the conducting of an annual shariah compliance audit to ensure the internal shariah audit is carried out properly. A vital component of the governance framework is an independent shariah committee (SC) consisting of Shariah scholars who are well versed in Islamic commercial law. One of the key functions of the SC is to issue shariah pronouncements that are implemented throughout the institution and their violation leads to Shariah noncompliance risk.

Agency problems arise in Islamic banks due to divergent goals of the BOD, managers and SC. The aim of shareholders is to maximize the net-present value by increasing returns and expanding business by attracting more customers in the longer term. Since most of the customers deal with Islamic banks due to religious reasons, this can be done by ensuring that banking operations adhere to shariah principles. As indicated, shariah non-compliance can lead to loss of income in the short-run and affect reputation adversely on the longer term. The BCBS asserts that the governance framework in banks should have oversight on reputational risk and should incorporate it in the bank's risk management processes (BCBS 2009, BCBS 2015). As indicated above, reputational risk related to shariah noncompliance can potentially lead to loss of clients who engage with Islamic banks due to religious reasons. To mitigate loss of income in the short term and loss of business in the long term the BOD of Islamic banks would need to institute a credible shariah governance framework for the growth and stability of the bank.

Compensations packages and private information held by managers can create incentives for focussing on a short-term performance that may not be in the long-term interests of the shareholders (Narayanan 1985, Fahlenbrach and Stulz, 2011). One way in which short-term returns can be increased by managers is to take risks that are not recognised by the system (Diamond and Rajan, 2009), which in case of Islamic banks would include shariah non-compliant risk. Remuneration and bonuses paid to managers in Islamic banks based on annual performances create incentives for increasing the short-term profitability. Applying shariah pronouncements of SC, however, can hinder the goals of profitability as the rules limit the markets and products that Islamic banks can serve. Ullah et. al. (2018) reports that tension can exist between Islamic bank's managers who have incentives to increase profitability and Shariah rulings of SC that restrict profitable activities. The dominance of the managers in operational decision making and their drive to profitability can result in dilution of shariah principles and increase shariah non-compliant risks, particularly when shariah compliance and controls functions are weak.

In light of the shariah governance framework outlined in IFSB (2009), there are two channels through which shariah non-compliant income which is a proxy for shariah non-compliant risk can be mitigated. The first channel directly involves of SC and the shariah

compliance function and the second relates to the indirect role of the BOD in carrying out the shariah audit role. Strengthening the shariah compliance function which includes shariah pronouncements by a SC and ensuring compliance with shariah pronouncements by an in-house shariah compliance unit or department. The role of the shariah committee directly relates to the shariah compliance function whereby they advise and make recommendations to the BOD with regards to shariah matters. A stronger internal compliance environment is likely to reduce the shariah compliant risk *ex-ante*. Thus, we might expect the shariah committee to have a direct relationship with shariah non-compliant risk due to the nature of their duties in the oversight of shariah compliance function through the in-house shariah compliance unit (IFSB, 2009). In jurisdictions that do not have any legal/regulatory requirements for shariah governance, Islamic banks institute SC to gain trust of their customers (Alkhamees 2012).

While the shariah compliance unit works closely with the SC to ensure that the shariah pronouncements are implemented in the products and operations of the bank, the relationship between shariah audit unit and shariah committee is not well-defined. For example, whereas IFSB (2009) maintains that shariah audit unit should report to shariah committee, the regulatory guidelines on shariah governance issued by the central bank, Bank Negara Malaysia (BNM) require shariah audit to report to Board Audit Committee (BNM 2010). The guidelines also assert that Board Audit Committee should determine the role of shariah audit upon consultation with the shariah committee and the shariah audit findings should be reported to both committees. Furthermore, all shariah non-compliant events should be reported to the board and BNM. Although there are no detailed regulatory guidelines on shariah governance in Indonesia with regards to auditing, the organizational structure of Bank Muamalat shows Shariah Audit function under Internal Audit Division (Bank Muamalat, 2016).

The BOD's role of mitigating SNCR works through the indirect link of shariah auditing. Since the high quality board of directors have more reputational capital, they are expected to be more concerned with reputational losses and maybe excessively involved in the banks' operations including the assessment of shariah risk. Therefore, it is reasonable to expect that an effective board demands an additional and extensive independent shariah audit from the shariah bodies including the shariah committee in order to certify their monitoring function as well as to protect the shariah law. Failure to constrain the shariah non-compliant risk may incur reputational damage, increase future legal risk exposures and disappoint the shareholders. As indicated, a large percentage of Islamic financial institutions' investors and depositors are extremely concerned that their funds are utilized in a shariah-compliant manner (Chapra and Ahmed 2002). As the board of directors oversees the shariah non-compliance risk through shariah auditing function, we expect high-quality directors might demand more monitoring from the shariah committee including more shariah audit.

The implication of an additional layer of shariah governance on the overall governance quality is complementary. Collectively, in order to mitigate non-compliance risk, the Islamic banks are expected to have an adequate system and control including good governance. Better corporate governance is expected to reduce the banks' risk due to the anticipated involvement of the effective board of director and its subcommittees. The shariah committee is one of the main bodies in ensuring the overall bank's operations are fully governed by shariah law which

is one of the objectives of Islamic banks. By presiding over the shariah compliance function and certifying the products as shariah compliant, the shariah committee provides credibility to the operations of Islamic banks for one of the key stakeholders, the depositors. However, given that the board of directors has a right to appoint and remove the shariah committee members, its role is equally crucial in promoting a higher degree of shariah compliance. In other words, the performance of shariah committee is founded in the practices and attitudes of the entire board of directors. Therefore, in this paper, while the demand for an effective shariah committee is recognised for the shariah compliance function, the monitoring and auditing roles of the board are argued to be the more important mechanisms to ensure that shariah law is implemented and protected.

In terms of agency costs, the expenditures related to shariah governance systems would be related to monitoring costs and the losses of income from SNCR can be considered as a residual loss. The monitoring costs include expenditures incurred on staff in the shariah departments/units within the institution and additional costs of shariah committee. Shariah committee is an independent body with members paid fixed fees that are not contingent on the performance of banks they serve. With the rapid growth in Islamic finance globally, however, the number of shariah scholars who can have the appropriate knowledge on finance and satisfy the growing needs of the industry is limited. Given the scarcity, scholars with better reputation are sought after but they are expensive.[3] Islamic financial institutions are willing to pay higher remuneration for well-known scholars as it improves recognition and credibility on the one hand and enhances the goodwill and brand image on the other hand (Rammal 2015). Even after incurring the monitoring costs, any remaining shariah non-compliant income would constitute 'residual loss' since it cannot be distributed to shareholders (and depositors).[4]

### *3.2. The effectiveness of the board and shariah committee*

Evidence suggests that several characteristics of the board of director and it sub-committees may influence their effectiveness in monitoring roles, including the size of the board/committee, the composition of independent directors, the frequency of meetings and compensation (John and Senbet, 1998; Canyon and He, 2011; Mayur and Saravanan, 2017; De Vita and Luo, 2018). Each of these characteristics is now reviewed.

According to De Andres and Vallelado (2008), there is a trade-off between advantages and disadvantages in terms of human capital, monitoring, coordinating and control issues with regards to the size of the board. A larger board size or board subcommittee contribute more to human capital but is less effective due to the problems of coordination and process that, in turn, contribute to weak monitoring. Furthermore, evidence from prior studies has shown that smaller boards are more effective as directors can communicate better on themselves and they are easier to manage (Yermark, 1996; Eisenberg et al., 1998, Mollah and Zaman, 2015). These factors promote a more resourceful conversation. Based on these, we might expect that smaller

[3] PWC (2009) reports that the number of reputable shariah scholars globally range between 20 to 30 and the best-known scholars are compensated in millions of dollars per year.
[4] Jensen and Meckling (1976) define residual loss as the monetary value of reduction in welfare of the principal resulting from the divergence of agent's decisions from that optimal ones that maximize the welfare of the former even after incurring monitoring and bonding costs.

boards and smaller shariah committee are more effective in constraining shariah non-compliant risk.

Non-executive directors are associated with the responsibility of monitoring managers and thereby reducing agency costs that arise from the separation of ownership and control in day-to-day company management (Fama and Jensen, 1983; Brennan and McDermott, 2004). Prior studies indicate that an independent board is an effective monitoring safeguard (Carcello et al., 2002; Xie et al., 2003) and is more likely to be associated with lower firm risk (Chong et. al., 2018; Mathew et al., 2018). Since the ultimate goal of Islamic banks is to adhere to shariah law, then the higher independence of non-executive directors on boards is expected to be more sensitive to the regulatory compliance, and act more conservatively toward the shariah committee in order to mitigate legal liability or reputational losses from bank default. As a result, we expect more independent non-executive on board reduced the shariah non-compliance risk.

In board of directors' studies, Conger et al. (1998) suggest that more frequent board meetings improve a board's effectiveness as the meetings are a key dimension of board operations (Vafeas, 1999). Active boards that meet more frequently are more likely to perform their duties in accordance with shareholders' interests (Vafeas, 1999) and to put more effort into monitoring the integrity of the management. In the audit committee literature, the firms with a higher number of audit committee meetings experience less financial restatement (Abbott et al., 2004) and are associated with lower incidences of earnings management (Xie et al., 2003). These studies suggest that the committees who meet regularly during the financial year are linked to effective monitoring. The more frequently they meet, the more efficiently they discharge their oversight responsibilities. Thus, we expect an inverse relationship between the meeting frequency of board and shariah committee with shariah non-compliant risk.

Agency theory suggests that one way to monitor an agent's behaviour is through their compensation contracts, enabling the interest between principal and agent to be perfectly aligned (Jensen and Meckling, 1976). Consistent with the proposition of agency theory, the empirical evidence from archival studies suggests that executive/director compensations improve their monitoring ability and thus lead to an increase in firm performance (Mengistae and Xu, 2004; Chen et al., 2011; Newton, 2015). We argue that the board of director and shariah committee with a higher level of the compensation package is more efficient in constraining the shariah non-compliant risk. For the latter, this is because higher compensation packages are associated with reputable board and shariah scholars who command more respect and can provide better oversight on the shariah compliance function.

The shariah committee knowledge and experience are important elements in ensuring the effectiveness of their monitoring function. Borrowing from board and audit committee literature, directors that are financially literate can effectively assess the nature and the appropriateness of accounting choices, constrain the aggressiveness of accounting policies and provide incentives to avoid the risk of litigation (Agrawal and Chadha, 2005, DeFond et al. 2005; Krishnan and Visvanathan, 2008). A shariah committee that is financially literate can address issues relating to financial statements and assess the shariah review and shariah audit works more efficiently. In addition, the appointment of shariah committee members with accounting and financial expertise improves the oversight function of the committees and thus provides a credible signal to the investors that the banks aspire to a higher quality of shariah

audit. We expect that shariah committee with accounting and financial expertise complements the knowledge of other shariah scholars in understanding of financial statements, which enables them to access the policies and issues related to financial reporting including risk assessment and management.

In sum, based on the proposition of agency theory, concerning to monitoring roles and evidence from prior literature, we posit that a board of directors with a smaller size, more independent directors, more frequent meetings and higher compensation would be an effective board. Similarly, the shariah committee with a smaller size, equipped with accounting and financial expertise, more active and receiving higher compensation would be considered more effective. It is argued that the board of directors and shariah committee with these characteristics are more effective in constraining the shariah non-compliant risk in order to safeguard their reputation, to avoid legal exposure and to promote shareholders' interests.

## 4. Data, main variables and model specification

The paper examines the role of corporate governance on shariah non-compliant risk in Islamic banks of Indonesia and Malaysia. Islamic banking in Indonesia started in 1992 with the establishment of Bank Muamalat Indonesia. The Islamic banking assets constitute 5.78% of the total banking assets with 13 Islamic banks and 21 commercial banks with Islamic business units operating among a total of 118 banks in 2017 in the country (IMF 2017 and OJK 2017). Islamic banking started in Malaysia with the enactment of Islamic Banking Law in 1983 and the establishment of Bank Islam Malaysia Berhad in the same year. With a supportive legal and regulatory environment, Islamic banking sector has grown significantly in the country with 16 Islamic banks compared to 27 conventional banks. With a share of 30% of the total banking assets in 2017, the Islamic banking sector has become systemically significant in the country (BNM 2018, IFSB 2017).

Recognizing that most stakeholders deal with the Islamic banks for shariah compliant financial service, some countries have enacted laws and regulations that require having in place a credible shariah governance framework to protect their rights. Both Islamic Financial Services Act 2013 and the shariah governance guidelines of the central bank (Bank Negara Malaysia) in Malaysia cover details on shariah governance, compliance, and audit functions in Islamic banks. Similarly, the Islamic Banking Act 2008 in Indonesia mandates Islamic financial institutions to have shariah committee to deal with shariah issues in banking operations. Though not providing details as in the case of Malaysia, the regulations outline the powers, scope and responsibilities of the shariah committee which include providing shariah opinions on the overall operations and monitoring compliance of bank operations with the rulings issued by national sharia council (Bank Indonesia 2004).

### *4.1 Sample and data*

Our initial sample consists of 29 full-fledged Islamic banks in Malaysia and Indonesia with 220 bank-year observations from the period 2007 to 2017. The sample of banks in the paper

includes all Islamic banks from both countries during the period of study. [5] We exclude 37 observations because the data on shariah non-compliant income and corporate governance variables are unavailable. The final sample consists of 183 bank-year observations. Table 1 summarizes our sample selection process.

[Insert Table 1 here]

All data is hand collected from the Islamic banks' annual reports with the exception of country-level data (i.e. GDP growth) collected from the World Bank database. The annual report is used because it is widely available and public information by virtue of the regulated disclosure rule under the regulatory bodies of Bank Negara Malaysia and Bank Indonesia. These annual reports are available and downloadable from the individual Islamic banks' websites.

*4.2 Measuring shariah non-compliance risk*

Our proxy of shariah non-compliant risk is the shariah non-compliant income. We employ two alternative measures. The first measure is the natural log of shariah non-compliant income, assuming that a higher shariah non-compliant income indicates the higher shariah non-compliance risk. The banks that reported zero shariah non-compliant income is set to one dollar to allow for log transmission. The second measure is a dummy variable. We set to 1 if the bank indicates positive shariah non-compliant income and set to 0 if bank report zero shariah non-compliance income. We seek the likelihood of incidents of shariah non-compliance activities, assuming the positive shariah non-compliant income indicates the presence of shariah non-compliant risk.[6]

*4.3 Measuring corporate governance*

We focus our analysis on the bank's corporate board and shariah committee variables. For boards of directors, we select four essential features of boards' governance, i.e. board size, composition of independent non-executive directors, meeting frequency and compensation. All characteristics were extensively studied the bank risk-taking literature (Vallascas et al., 2017; Berger et al., 2014). We define board size as the natural log of number of directors on the board. The board independence is measured by a percentage of independent directors to total board size[7]. The board of directors' meetings is defined as the natural log of meeting frequency and

[5] Only one bank in Malaysia (Bank Islam Malaysia Bhd.) and four banks in Indonesia (Bank BNI Syariah, Bank BRI Syariah, Bank Muamalat Indonesia and Bank Panin Dubai Syariah) are listed in the respective national stock markets.

[6] We have also consider the proxies of SNCI scaled by total asset, net income and total equity in our analysis, however all model indicate insignificant F-statistic. We expect the misspecification of the models are due to the insignificant amount of SNCI as compared to total assets, net income and total equity as well as the small sample size covered in our study.

[7] Indonesian banks operate with a two-tier board structure, thus board size is the total number of directors on board of commissioners and board of directors. While, board independence refers to the number of independent board of commissioners.

the board compensation is measured by the natural log of total compensation received by the directors.

For shariah committee, we focus on the size of the committee, number of committee members with accounting and financial expertise, number of meetings per annum and the compensation. The corporate governance literature suggests that these characteristics served important roles in measuring the effectiveness of board subcommittee (Brick and Chidambaran, 2010). We define the shariah committee' size as the natural log of number of members sitting in shariah committee. The shariah committee's financial expertise is measured by the number of members with accounting and financial qualification and experience, including all forms of formal education, professional qualification and work experience related to accounting and finance. The shariah committee meeting is measured by the natural log of meeting frequency. Lastly, we employ the natural log of total shariah committee' compensations as a measurement of quality of members ability in monitoring the shariah non-compliant risk.

*4.4 Model specification*

In order to examine the relationship between the boards of directors, shariah committee and the shariah non-compliant risk, the following models are employed:

$$\begin{aligned} SNCI \;=\; & \alpha_0 + \beta_1 BOD_size + \beta_2 BOD_ind + + \beta_3 BOD_meeting + \beta_4 BOD_compensation \\ & + \beta_5 SC_size + \beta_6 SC_act.expertise + \beta_7 SC_meeting + \beta_8 SC_compensation \\ & + \beta_9 ASSET + \beta_{10} AGE + \beta_{11} GDPGR + \varepsilon \end{aligned} \quad (1)$$

The dependent variable is shariah non-compliant income *(SNCI)* representing SNCR. As indicated, there are two measures of *SNCI*, namely *SNCI_log,* and *SNCI_logit.* The variables of interest include *BOD_size, BOD_ind, BOD_meeting, BOD_compensation, SC_size, SC_act.expertise, SC_meeting*, and *SC_compensation.*

We control for the effects of other variables that have been found in prior literature to affect the bank's risk (see Chen and Lin, 2016; Vallascas et al, 2017) – the natural log of total assets *(ASSET)*, the natural log of bank age *(AGE)* and the country GDP growth *(GDPGR)*. We argue that as bank size increases *(ASSET),* the banks' business operations will be more complex and the banks may need to put more effort into dealing with shariah non-compliant risk. Thus, we expect these variables to be positively associated with shariah non-compliant income. As the age of the bank increases *(AGE),* they may gain more experiences in dealing with shariah risk, resulting in a lower shariah non-compliant risk. Thus, the present study predicts a negative relationship between the age of the bank and shariah non-compliant income. We also control for the economic performance of each country, with the country's *GDPGR* serving as its proxy.

## 5. Empirical findings

*5.1 Descriptive statistics*

Table 2 reports the descriptive statistics for shariah non-compliant income, hypothesis variables and related control variables containing minimum, lower quartile, mean, median, upper quartile, maximum and standard deviation. Panel A in Table 2 presents the hypothesis variables before the variables are transformed. The mean (median) of shariah non-compliant income *(SNCI)* for 183 bank-years is US$33,217 (US$4792). As a comparison to the economic magnitude of the amount of *SNCI,* we provide the mean (median) ratio of *SNCI* to total asset: 0.00171(0.00036); *SNC*I to net income: 0.94958 (0.0311) and *SNCI* to equity: 0.01742 (0.00329). Even though the amount of *SNCI* is relatively very small compared to the total assets, net income and equity of the sample, it may possibly effect the institutional reputation in the long run since the amount of *SNCI* indicates the incidence of shariah non-compliant risk. In the sample, there are 46 bank-year observations (i.e. 12 banks) report zero shariah non-compliant income, constituting 25.14% of the observations indicating zero shariah non-compliant activities/ transactions. With respect to the corporate governance variables, we find that the mean (median) of board size is 7.52 (7) and 65% of them are independent. As compared to Mak and Li (2001) who report the mean (median) for 147 Singapore Listed firms for the fiscal year 1995 as 8.04 (8), 57% of them are independent directors. This comparison implies that Islamic banks in Malaysia and Indonesia have higher representation of independent and non-independent directors compared to the firms in Singapore 22 years ago. The mean (median) board of director's meeting is 11.73 (11) times and the compensation is US$943,786 (US$681,500) during a year. The mean size of the shariah committee is 3.78, which is relatively consistent with the figure reported in Mollah and Zaman (2015) who report the mean size of the shariah committee as 4.17. The mean (median) of shariah committee member with accounting and financial expertise is 1.04 (1). The average frequency of shariah committee meetings is 12.56 times a year and their yearly mean (median) compensation is US$72,628 (US$55,563).

In Panel B in Table 2, we present the hypothesis variables and related control variables in the natural logarithm form and ratio. The mean (median) of these variables include: shariah non-compliant income at 7.03 (8.47); board size at 1.99 (1.95); board independence at 0.65 (0.57), board meeting 2.35 (2.40), board compensation 13.46 (13.44), shariah committee size at 1.23 (1.10); shariah committee with accounting and financial expertise 0.24 (0), shariah committee meetings at 2.44 (2.49), shariah committee compensation at 10.85 (10.91); total assets at 21.22 (21.52) and the bank's age at 2.00 (2.08). The means of GDP growth for Malaysia and Indonesia are 4.87% and 5.46%, respectively. However, the mean (median) GDP growth for both countries is 5.31% (5.29%) from the year 2007 to 2017.

[Insert Table 2 here]

Table 3 contains a correlation matrix of the variables used in the paper. In general, the overall correlation matrix shows that each of the variables is moderately inter-correlated with one and another except for variables *SNCI_log* and *SNCI_logit* with correlation coefficient of 89%. However these correlation coefficients are not critical because these dependent variables are associated with different model specifications.

[Insert Table 3 here]

*5.2 Empirical results*

In Table 4, we report our regression results of pooled OLS, GLS, and logistic regressions. The F statistics for all models are significant at $p<0.001$, suggesting that the models are statistically valid.

As expected the *BOD_size* is significant and positively associated with shariah non-compliant risk, suggesting that banks with smaller board size experience lower shariah non-compliant risk. There is a possibility that a smaller board contributes to effective communication and there is less likely of a communication breakdown. The effective communication of smaller boards is consistent with the previous studies by Yermark (1996) and Eisenberg et al. (1998). This finding suggests that when board members communicate effectively, they reduce the incidence of misunderstanding and consequent errors and that they are more sensitive to the shariah compliant issues.

The *BOD_ind* is significant and negatively related to shariah non-compliant risk. This finding is consistent with the proposition of agency theory that suggests the independence non-executive director is an essential quality that contributes to a committee's effective monitoring function (Fama and Jensen, 1983). The independent board is expected to provide unbiased assessment and judgement and to be able to monitor management effectively. This result suggests that the higher proportion of independence non-executive directors on boards motivate them to be more sensitive to the shariah regulatory compliance. They act more conservatively toward the shariah committee's action and thus, reduced the shariah non-compliant risk. The likely cause for their action is to fulfil the fiduciary role of complying with shariah and mitigate the reputational risks that can arise from noncompliance.

We also document the inverse relationship between shariah committee with financial expertise and shariah non-compliant risk. The financial expertise assists the shariah committee to have access to resources that contribute to the superior ability to understand and interpret the business activities and risk assessment effectively. The finance and accounting knowledge and experience of shariah committee complement the shariah scholars understanding of financial statements and issues related to risk assessment and management. In other words, by having appropriate experience and knowledge in accounting and finance, is likely to improve shariah committee' performance and judgement especially with regards to shariah compliant risk.

We find that the coefficient of *SC_meeting* is significant and negatively related to shariah non-compliant risk. This result suggests that a higher frequency of shariah committee meetings leads to lower shariah non-compliant risk. This is consistent with the argument that when shariah committee meets more frequently, they reduce the likelihood of shariah non-compliant risk because regular meetings allow the shariah members to identify and resolve potential problems, particularly those that are related to the shariah compliant. This finding is consistent with the prior study that suggests board sub-committee who meet regularly during the financial

year are linked to effective monitoring (Abbot et al., 2004; Xie et al., 2003). The more frequently they meet, the more effective they discharge their oversight responsibilities.

The other corporate governance variables seem to provide inconsistent results or suggest insignificant relationships with shariah non-compliant risk across pooled OLS, GLS and logistic regressions. In particular, the *SC_size* is positive and significant with SCNR in most of the different estimators except in logistic regression. There is no evidence that board meeting, board compensation and shariah compensation are associated with shariah non-compliant risk. The results of all the control variables are insignificant except for *AGE* that suggests positive relationship with SNCR. As the age of the bank increases, they may gain more complex business models which overweight the collective knowledge that they have and thus increased the shariah risk non-compliant risk.

[Insert Table 4 here]

### *5.3. Additional analysis and robustness tests*

We conduct several additional analysis and robustness tests as follows. First, we provide new definitions for board and shariah committee variables to see whether alternative definitions affect the main results. We define *BOD_ned1* as the natural log of independent non-executive directors; the *SC_act.expertise1* as dummy variable – coded 1 if at least one member of shariah committee equipped with accounting and financial expertise and 0 if otherwise; SC_meeting1 as dummy variable – coded 1 if the percentage of shariah committee meeting during a year is more than sample median and 0 if otherwise; *SC_compensation1* as the ratio of shariah committee compensation to shariah committee size and *SC_compensation2* as the ratio of shariah committee compensation to total asset. The results of GLS and logistic regressions as reported in Table 5 are qualitatively similar, suggesting the primary findings are robust to the alternative definitions of board and shariah committee variables.

Second, we add more control variables (e.g. *ROA, ROE* and *LEVERAGE*) on the different models to test whether the inclusion of these variables would affect the primary results. None of these control variables is significant with shariah non-compliant risk. The main findings hold even with the inclusion of these additional control variables in Model 2 and Model 3 as reported in Table 5.

[Insert Table 5 here]

Third, we run the GLS and Logistic regressions on the two sub-samples –large and small banks as reported in Table 6. We split the sample into two subsets of data at the median of *ASSET* (a proxy for bank size) to observe if size effects exist. The banks that have *ASSET* above the median are identified as large banks and the banks that have *ASSET* below the median are identified as small banks. Most of the results are consistent with those obtained from the main analyses except for some of variables either significant under GLS or Logistic model in the large or small banks. For example, the *BOD_size* is insignificant under the logistic regression for small bank. However, in general the results are very similar in terms of the signs and significance to those reported in Table 4. The conclusions from the main findings are held.

[Insert Table 6 here]

Lastly, we run the two-stage least-square (2SLS) regression to address possible endogeneity issue. Prior literature suggests that most of the corporate governance variables are endogenous in nature because the firms choose their board or subcommittee members to suit their business operation and environment (Coles et al., 2008; Harris and Raviv, 2008). One of the possible sources of endogeneity that effect the relationship between corporate governance and bank risk-taking is reverse causality or simultaneity (Larcker and Richardson, 2004; Larcker and Rusticus, 2010). In this study, rather than the argument of effective board and shariah committee reduced the shariah non-compliant risk, the shariah non-compliant risk may also affect the effectiveness of board and shariah committee. For example, when the shariah non-compliant risk is lower, there is possibility that the effectiveness level of board and shariah committee will be increased because they are less busy handling risk, and thus have more capacity to focus on strengthening their effectiveness. This reverse causality issue arises because corporate governance variables are *dynamic* (Wintoki et al., 2012; Cicero et al., 2013).

We perform Durbin and Wu-Hausman tests (Durbin 1954; Wu, 1973; Hausman, 1978) to all our corporate governance variables individually in order to investigate the presence of endogeneity in our study. Table 7 presents the results of the Durbin-Wu-Hausman test. The results suggest that all the variables (*BOD_size; BOD_meeting, BOD_compensation, SC_size, SC_act.expertise, SC_meeting and SC_compensation)* are insignificant except for *BOD_ned* that confirmed the presence of endogeneity. To address this concern, we run instrumental variables (IV) with 2SLS regression consistent with the prior literature (e.g. Larcker and Rusticus, 2010; Katmon and Farooque, 2017). We employed a two-year lagged value of board of director independent, $BOD_ned_{t-2}$, as an instrumental variable consistent to Sila et al. (2015). This $BOD_ned_{t-2}$ lagged variable is valid to be instrumental variable under the assumption that independent directors may take at least a year to be changed and the board members must be in their roles for some time to have an impact on the shariah non-compliant risk. The $BOD_ned_{t-2}$ has fulfilled the following conditions: (i) outside the regression model, (ii) uncorrelated with regression errors and (3) strongly correlated with endogenous variables.[8] To ensure the IVs are valid, we estimated the reduced form equations on the first stage of 2SLS regression and examined the significance level of the endogenous variables (Adkins and Hill, 2007: 249-250). We also check the strength of our IV using the F-statistics for the first-stage 2SLS regression following Staiger and Stock (1997). Our F-statistics in the first stage is 62.86, which is higher than 10 (cut-off point). Therefore, we conclude that our IV is valid and reliable to be instrumented in our 2SLS regression. The results of first-stage and second stage of 2SLS

[8] We have also consider other IV for *BOD_ned*, i.e portfolio rank, $BOD_{quartile\ rank}$ – the rank value is based on the quartile that fall into four equal-size of portfolio (i.e. categories 1-4, based on the lowest to the highest value. Similar to $BOD_ned_{t-2}$, we estimated the reduced form equations on the first stage of 2SLS regression and examined the significance level of the *BOD_ned*. The IV meets the suggested criterions. The results for 2SLS regression is relatively similar as reported in the main findings.

regression are presented in Table 8. The results of 2SLS regressions are relatively consistent with the main findings reported in Table 4.

[Insert Table 7 here]

[Insert Table 8 here]

## 6. Conclusion

This study represents one of the first attempts to study the relationships between corporate governance and shariah non-compliant risk. Although the corporate governance literature is quite developed, no prior study examines the link between corporate governance mechanism and shariah non-compliant risk which is unique for Islamic banks. Also, to the extent that the finance literature has examined corporate governance mechanisms at the board level, this study extends the literature by including the shariah committee characteristics (size, financial expertise, meeting frequency and compensation). We perform our investigation on Islamic banks from Malaysia and Indonesia over the period 2007 to 2017.

The empirical results indicate that the banks with a smaller board and a higher proportion of independent board are likely to have lower shariah non-compliance risk. The results also indicate that the financial expertise and higher frequency of shariah committee meetings reduce the shariah non-compliant risk. Collectively, our analysis shows that banks with strong corporate governance environments reduce shariah non-compliant risk. These results are robust to various model specifications and tests.

Being the first paper to explore shariah non-compliance risk in Islamic banks, the findings should be of potential interest to different stakeholders such as policy makers, professionals, the boards of directors and academics, especially on issues relating to corporate governance practice and shariah non-compliant risk. They may use the findings as guidance to see how the characteristics of the board and shariah committee may influence bank risk-taking as well as in planning strategies to mitigate future losses with regards to shariah non-compliant risk and can potentially enhance reputational risk. There is a need to carry out further research to extend our study and explore more on the roles that shariah bodies play in governance and other effective characteristics of board and shariah committees.

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