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BOARD STRUCTURE AND ISLAMIC BANK STABILITY: A STANDALONE RISK COMMITTEE MODERATING EFFECT

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ABSTRACT

This study investigates the impact of board attributes on the stability of Islamic banks and whether the presence a standalone risk management committee (SARC) moderates their relation. Applying the feasible generalized least squares (FGLS) regression as well as the two-step system generalized method of moments (GMM) estimator for robustness to a panel sample of 43 Islamic banks across 15 countries over eleven years from 2010 to 2020, we document evidence suggesting that board meetings, board gender diversity and foreign directors do not influence the stability of Islamic banks. Conversely, board members holding doctorate degrees (PhDs) significantly and negatively affect the stability of Islamic banks. In addition, the presence of SARC significantly improves the stability of Islamic banks. The study further finds that SARC partially and positively moderates the effects of board members with PhDs and foreign directors on the stability of Islamic banks.

Keywords: Board attributes, Standalone risk management committee, Bank stability, Risk-taking, Islamic banks.
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I. INTRODUCTION

The global financial crisis emanating from banks has a common denominator, the weakness of corporate governance (Abou-El-Sood, 2019; Giovannini, 2020). The crisis reveals the significance of the banking sector's stability, leading financial regulators to implement measures to enhance corporate governance practices (Karkowska & Acedański, 2020). Hence, governments and organizations launch policies and rules to protect shareholders' interests by preventing management from taking unnecessary risks (Bhuiyan et al., 2021). The new corporate governance codes across various countries around the globe pay special attention to the board of directors' attributes, which emphasize the following: having an adequate number of directors on the board to discharge their duties effectively and appointment of members with relevant qualifications, experience, competency, knowledge and diversity (Ramly & Basharahil, 2021). As a result of increased banking regulations to improve bank stability, boards of directors are pressured to oversee risk-taking activities properly to promote bank stability (Nguyen, 2022a). Similarly, high-quality board governance constrains banks from excessive risk-taking as they may act more conservatively to avoid lawsuits emerging from risk-taking (Sun & Liu, 2014). Therefore, effective and strong corporate governance and risk management practices are required to help banks to manage risk and ensure their risk orientation does not affect economic growth (Lee et al., 2021).

The relationship between corporate governance and risk-taking has attracted significant attention from regulators, bank managers, customers and academics because of the nature of high leverage and lack of transparency and complicatedness of bank assets and activities, particularly after the 2007-2008 financial crisis (Basiruddin & Ahmed, 2020). Various studies attempt to establish the relationship between board attributes and firm risk-taking/stability. However, an extant literature review reveals several key limitations of previous studies. First, though many studies investigate the relationship between corporate governance and bank stability, a few studies examine the impact of board attributes on bank stability (Abou-El-Sood, 2019; Aslam & Haron, 2021; Biswas, 2021; Chan et al., 2016; Giovannini, 2020; Gulamhussen & Santa, 2015; Khalil & Chihi, 2020; Lee et al., 2021; Liao et al., 2019; Mansoor et al., 2020; Nainggolan et al., 2023).

Furthermore, the board of directors is the apex governance structure primarily responsible for ensuring bank stability through proper risk management via its risk management and audit committees. Specifically, the risk management committee has the potential to become a critical resource used by the board to fulfill its risk management responsibilities (Rimin et al., 2021). Furthermore, the emergence of the financial crisis raises doubts about the ability of audit committees to perform a key role in enhancing bank stability(Nguyen, 2022a, 2022b). Hence, most studies conducted in the post-global financial crisis period focus more on the effects of the risk management committee and audit committee attributes on corporate risk-taking behavior. These committees are part of the board and are mandated to report their activities to the board, which may subsequently approve, modify or disapprove them. This underscores the necessity to investigate how board attributes impact bank stability.

Moreover, among the few studies that investigate the relationship between board characteristics and corporate stability, no adequate attention is given to

Islamic banks. In other words, despite the acceptability of Islamic banks and their practice in Islamic and non-Islamic countries, prior studies mostly concentrate on conventional banks. Therefore, fewer studies investigate how board attributes and characteristics affect Islamic banks' stability compared to their conventional counterparts. Specifically, this research finds only studies by Aslam & Haron (2021), Basiruddin & Ahmed (2020), Jabari & Muhamad (2022), Mansoor et al.(2020) & Nainggolan et al. (2023) exploring how board characteristics influence Islamic bank risk-taking. They however exhibit several limitations regarding the number of attributes employed, such as the utilization of only a few board attributes (primarily board size and board independence), the countries covered, the period covered and the sample size used. For example, studies by Aslam & Haron (2021) and Basiruddin & Ahmed (2020) focus on board size and board independence. Additionally, Nainggolan et al. (2023) examine a sample of Indonesian and Malaysian Islamic banks, while Mansoor et al. (2020) study only 22 Asian Islamic banks.

Given the above limitations and gaps, this study examines the impact of boar attributes on the stability of Islamic banks. More specifically, it aims to investigate how board meetings, board gender diversity, board members with PhDs, and foreign directors on the board influence Islamic bank risk-taking by utilizing a sample of 43 Islamic banks from 15 countries. It further extends the literature by investigating the moderating effect of the presence of a standalone risk management committee (SARC) on the association between board attributes and Islamic bank stability. Following the financial crisis, various corporate governance regulations around the globe mandate that their corporate entities, particularly banks, to establish a standalone RMC instead of saddling the audit committee with the primary responsibility of managing risks. According to Bhuiyan et al. (2021), the quality of corporate governance practices is likely to bolster and restrain banks from excessive risk-taking when a standalone risk management committee is established. Besides, members of a standalone risk management committee will be able to determine whether present and future risk management practices align with the risk appetite, risk profile, and incentive structure designed to encourage prudent risk-taking (Nahar & Jahan, 2021). Hence, a separate risk committee is believed to strengthen board-level oversight and boost board risk management and performance (Makiyan, 2008). Bhuiyan et al. (2021) discover a significant reduction in firm risk-taking among companies with an independent risk committee when compared to those with a joint risk and audit committee. Hence, this study believes that the presence of a standalone risk management committee can moderate the effects of board attributes on Islamic bank stability.

The contributions of this study are fourfold. First, the study contributes to the literature by providing empirical evidence of other essential attributes of the board of directors that influence the stability of Islamic banks. Board attributes like frequency of board meetings, board gender diversity, board members with doctorate qualifications on the board and foreign directors appointed to the board are not given much attention by prior studies, particularly their effects on the stability of Islamic banks. Second, this study is the first to show the moderating impact of standalone risk management committee members on the relationship between board characteristics and the stability of Islamic banks. Third, the findings

will be useful to regulators and policymakers in revising regulations and policies to ensure the board attributes used in this study enhance Islamic bank stability. Fourth, since the findings of the study indicate how various board attributes influence the stability of Islamic banks, the board can use these results to guide the board in appointing board members to improve Islamic bank stability.

The rest of the paper is accommodated in four sections. Section 2 shows the literature review and the development of hypotheses. Section 3 provides the research methodology. The results and analysis are presented in section 4. Finally, section 5 concludes the paper.

II. LITERATURE REVIEW

2.1. Underpinning Theory

Theoretically, the agency theory and resource dependency theory underpin the relationship between corporate governance and performance. There is a consensus among researchers in the field of finance that the agency problem in modern business can be solved through good corporate governance practices (Nguyen, 2022b). The agency problem signifies the situation in which managers carry out business activities in such a way as to attain their personal benefits at the expense of the shareholders (Giovannini, 2020; Nguyen, 2022b).

According to Giovannini (2020), banks encounter the following four specific agency problems because of their complexity. First is the agency problem between shareholders and debtholders due to high debt leverage. Second is the agency problem between management and shareholders arising from liquidity issues. In this case, debtholders can withdraw their deposits whenever banks are not sufficiently liquid to satisfy all withdrawal orders. Third, the agency problem may emerge between management and stakeholders because of bargaining power with borrowers. Fourth, the agency problem between management and directors may occur due to information asymmetry.

Moreover, corporate governance entails a set of mechanisms created to solve agency problems and mitigate firm risk-taking (Ramly & Basharahil, 2021). Board attributes are essential determinants of bank risk-taking (Abobakr & Elgiziry, 2017). Therefore, the board of directors is the core governance structure of the internal corporate governance mechanism, which entails various attributes that can influence risk-taking, such as meetings, gender diversity, educational qualifications, and foreign directors, among others. Similarly, the board of directors is a central internal governance mechanism in modern corporate entities (Akbar et al., 2017). A strong board of directors can reduce agency problems and improve the monitoring of the management's decisions (Lee et al., 2021). The primary responsibility of the board of directors is to protect the interests of shareholders and other stakeholders. Also, the extended agency theory explains the impact of board gender diversity on bank risk (Giovannini, 2020). Prior studies have described how some of these attributes influence firm risk-taking. For example, gender diversity (women on board) is expected to contribute negatively to firm risk because it provides input for better management monitoring (Mathew et al., 2016). Female directors will also likely render excellent monitoring expertise (Mazzotta & Ferraro, 2020).

The resource dependency theory creates connections among organizations to provide a set of power relations through the exchange of resources (Nemati et al., 2010). It allows organizations to engage with their environment through its adaption, change the environment in line with their circumstances (the "enacted" environment), or perform both (Singh et al., 2011). In line with the resource dependency theory, the board of directors could connect the firm with other organizations (Abou-El-Sood, 2019). Specifically, as put forward by the resource dependency theory, a good corporate governance structure can sustain the asset quality of Islamic banks because of board room capabilities (essential information, aptitude and skill) and a very strong capacity to mitigate the uncertainties and keep their loan profiles sound (Aslam et al., 2021). Besides, boards with diverse genders, educational levels, and backgrounds are expected to offer management wider insights, enabling them to make better decisions(Jabari & Muhamad, 2022). Therefore, boards with female directors, members with PhD qualifications, and foreign directors are likely to make rational decisions that can improve Islamic banks' stability.

2.2. Empirical Review and Hypotheses

2.2.1. Frequency of Board Meetings and Corporate Stability

In general, board meetings might be seen as an essential instrument for accomplishing the company's strategic goals and performing the board's responsibilities (Nigerian Code of Corporate Governance, 2018). The frequency of board meetings indicates the directors' activeness in discharging their duties (Pandey et al., 2022). Besides, Abid et al. (2021) state that regular meetings might facilitate discussing and deliberating problems about enterprise risk management policies (ERM), risk reduction techniques and monitoring. In other words, increased board meeting frequency enhances the capacity to adapt to market changes, reducing risk exposure (Lee et al., 2021). Accordingly, many corporate governance codes around the globe mandate that the board of directors convene a minimum number of meetings in every financial year. For example, according to Saudi corporate governance standards, the board of directors must meet at least four times a year, which translates to once every quarter, in order to fulfill its responsibilities (Capital Market Authority, 2017).

Little empirical evidence exists that attempts to establish the relationship between the frequency of board meetings and risk-taking. For instance, Using panel data between 2008 and 2017, Aslam & Haron (2021) find that the frequency of board meetings is inversely related to the risk-taking of Islamic banks. Similarly, Lee et al. (2021) discover that the frequency of board meetings lowers the risk-taking of Islamic and conventional banks in Malaysia by utilizing a sample of 14 Islamic and 15 traditional banks from 2007 to 2017. Besides, Qin et al. (2023) reveal that engaging independent directors in shareholder meetings assists them in gaining more accurate information and mitigates the tendency of companies to engage in excessive risk-taking resulting from agency problems among Chinese listed firms. While some of these studies use a sample of Islamic banks, a few utilize data up to only 2017. This suggests the need for further exploration. Hence, this study proposes the following hypothesis:

H1. Ceteris paribus, the frequency of board meetings is positively associated with the stability of Islamic banks.

2.2.2. Board Gender Diversity and Corporate Stability

Board gender diversity is an aspect that has received substantial research interest (Giovannini, 2020). The resource dependency theory also posits that if male and female directors have different opinions, the quality and type of information available to firms will increase as gender diversity increases, consequently influencing firm performance and risk-taking (Biswas, 2021). Also, from an equity point of view, female representation on the board of directors is essential and can lead to positive externalities (Biswas, 2021).

The relationship between gender diversity and bank stability has been extensively explored, but no conclusion has been reached (Giovannini, 2020; Žigraiová, 2016). For example, Gulamhussen & Santa (2015) use a sample of 461 large banks that operate in 24 OECD countries. The study find that women on the board significantly decreased risk-taking. A study conducted by Chan et al. (2016) discovers a significant negative relationship between gender diversity and the risk-taking of commercial banks in China. Also, research conducted by Abobakr & Elgiziry (2017) shows that the proportion of female directors on the board has a significant negative effect on the insolvency and liquidity risks of banks in Egypt. Similarly, Abou-El-Sood (2019) reveals that female directorship has a significant negative association with bank risk-taking. Liao et al. (2019) use a sample of 444 banks from 39 countries over a period that spans from 2008 to 2017 and establish that bank risk-taking is significantly reduced due to female directors on the board. Mansoor et al. (2020)discover that credit ratings of Islamic banks tend to improve when women directors exist on the board.

Moreover, Aslam & Haron (2021) obtain a similar result and find female CEOs of Islamic banks in Malaysia to support less risky investments than their male counterparts. They add that women on the board reduce bank risk-taking. Jabari & Muhamad (2022), utilizing a sample of Islamic banks from 26 countries between 2010 and 20, discover that an increase in the percentage of women on the board improves Islamic banks' stability. Nainggolan et al. (2023), studying 27 Indonesian and Malaysian Islamic banks, document that female directors on the board reduced firm risk-taking. A study by Giovannini (2020) also reveals that the risk-taking of European banks is less when the number of female directors on the board increases.

However, the result obtained by Berger et al. (2014) indicates that an increase in female executives exerts insignificant effect on the portfolio risk of German banks. Besides, Mathew et al. (2016) also establish an insignificant association between gender diversity and risk-taking. Also, using a sample of the top 500 listed companies in India, Biswas (2021) shows that female directors on the board do not affect risk outcomes and risk-adjusted returns.

Based on the aforementioned discussion, we write the following hypothesis:
H2. Ceteris paribus, board gender diversity is positively associated with the stability of Islamic banks.

2.2.3. Board Doctorate Educational Qualifications and Corporate Stability

The competency of the board concerning educational qualifications may influence bank risk-taking behaviors (Srivastav & Hagendorff, 2016). A growing number of studies establish the relationship between individual investment behavior and the educational attainment of corporate officers (Berger et al., 2014).

Empirical findings on the relationship between the board members' academic qualifications are mixed (Jabari & Muhamad, 2022). A study undertaken by Berger et al. (2014) discloses that appointing directors with doctorate degrees to the board of directors tends to reduce the portfolio risk of banks in Germany. Žigraiová (2016) discovers that the presence of directors with doctorate educational qualifications improves the stability of banks in the Czech Republic. Jabari & Muhamad (2022) document that the proportion of board members with PhDs has a significant positive relationship with Islamic banks' stability.

Thus, we find only a study by Jabari & Muhamad (2022) that focuses on Islamic banks, implying the need to explore further how PhD holders on the board influence the stability of Islamic banks, which can serve as a robust check to this earlier study. This study develops the following hypothesis:

H3. Ceteris paribus, the proportion of directors with doctorate qualifications on the board is positively associated with the stability of Islamic banks.

2.2.4. Foreign Directors on the Board and Corporate Stability

In line with the resource dependency theory, getting external resources adds credence to firms' strategic and tactical management (Alam et al., 2022). This theory argues that foreign directors on the board can connect firms with global markets, facilitating access to resources internationally (Mansoor et al., 2020). Foreign directors have distinct values and cognitive frameworks that affect their behavior in boardrooms (Kang et al., 2019). Therefore, foreign directors on the board can be regarded as essential resources that play a vital role in improving firm stability.

There is limited empirical evidence indicating the relationship between foreign directors on the board and bank stability. The result obtained by Žigraiová (2016) suggests a significant negative relationship between the proportion of foreign directors on the board and bank stability in the Czech Republic. Nainggolan et al. (2023) show that the presence of foreign directors on the board significantly decreases the risk-taking of Islamic banks. However, Mansoor et al. (2020) document that foreign directors on the board reduce Islamic bank credit ratings in Asia.

Though there are a few studies that utilize a sample of Islamic banks, such as Mansoor et al. (2020) and Nainggolan et al. (2023), this study differs from them in terms of sample sizes, the period covered and/or measurement of bank stability. Thus, we develop the following hypothesis:

H4. Ceteris paribus, the proportion of foreign directors on the board is positively associated with the stability of Islamic banks.

2.2.5. Moderating Effect of A Standalone Risk Management Committee

The presence of a standalone risk management committee is expected to strengthen the risk monitoring system and process (Bhuiyan et al., 2021), consequently enabling the committee to discharge its agency duties effectively as required by the agency theory. Rimin et al. (2021) share a similar view that a separate risk management committee is more effective than a mixed committee in ensuring higher internal risk monitoring. Therefore, by creating a separate risk management committee, it will be possible for its members to focus on the company-wide risks and conduct a more thorough analysis of risk exposure (Nahar & Jahan, 2021). Similarly, Jia & Bradbury (2021) observe that businesses that have independent risk management committees outperform those that task another committee with risk management and control duties. These indicate the need to establish an independent risk management committee instead of overtasking the audit committee to handle the risk management activities.

Some empirical studies explore the impact of establishing a standalone risk management committee on firm risk-taking. For example, Jiang & Ji (2020) find that a separate risk committee significantly reduces risk-taking. Abid et al. (2021) discover a significant negative relationship between the presence of risk management committees and the risk-taking of Asian banks. For the case of Australia, Bhuiyan et al. (2021) reveal that companies with autonomous risk committees are likely to take far less risk than those with a joint audit and risk committee. A study by Umar et al. (2023b) indicates that the risk-taking of Islamic banks will be reduced when they establish standalone risk management committees.

Thus, although we found only one study by Umar et al. (2023b) for Islamic banks, we propose the following hypothesis:

H5. Ceteris paribus, the presence of a standalone risk management committee is positively associated with the stability of Islamic banks.

Moreover, considering the benefits of establishing a standalone risk management committee, we believe it can moderate the relationship between board attributes and the stability of Islamic banks. Thus, this study develops the following hypotheses:

H6. Ceteris paribus, the presence of a standalone risk management committee moderates the association between the frequency of board meetings and the stability of Islamic banks.

H7. Ceteris paribus, the presence of a standalone risk management committee moderates the association between board gender diversity and the stability of Islamic banks.

H8. Ceteris paribus, the presence of a standalone risk management committee moderates the association between the proportion of directors with doctorate qualifications and the stability of Islamic banks.

H9. Ceteris paribus, the presence of a standalone risk management committee moderates the association between the proportion of foreign directors and the stability of Islamic banks.

III. METHODOLOGY

3.1. Sample and Data

This study gathers data from Islamic banks' annual reports from their respective websites from 2010 to 2020. Following Umar et al. (2023a), it applies four key conditions for inclusion of a bank in the sample. First, a bank must be fully-Shariá-compliant. Second, it must publish annual reports for a minimum of four years. Third, the banks must provide adequate information about their board attributes needed to measure the governance variables used in the study. Fourth, the annual report must be available in English. Based on these conditions, we obtain a total sample of 43 Islamic banks from 15 countries, namely, Bahrain, Kuwait, Qatar, Saudi Arabia, the United Arab Emirates (UAE), Oman, Jordan, Egypt, Indonesia, Malaysia, Maldives, Nigeria, Pakistan, Bangladesh and Sri Lanka. The panel dataset is unbalanced, yielding 388 observations. For macroeconomic variables in the modelling, the study sources the data from the World Bank's website. Table 1 shows the sample distribution and observations used.

Table 1.
Sample Distribution of the Study

Country	No. of Banks	Observations	(%)
Bahrain	7	62	15.9
Kuwait	5	43	11.03
Qatar	1	11	2.82
Saudi Arabia	4	35	8.97
United Arab Emirates (UAE)	1	7	1.79
Oman	1	8	2.05
Jordan	1	11	2.82
Egypt	1	8	2.05
Indonesia	2	17	4.36
Malaysia	5	47	12.05
Maldives	1	10	2.56
Nigeria	1	8	2.05
Pakistan	4	32	8.21
Bangladesh	8	80	20.77
Sri Lanka	1	10	2.57
Total	43	388	100

Source: Authors' own

3.2. Variables of the Study

The present study examines the association between board structure (attributes) and Islamic bank stability and the moderating effect of a standalone risk management committee. The dependent variable is stability, which represents insolvency risk and is measured as ZSCORE. The study uses nine explanatory variables, comprising four key independent variables, one moderator and four control variables. Specifically, the key independent variables are board meetings, board gender diversity, board members with doctorate degrees and foreign directors on the board.

Table 2.
Description of the Variables

Variables	Abbreviation	Definition	Source	Expected sign
Dependent variable:				
Stability	ZSCORE	Natural logarithm (ROA plus capital asset ratio)/σ(ROA). The SD of ROA is a 3-year moving window for each bank-year observation. A higher value of ZSCORE signifies an improvement in Islamic bank stability and vice-versa.	(Abid et al., 2021; Jabari & Muhamad, 2022; Asiamah et al., 2024)	
Independent variables:				
Board meetings	BM	Total number of meetings held by the board of directors in a year	(Aslam & Haron, 2021; Lee et al., 2021)	+
Board gender diversity	BGD	The proportion of female directors on the board	(Abobakr &Elgiziry, 2017; Jabari & Muhamad, 2022; Lee et al., 2021; Mansoor et al., 2020)	+
Board members with doctorate degrees	BMD	The proportion of directors with doctorate degrees on the board	(Jabari & Muhamad, 2022; Žigraiová, 2016)	+
Board foreign directors	BFD	The proportion of foreign directors on the board	(Mansoor et al., 2020; Žigraiová, 2016)	+
Moderator:				
Standalone risk management committee	SARC	"1" is allocated if the bank has a standalone risk management committee, otherwise "0".	(Abid et al., 2021; Bhuiyan et al., 2021; Umar, Abduh, et al., 2023b)	+
Control variables:				
Board Size	BS	Total number of directors on the board	(Abid et al., 2021; Aslam & Haron, 2021; Lee et al., 2021)	+/-
Audit committee size	ACS	Number of audit committee members	(Aslam & Haron, 2021; Sun & Liu, 2014)	+/-
Inflation	INFLA	Consumer price index	(Asiamah, et al., 2024; Aslam & Haron, 2021)	+/-
Gross domestic product growth rate	GDP	The annual growth rate of gross domestic product	(Asiamah, et al., 2024; Aslam & Haron, 2021; Umar, Abduh, et al., 2023b)	+

Source: Developed by the authors

This study considers board meetings, board members with doctorate degrees, and foreign directors on the board as key attributes that can influence corporate stability. However, these factors have not received adequate attention in prior studies, as noted earlier. Despite numerous studies examining the relationship between board gender diversity and corporate stability, this study also chose to consider gender diversity due to very low proportion of women on most boards of Islamic banks. During the data extraction, the study find that most Islamic banks in the Middle East and North Africa have no female board members. For instance, no female board member are found on the boards of Saudi Islamic banks considered in this study. Consequently, little empirical evidence shows how board gender diversity influences Islamic bank stability(Aslam & Haron, 2021; Jabari & Muhamad, 2022; Nainggolan et al., 2023). Besides, the study uses a standalone risk management committee as a moderator. The control variables are board size, audit committee size, inflation rate and GDP growth rate. Table 2 presents the variables and their description.

3.3. Model Specification

This study investigates the relationship between board attributes and the stability of Islamic banks, along with the moderating effects of a standalone risk management committee. To begin, we start with the following regression:

$$\begin{aligned} &\mathrm{ZSCORE}_{it} \\ &= \beta_0 + \beta_1 \mathrm{BM}_{it} + \beta_2 \mathrm{BGD}_{it} + \beta_3 \mathrm{BMD}_{it} + \beta_4 \mathrm{BFD}_{it} \\ &+ \beta_5 \mathrm{SARC}_{it} + \beta_6 \mathrm{BS}_{it} + \beta_7 \mathrm{ACS}_{it} + \beta_8 \mathrm{INFLA}_{it} + \beta_9 \mathrm{GDP}_{it} \\ &+ \text{Bank Dummies} + \text{Year Dummies} + \varepsilon_{it} \end{aligned} \quad (1)$$

Then, to investigate the moderating effect of the standalone risk management committee on the relationship between board attributes and the stability of Islamic banks, we extend (1) to include interaction terms as:

$$\begin{aligned} &\mathrm{ZSCORE}_{it} \\ &= \beta_0 + \beta_1 \mathrm{BM}_{it} + \beta_2 \mathrm{BGD}_{it} + \beta_3 \mathrm{BMD}_{it} + \beta_4 \mathrm{BFD}_{it} \\ &+ \beta_5 \mathrm{SARC}_{it} + \beta_6 \mathrm{BM} * \mathrm{SARC}_{it} + \beta_7 \mathrm{BGD} * \mathrm{SARC}_{it} + \beta_8 \mathrm{BMD} * \mathrm{SARC}_{it} \\ &+ \beta_9 \mathrm{BFD} * \mathrm{SARC}_{it} + \beta_{10} \mathrm{BS}_{it} + \beta_{11} \mathrm{ACS}_{it} + \beta_{12} \mathrm{INFLA}_{it} + \beta_{13} \mathrm{GDP}_{it} \\ &+ \text{Bank Dummies} + \text{Year Dummies} + \varepsilon_{it} \end{aligned} \quad (2)$$

where ZSCORE is bank stability; BM is the frequency of board meetings; BGD is board gender diversity; BMD is board members with doctorate degrees; BFD is foreign directors on the board; SARC is a standalone risk management committee; BS is board size; ACS is audit committee size; IFLA is inflation; and GDP is gross domestic product growth rate; The symbols β_0, represents the constant term, while β_1- β_{13}represent the coefficients of the explanatory variables. The subscripts i and t denote bank and year, respectively and ε represents the error term.

3.4. Methods of Estimation

We adopt a panel framework for our analysis due to its several advantages, which are (1) enhanced precision of regression estimates, (2) the capability to account for individual fixed effects, and (3) the capacity to model temporal effects without introducing aggregation bias (Ascarya & Indra, 2021). In line with prior studies, this research adopts the feasible generalized least squares (FGLS) estimator (Arshed & Kalim, 2021; Bai et al., 2021; Danlami et al., 2022) after conducting three essential tests: the Hausman specification, the Breusch and Pagan LM test, and the panel heteroskedasticity test. Using pooled OLS regression could lead to results with heteroskedastic issues (Arshed & Kalim, 2021). Additionally, Ordinary Least Squares (OLS) may introduce heterogeneity bias when the intercepts vary between units and time, making FGLS more efficient (Wooldridge, 2009). Also, unobserved individual- and time-specific effects can be accounted for by heterogeneous intercepts in models like fixed and random effects (Gujarati et al., 2012). Hence, applying the FGLS estimator enables variations among banks to be captured in the standard errors of each coefficient (Greene, 2012). In summary, FGLS provides more efficient estimation because it can address heteroskedasticity, cross-sectional dependency, and serial correlation (Bai et al., 2021; Colin Cameron & Vin Trivedi, 2009; Hoechle, 2007; Reed & Ye, 2011).

However, the above estimation could be exposed to the endogeneity. Statistically, the endogeneity problem occurs when the right-side variables are associated with the error terms (Ascarya & Indra, 2021). The generalized method of moments (GMM) estimator can handle issues with omitted variables, measurement error, endogeneity, autocorrelation, and unobserved heteroscedasticity (Blundell et al., 2001; Roodman, 2009). Hence, we also use a two-step system GMM estimator to establish the robustness of the FGLS regression results.

IV. RESULTS AND ANALYSIS

4.1. Descriptive Statistics

Table 3.
Descriptive Statistics

Variables	Obs	Mean	Minimum	Maximum	SD	Skewness	Kurtosis
ZSCORE	343	1.55	-2.10	4.33	0.76	-1.87	11.98
BM	385	8.46	1.00	30.00	4.93	1.52	5.50
BGD	388	0.05	0.00	0.38	0.08	1.89	5.92
BMD	388	0.02	0.00	0.25	0.03	3.38	17.73
BFD	388	0.25	0.00	1.00	0.28	0.84	2.45
BS	388	10.47	3.00	26.00	4.03	1.14	4.47
ACS	386	3.72	0.00	9.00	1.24	0.07	4.73
INFLA	388	3.95	-2.54	29.51	3.61	1.51	9.47
GDP	382	3.60	-31.98	19.59	3.82	-2.48	22.68
		Frequency		**Percentage (%)**			
		0	1	0	1		
SARC	388	73	315	18.81	81.19	-1.60	3.55

Source: Authors' computation using Stata version 14

Table 3 presents the descriptive analysis of the variables, showing that the mean ratio of insolvency risk (ZSCORE) is approximately 1.55 and varies from -2.10 to 4.33.The frequency of board meetings varies between 1.00 and 30.00, with an average value of 8.46. The proportion of women on the board (BGD) has an average value of 5% and varies between 0% and 38%. For board members with doctorate degrees, the average value is 2% and ranges from 0% to 25%. The proportion of foreign directors on the board has an average value of 25% and varies between 0% and 100%. Concerning the bank and macroeconomic control variables, the average board size (BS) is 10.47 and varies between 3 and 26 members. The average AC size 3.72, with a minimum of 0.00 and a maximum of 9 members. In the case of inflation (INFLA), the average is 3.95%, with maximum and minimum values of -2.54% and 29.51%, respectively. Regarding the GDP growth rate, it has an average value of 3.60 and ranges between -31.98 and 19.59.

Table 3 also displays the descriptive statistics (frequency and percentage) of the dichotomous variables used in the study, that is, the presence of a standalone risk management committee (SARC). The total observations are 388, out of which 73 (18.81%) account for the Islamic banks without separate risk management committees and 315 (81.19%) represent those that have a standalone risk management committee.

Moreover, Table 3 also presents the skewness and kurtosis. In line with Nomran & Haron (2020) and Umar et al. (2023a), variables with skewness and kurtosis values greater than 3 and 10, respectively, are regarded as having outliers beyond tolerable levels. Based on these thresholds, ZSCORE, BMD and GDP are winsorized at a 5th and 95th percentiles to mitigate the influence of outliers in the estimation (Bhuiyan et al., 2021; Masulis et al., 2012; Umar, 2024).

4.2. Correlation Matrix

Table 4.
Spearman Correlation Matrix

Variable	ZSCORE	BM	BGD	BMD	BFD	SARC	BS	ACS	INFLA	GDP	VIF
ZSCORE	1.000										
BM	-0.001	1.000									1.25
BGD	-0.074	0.138***	1.000								1.11
BMD	-0.001	0.148***	-0.045	1.000							1.09
BFD	-0.067	-0.347***	-0.206***	0.049	1.000						1.29
SARC	0.185***	0.102**	0.041	0.132***	-0.142***	1.000					1.10
BS	-0.079	0.253***	0.096*	-0.073	-0.203***	-0.053	1.000				1.54
ACS	-0.027	0.188***	0.121**	-0.162***	-0.301***	0.198***	0.473***	1.000			1.57
INFLA	-0.228***	0.138***	0.093*	-0.085*	-0.128***	-0.032	0.401***	0.229***	1.000		1.31
GDP	-0.071	0.244***	0.240***	0.008	-0.151***	-0.103**	0.239***	0.174***	0.350	1.000	1.30

Notes: *p <0.10; **p <0.05; ***p <0.01

Source: Authors' computation using Stata version 14

Table 4 presents Pearson correlation coefficients showing that the relationship between board size (BS) and audit committee size (ACS) has the highest coefficient (0.473). Most of the correlation coefficients are negligible or weak to the extent that they should not raise multicollinearity issue. It is further justified by the variance inflation factor (VIF) results shown in Table 4. The VIF results vary between 1.09 and 1.57, indicating that the level of multicollinearity is tolerable as none is more than 5.

4.3. Regression Results Using the Feasible Least Squares (FGLS) Regression

Table 5 presents the baseline regression using the feasible least squares (FGLS) estimation method. The results of the Hausman specification test for are statistically insignificant, as indicated by the p-values. These results suggest that a random effect (RE) panel model is appropriate. We further perform the Breusch-Pagan LM test. The results are statistically significant at a 1% significance level, suggesting the selection of RE regression instead of OLS regression. Moreover, the panel heteroskedasticity test for the models show the presence of heteroskedasticity. Hence, we apply the FGLS regression. Besides, the Wald chi2 values of the two models are statically significant at a 1% significance level, indicating their fitness.

Table 5.
Feasible Least Squares (FGLS) Regression

Explanatory variables	Dependent variable = ZSCORE			
	Model 1		Model 2	
	coef.	p-value	coef.	p-value
BM	-0.010	0.278	0.004	0.750
BGD	0.050	0.923	-0.307	0.751
BMD	-4.061	0.021**	-3.705	0.004
BFD	-0.019	0.946	-0.517	0.03
SARC	0.245	0.003***	-0.024	0.900
BM*SARC			-0.006	0.692
BGD*SARC			0.134	0.897
BMD*SARC			1.083	0.000***
BFD*SARC			0.506	0.052*
BS	-0.021	0.155	0.002	0.754
ACS	0.061	0.049**	-0.030	0.215
INFLA	-0.020	0.022**	-0.036	0.000***
GDP	0.006	0.401	0.003	0.793
Constant	1.406	0.000	1.719	0.000
Bank fixed effect	Yes		No	
Year fixed-effect	No		Yes	
Hausman test (p-value)	0.7851		0.5070	
Breusch and pagan LM test (p-value)	0.0000***		0.0000***	
Panel heterokedas. test (p-value)	0.0000***		0.0000***	
Wald chi2	398.15		74.90	
Prob>chi2	0.0000****		0.0000***	
Notes: *p <0.10; **p <0.05; ***p <0.01				

Source: Authors' computation using Stata version 14

The results presented in Table 5 indicate that the frequency of board meetings (BM) has an insignificant association with the stability of Islamic banks. This finding contradicts Aslam & Haron (2021) and Lee et al. (2021). In their studies, they note that board meetings enhance bank stability by limiting excessive risk-taking. Likewise, board gender diversity demonstrates an insignificant association with the stability of Islamic banks. This outcome aligns with the findings of Berger et al. (2014) and Mathew et al. (2016), indicating that women on the board have an insignificant impact on bank stability.

In relation to directors holding doctorate degrees appointed to the board (BMD), the outcome displays a significantly negative coefficient. This suggests that an increase in the proportion of board members with PhDs significantly reduces the stability of Islamic banks. This finding contradicts the findings documented by Berger et al. (2014), Žigraiová (2016) and Jabari & Muhamad (2022), which show that having PhD holders on the board enhances Islamic bank stability by mitigating risk-taking. Consequently, our hypothesis that PhD holders on the board would enhance Islamic banks' stability, is not supported.

Besides, the regression analysis reveals an insignificant relationship between foreign directors on the board and the stability of Islamic banks. This finding does not corroborate the conclusion drawn by Nainggolan et al. (2023), suggesting that having foreign directors on the board enhances the financial soundness of Islamic banks. As for the moderator (SARC), it exhibits a significant positive association with the stability of Islamic banks. This result aligns with the findings of Jiang & Ji (2020), Abid et al. (2021), Bhuiyan et al.(2021) and Umar et al. (2023b), all indicating that SARC significantly mitigates firm risk-taking, consequently improving firm stability.

Regarding the control variables (model 1), the board size (BS) and GDP show an insignificant impact on Islamic banks' stability. However, audit committee size (ACS) demonstrates a significant positive association, whereas inflation (INFLA) exhibits a significant negative relationship with Islamic bank stability.

Table 6.
Marginal Effect Regression Results

	SARC=0		SARC=1	
	dy/dx	**p-value**	**dy/dx**	**p-value**
BM	0.004	0.750	-0.002	0.784
BGD	-0.307	0.751	-0.173	0.617
BMD	-3.705	0.004***	-2.622	0.025**
BFD	-0.517	0.030**	-0.011	0.918

Notes: *p <0.10; **p <0.05; ***p <0.01

Source: Authors' computation using Stata version 14

Moreover, in interpreting the moderating effect of SARC on the relationship between board attributes and Islamic bank stability, we follow the recommendation by Kingsley et al. (2017) to avoid understating and overstating the results by

presenting the ones that show whether (1) the estimated coefficient on the interaction term is statistically significant and; (2) the marginal effect is different from zero for any specific value of the moderator. While Table 5 provides the answer to the first question, Table 6 presents the answer to the second question. Therefore, Table 6 shows the marginal effects of the board attributes on Islamic bank stability in the presence of SARC and otherwise.

In Table 5, the interaction between a standalone risk management committee (SARC) and board meetings (BM) does not alter the relationship, as it shows an insignificant association. Similarly, the results of the marginal effect of board meetings on Islamic bank stability in the absence of SARC (SARC = 0) and in the presence of SARC (SARC = 1) are both insignificant, as shown in Table 6. Besides, the interaction of SARC with BDG does not significantly enhance Islamic bank stability, as it remains insignificantly positive in Table 5. Also, the marginal effect of the relationship between BDG and Islamic bank stability, as presented in Table 6, reveals an insignificant negative relationship both in the presence and absence of SARC. Hence, the seventh hypothesis is fully rejected.

Conversely, the interaction of SARC with board members holding PhDs (BMD), as presented in Table 5, indicates a statistically significant positive relationship with Islamic bank stability. However, the marginal effect results presented in Table 6 show a significant negative relationship, regardless of whether an Islamic bank has a standalone risk management committee (SARC) or not. Therefore, these results suggest that the presence of a standalone risk management committee can significantly and positively moderate the association between the proportion of directors with PhDs and the stability of Islamic banks. Similarly, the interaction between SARC and foreign directors on the board, as shown in Table 5, demonstrates a significant positive association with the stability of Islamic banks. However, the marginal effect regression results, presented in Table 6, indicate a significant negative association with Islamic bank stability when the bank has no standalone risk management committee (SARC = 0) and an insignificant negative association when it has a standalone risk management committee (SARC = 1). Thus, these results show that the presence of a standalone risk management committee can significantly and positively moderate the association between the proportion of foreign directors and the stability of Islamic banks.

4.4. Robustness Results Using the GMM Estimation Method

Table 7 presents the results of the two-step system GMM estimation to check for the robustness of the our earlier conclusion, showcasing the impact of board attributes on the stability of Islamic banks and the moderating effect of a standalone risk management committee on the associations. The use of the GMM estimation model for robustness check is consistent with earlier studies like Bamahros et al. (2022) and Umar, et al. (2023a). The AR (1) and AR (2) test results for each model indicate the absence of autocorrelation problems, as their respective p-values are statistically significant and insignificant, respectively. The Hansen test results further validate the instruments used, with p-values of 0.752 and 0.584 for models 1 and 2, respectively.

Table 7.
Multiple Regression Results Using the Two-step System GMM

Explanatory variables	Dependent variable = ZSCORE			
	Model 3		Model 4	
	coef.	p-value	coef.	p-value
l.	0.618	0.000***	0.628	0.000***
BM	-0.005	0.307	-0.083	0.458
BGD	0.566	0.451	-0.125	0.974
BMD	-6.598	0.001***	-0.883	0.839
BFD	-0.446	0.078*	-1.938	0.310
SARC	0.391	0.000***	-0.292	0.871
BM*SARC			0.050	0.662
BGD*SARC			-0.593	0.875
BMD*SARC			0.900	0.028**
BFD*SARC			0.384	0.836
BS	0.014	0.349	0.021	0.595
ACS	-0.125	0.074*	0.040	0.600
INFLA	-0.024	0.063*	-0.049	0.089*
GDP	0.028	0.001	0.026	0.002***
Constant	0.801	0.007	1.398	0.427
Prob>chi2	0.000***		0.000***	
Wald chi2	18604.4		164703.43	
AR1	0.001***		0.000***	
AR2	0.278		0.435	
Hansen test	0.752		0.584	
No. of groups	43		43	
No. of instruments	33		33	
l.is the lagged value of the dependent variable				
Notes: *p <0.10; **p <0.05; ***p <0.01				

Source: Authors' computation using Stata version 14

The results from the two-step system GMM regression in Table 7 closely resemble those from the FGLS regression in Table 5. Both tables show that board meetings and board gender diversity exhibit an insignificant association with the stability of Islamic banks. Additionally, the presence of board members holding PhDs (BMD) significantly decreases Islamic bank stability in both tables. Furthermore, while both regression analyses suggest a negative association between foreign directors on the board and the stability of Islamic banks, this relationship is statistically significant only in Table 7. Also, the regression results in both tables document a significant positive effect of SARC on Islamic bank stability.

Concerning the moderating effect results, both FGLS and GMM regression results show that the SARC does not moderate the impact of board meetings (BM) and board gender diversity (BGD) on Islamic banks' stability. Also, the FGLS and GMM regression results show that the interaction of SARC with BMD overrides and changes the relationship from statistically negative to a significant positive with stability. Also, both tables reveal that SARC positively moderates the

relationship between BFD and Islamics' stability but is only statistically significant in Table 5. Thus, the regression results are almost the same in both tables.

Moreover, Table 8 displays the marginal effects based on the two-step system GMM results:

Table 8.
Marginal Effect Robustness Regression Results

	SARC=0		SARC=1	
	dy/dx	**p-value**	**dy/dx**	**p-value**
BM	-0.083	0.458	-0.033	0.001*
BGD	-0.125	0.974	-0.717	0.231
BMD	-0.883	0.839	0.017	0.997
BFD	-1.938	0.310	-1.554	0.000***

Notes: *p <0.10; **p <0.05; ***p <0.01

Source: Authors' computation using Stata version 14

Comparatively, both Table 6 and Table 8 suggest that board meetings and board gender diversity do not significantly influence the stability of Islamic banks in the absence of a standalone risk management committee (SARC). Similarly, the marginal effects of BM and BGD on Islamic bank stability in the presence of SARC become negative in both tables, but the association is only significant between BM and Islamic bank stability in Table 8. Additionally, both tables document a negative impact of BMD and BFD on Islamic bank stability, but this is statistically significant only in Table 6 in the absence of SARC. In the presence of SARC, the results show a negative association between BFD and Islamic bank stability, which is statistically significant only in Table 8. However, the results in the tables differ entirely only in the case of the relationship between BMD and Islamic bank stability in the presence of SARC.

4.5. Analysis

The finding suggests that the frequency of board meetings does not influence Islamic banks' stability. This implies that during the meeting, the boards pay little attention to the risk management of Islamic banks to the extent that Islamic banks can be prevented from taking excessive risks to improve bank stability. Considering the fact meetings provide an avenue that enables the board members to discharge their duties and improve the stability of Islamic banks, there is a need to revise the board meeting guidelines in such a way as to mandate board members to diligently discuss issues and develop strategies that could enhance the financial soundness of Islamic banks. Similarly, women on the board insignificantly affect the stability of Islamic banks. This finding contradicts prior studies showing the ability of women on board to discharge their monitoring duties with excellence and expertise (Mathew et al., 2016; Mazzotta & Ferraro, 2020) to the extent that the banks' financial soundness could be enhanced. The fact is that women may influence board decisions when their number is at least 3, the critical mass (Umar,

2024). This is because the power of female directors on the board is weak when their number is less than the critical mass (Lin et al., 2018). A further in-depth examination of the sampled Islamic banks' corporate governance reports reveals that only three banks achieve a critical mass over the period covered in this study. The remaining 40 Islamic banks either lack female board members or have fewer than three female board members.

Besides, the study shows that board members with PhD qualifications contribute significantly and negatively to the stability of Islamic banks because they are risk-takers. The attitude of PhD holders on the board towards supporting Islamic banks in investing in risky products might be linked to their educational background, as many lack knowledge and skills in accounting, economics and finance. In fact, many Islamic banks appoint individuals with educational backgrounds in arts, science, and technology to their boards. People with diverse backgrounds exhibit differing skills and viewpoints (Jabari & Muhamad, 2022). Varied behavior among board members might hinder the achievement of a consensus necessary for enhancing stability in Islamic banks. In such cases, the capacity of PhD holders lacking financial education or expertise can be bolstered through participation in various training programs aimed at acquiring financial skills. These members might be influenced by the notion that higher risk yields greater profit, potentially encouraging Islamic banks to take excessive risks.

Moreover, the findings indicate that foreign directors appointed to the board do not significantly impact the stability of Islamic banks. This suggests that their presence does not drive Islamic banks towards either excessive or reduced risk-taking. The inability of foreign directors to bolster the stability of Islamic banks may result from their lack of familiarity with the country's economic and business environments and their limited access to vital information about the banks, which could enable them to contribute positively to their stability. This finding contradicts the resource dependence theory's claim that foreign directors bring diverse values and cognitive frameworks into boardrooms (Kang et al., 2019). It also refutes the notion that independent foreign directors can offer crucial international expertise and guidance, especially for firms seeking international expansion or overseas operations (Masulis et al., 2012). Regarding the presence of a standalone risk management committee (SARC), the findings indicate a significant improvement in the stability of Islamic banks. This implies that an independent risk management committee, primarily responsible for managing bank risks, controls the banks' propensity to take excessive risks. This outcome underscores the committee's effectiveness in fulfilling its risk management duties, aligning with the expectations outlined in the agency theory aimed at minimizing agency conflicts. It also supports the resource dependency theory's proposition that the SARC consists of experts capable of positively contributing to the stability of Islamic banks.

Furthermore, the moderating effect results show that the standalone risk management committee (SARC) lacks significant positive influence over the impact of board meetings and gender diversity on the stability of Islamic banks. The SARC's inability to significantly and positively influence the impact of board meetings on Islamic bank stability might have arisen because the committee (SARC) does not effectively facilitate discussions and deliberations on Islamic bank risk

management during meetings with board members to the extent that banks could avoid undertaking risky projects. In other words, this suggests that the SARC pays little attention to discussing issues related to effective risk management practices for enhancing the stability of Islamic banks during the board meetings it convenes. In alignment with the position of Abid et al. (2021), meetings should offer a platform for sufficient discussion of corporate risk management policies, risk reduction and monitoring. Therefore, guidelines should be provided to mandate that the SARC give special attention to discussing and deliberating risk management issues whenever invited to board meetings. Besides, the SARC's inability to support women to contribute to improving Islamic bank stability may be attributed to the fact that most Islamic banks lack a single female member. This renders gender diversity too weak to receive support from the SARC for enhancing Islamic bank stability. The few Islamic banks with female members have only a limited number of members. As mentioned earlier, women cannot influence decision-making when their number falls below a critical mass of at least three(Lin et al., 2018; Umar, 2024). Hence, this suggests revising the guidelines for appointing board members to mandate the inclusion of at least three women on the board. This initiative could support the attainment of Sustainable Development Goal (SDG)-5, which aims to achieve gender equality as well as to empower women. However, appointing three female directors to the board will likely be more practical and realistic in larger Islamic banks with a minimum of ten (10) board members and numerous branches abroad. For instance, many Islamic banks in Bangladesh, Malaysia, Bahrain, Kuwait, Saudi Arabia, Nigeria, and Egypt, among others, may find it easier to appoint a minimum of three (3) women to their boards due to their board size being at least 10. Finally, the interaction results reveal that SARC has a partially significant positive effect on the influence of board members with PhDs and foreign directors on the stability of Islamic banks. These results indicate that the presence or absence of SARC does not always or in all situations lead board members with PhDs and foreign directors to enhance the stability of Islamic banks.

In summary, the findings indicate the need to revise Islamic bank risk management guidelines and enhance the monitoring role of a standalone risk management committee. This would help manage the risks of Islamic banks more effectively and align them with board mechanisms to prevent excessive and unnecessary risks, ultimately leading to improved stability.

V. CONCLUSION

This study applies the feasible least squares (FGLS) regression investigate the relationship between board characteristics and the stability of Islamic banks and the moderating impact of a standalone risk management committee. The study employ data gathered from the annual reports of 43 full-fledged Islamic banks in 15 countries between 2010 and 2020. The results show that board meetings, board gender diversity and foreign directors on the board have an insignificant association with the stability of Islamic banks. However, the board members with PhDs significantly reduce the stability of Islamic banks. Regarding the presence of a standalone risk management committee (SARC), the finding indicates that it significantly improves the stability of Islamic banks. In the case of moderation,

the results suggest that the presence of a standalone risk management committee does not alter the effects of board meetings and board gender diversity on the stability of Islamic banks. Conversely, SARC partially and positively moderates the impact of board members with PhDs and foreign directors on the stability of Islamic banks.

The study's findings carry essential implications for policymakers and regulators in providing sound policies and regulations that could stimulate Islamic banks to effectively utilize board attributes and standalone risk management committees to enhance the stability of Islamic banks. Specifically, the findings could aid in developing or revising regulations, policies or guidelines that ensure board meetings, women on the board, board members with PhDs and foreign directors on the board contribute effectively to improving the stability of Islamic banks with the support of establishing or revitalizing the functions of a standalone risk management committee in restraining Islamic banks from taking excessive and unnecessary risks.

It should be noted that, while we shed insights on the role of board attributes in risk-taking by banks, the study has three key limitations. First, the study uses only four board attributes. Other essential board attributes, such as board chairperson independence, board meeting attendance, independent director meeting attendance, board ethnic diversity, board financial expertise, board professional expertise, and board average age, may also be important. Examining how these board attributes influence the stability of Islamic banks in future studies could provide valuable input for revising corporate governance codes for Islamic banks. Second, our analysis considers only insolvency risk/ZSCORE to measure stability. This is not the only risk facing Islamic banks; they also encounter other risks, such as credit, portfolio, liquidity, and operational risks. Hence, future studies should explore how board attributes affect these risks with a view to improving Islamic banks' stability. Finally, the study utilizes a sample of 43 full-fledged Islamic banks. This is primarily due to the inaccessibility of some banks' annual reports, the absence of annual reports for at least four years, the lack of English versions for some banks' annual reports, and insufficient disclosure of corporate governance information, particularly regarding board attributes. Hence, it is strongly suggested that future research should make all necessary efforts to overcome these challenges and increase the sample size. This will make the findings more generalizable.

REFERENCES

Abid, A., Gull, A. A., Hussain, N., & Nguyen, D. K. (2021). Risk governance and bank risk-taking behavior: Evidence from Asian banks. *Journal of International Financial Markets, Institutions and Money*, *75*(November), 101466.

Abobakr, M. G., &Elgiziry, K. (2017). The relationship between board of directors' characteristics and bank risk-taking: Evidence from Egyptian Banking Sector. *Journal of Finance and Accounting*, *5*(1), 24. https://doi.org/10.11648/j.jfa.20170501.13

Abou-El-Sood, H. (2019). Corporate governance and risk taking: The role of board gender diversity. *Pacific Accounting Review*, *31*(1), 19–42.

Akbar, S., Kharabsheh, B., Poletti-Hughes, J., & Shah, S. Z. A. (2017). Board structure and corporate risk taking in the UK financial sector. *International Review of Financial Analysis*, *50*, 101–110.

Alam, A. W., Banna, H., & Hassan, M. K. (2022). ESG activities and bank efficiency: Are Islamic banks better? *SSRN Electronic Journal*, *8*(1), 65–88.

Arshed, N., & Kalim, R. (2021). Exploration of the equilibrium level of Musharaka financing in full-fledged Islamic banks. *Journal of Islamic Accounting and Business Research*, *12*(3), 340–361.

Ascarya, A., & Indra, I. (2021). *Standard Methodology for Research in Islamic Economics and Finance* (M. M. Billah, Ed.). Routledge.

Asiamah, S., Appiah, K. O., & Agyemang Badu, E. (2024). Do board characteristics moderate capital adequacy regulation and bank risk-taking nexus in Sub-Saharan Africa?. *Asian Journal of Economics and Banking*, *8*(1), 100-120.

Aslam, E., & Haron, R. (2021). Corporate governance and risk-taking of Islamic banks: evidence from OIC countries. *Corporate Governance (Bingley)*, *21*(7), 1460–1474.

Aslam, E., Ur-Rehman, A., & Iqbal, A. (2021). Does corporate governance matter for asset quality of islamic banks? *Buletin Ekonomi Moneter Dan Perbankan*, *24*(2), 221–236.

Bai, J., Choi, S. H., & Liao, Y. (2021). Feasible generalized least squares for panel data with cross-sectional and serial correlations. *Empirical Economics*, *60*(1), 309–326.

Bamahros, H. M., Alquhaif, A., Qasem, A., Wan-Hussin, W. N., Thomran, M., Al-Duais, S. D., Shukeri, S. N., &Khojally, H. M. A. (2022). Corporate governance mechanisms and ESG reporting: Evidence from the Saudi Stock Market. *Sustainability (Switzerland)*, *14*(10). https://doi.org/10.3390/su14106202

Basiruddin, R., & Ahmed, H. (2020). Corporate governance and Shariah non-compliant risk in Islamic banks: Evidence from Southeast Asia. *Corporate Governance (Bingley)*, *20*(2), 240–262.

Berger, A. N., Kick, T., &Schaeck, K. (2014). Executive board composition and bank risk taking. *Journal of Corporate Finance*, *28*, 48–65.

Bhuiyan, M. B. U., Cheema, M. A., & Man, Y. (2021). Risk committee, corporate risk-taking and firm value. *Managerial Finance*, *47*(3), 285–309.

Biswas, S. (2021). Female directors and risk-taking behavior of Indian firms. *Managerial Finance*, *47*(7), 1016–1037.

Blundell, R., Bond, S., & Windmeijer, F. (2001). Estimation in dynamic panel data models: Improving on the performance of the standard GMM estimator. In Baltagi, B.H., Fomby, T.B. and Carter Hill, R. (Ed.), *Nonstationary panels, panel cointegration, and dynamic panels (Advances in Econometrics, Vol. 15)*, Emerald Group Publishing Limited, Leeds, pp. 53-91. https://doi.org/10.1016/S0731-9053(00)15003-0

Capital Market Authority. (2017). *Corporate Governance Regulations*.

Chan, S. G., Koh, E. H. Y., & Karim, M. Z. A. (2016). The Chinese banks' directors and their risk-taking behavior: A corporate governance and finance perspective. *Chinese Management Studies*, *10*(2), 291–311.

Colin Cameron, A., & Vin Trivedi, P. K. (2009). *Microeconometrics using Stata*. Texas: A Stata Press Publication.

Danlami, M. R., Abduh, M., & Abdul Razak, L. (2022). CAMELS, risk-sharing financing, institutional quality and stability of Islamic banks: Evidence from 6 OIC countries. *Journal of Islamic Accounting and Business Research*, *13*(8), 1155–1175.

Giovannini, E. (2020). *Corporate governance in European banks: Board composition effects on risk*. http://tesi.luiss.it/27944/1/703331_GIOVANNINI_EDOARDO.pdf

Greene, W. H. (2012). *Econometric analysis* (7th ed.). PrenticeHall.

Gujarati, D. N. , Porter, D. C., & Gunasekar, S. (2012). *Basic econometrics* (5th ed.). McGrawHill.

Gulamhussen, M. A., & Santa, S. F. (2015). Female directors in bank boardrooms and their influence on performance and risk-taking. *Global Finance Journal*, *28*(January 2010), 10–23.

Hoechle, D. (2007). Robust standard errors for panel regressions with cross-sectional dependence. *The Stata Journal, 7*(3), 281-312.

Jabari, H. N., & Muhamad, R. (2022). Diversity and risk taking in Islamic banks: Does public listing matter? *Borsa Istanbul Review*, *22*(3), 546–559.

Jia, J., & Bradbury, M. E. (2021). Risk management committees and firm performance. *Australian Journal of Management*, *46*(3), 369–388.

Jiang, L., & Ji, M. (2020). Risk management committee and bank performance: Evidence from the adoption of the Dodd–Frank Act. *Journal of Business Finance & Accounting*, *51*(7-8), 1762-1788.

Kang, Y. S., Huh, E., & Lim, M. H. (2019). Effects of foreign directors' nationalities and director types on corporate philanthropic behavior: Evidence from Korean firms. *Sustainability (Switzerland)*, *11*(11), 3132. https://doi.org/10.3390/su11113132

Karkowska, R., &Acedański, J. (2020). The effect of corporate board attributes on bank stability. *Portuguese Economic Journal*, *19*(2), 99–137.

Khalil, A., & Chihi, S. (2020). Does the shariah board structure influence the financial performance of Islamic banks?. *Journal of the International Academy for Case Studies*, *26*(6), 1A-7A.

Kingsley, A. F., Noordewier, T. G., & Bergh, R. G. V. (2017). Overstating and understating interaction results in international business research. *Journal of World Business*, *52*(2), 286-295.

Lee, S. P., Isa, M., Ahmad, R., & Bacha, O. I. (2021). Governance and risk-taking in conventional and Islamic banks. *Managerial Finance*, *47*(5), 703–722.

Liao, R. C., Loureiro, G. R., & Taboada, A. G. (2019). The Impact of gender quota laws on board composition, risk taking and performance of banks: International evidence. *SSRN Electronic Journal*, *March*. https://doi.org/10.2139/ssrn.3346672

Lin, T. L., Liu, H. Y., Huang, C. J., & Chen, Y. C. (2018). Ownership structure, board gender diversity and charitable donation. *Corporate Governance (Bingley)*, *18*(4), 655–670.

Makiyan, S. N. (2008). Islamic banking system; risk management and challenges. *Journal of Islamic Economics, Banking and Finance,* 45-54. https://ibtra.com/pdf/journal/v4_n3_article3.pdf

Mansoor, M., Ellahi, N., Hassan, A., Malik, Q. A., Waheed, A., & Ullah, N. (2020). Corporate governance, Shariah governance, and credit rating: A cross-country

analysis from Asian Islamic banks. *Journal of Open Innovation: Technology, Market, and Complexity*, *6*(4), 170. https://doi.org/10.3390/joitmc6040170

Masulis, R. W., Wang, C., & Xie, F. (2012). Globalizing the boardroom-The effects of foreign directors on corporate governance and firm performance. *Journal of Accounting and Economics*, *53*(3), 527–554.

Mathew, S., Ibrahim, S., & Archbold, S. (2016). Boards attributes that increase firm risk – evidence from the UK. *Corporate Governance (Bingley)*, *16*(2), 233–258.

Mazzotta, R., & Ferraro, O. (2020). Does the gender quota law affect bank performances? Evidence from Italy. *Corporate Governance (Bingley)*, *20*(6), 1135–1158.

Nahar, S., & Jahan, M. A. (2021). Do risk disclosures matter for bank performance? A moderating effect of risk committee. *Accounting in Europe*, *18*(3), 378–406.

Nainggolan, Y. A., Prahmila, D. I., & Syaputri, A. R. (2023). Do board characteristics affect bank risk-taking and performance? Evidence from Indonesian and Malaysian Islamic banks. *Journal of Management and Governance*, *27*(4), 1115-1145.

Nemati, A. R., Bhatti, A. M., Maqsal, M., Mansoor, I., & Naveed, F. (2010). Impact of resource based view and resource dependence theory on strategic decision making. *International Journal of Business and Management*, *5*(12), 110-115.

Nguyen, Q. K. (2022a). Audit committee effectiveness, bank efficiency and risk-taking: Evidence in ASEAN countries. *Cogent Business & Management*, *9*(1), 2080622.

Nguyen, Q. K. (2022b). Determinants of bank risk governance structure: A cross-country analysis. *Research in International Business and Finance*, *60*, 101575.

Nigerian Code of Corporate Governance. (2018). *Nigerian Code of Corporate Governance 2018*.

Nomran, N. M., & Haron, R. (2020). Shari'ah supervisory board's size impact on performance in the Islamic banking industry: An empirical investigation of the optimal board size across jurisdictions. *Journal of Islamic Accounting and Business Research*, *11*(1), 110–129.

Pandey, A., Pattanayak, J. K., & Singh, P. (2022). Role of corporate governance in constraining earnings management practices: A study of select Indian and Chinese firms. *Journal of Indian Business Research*, *14*(3), 231–250.

Qin, S., Tan, J., & Kong, X. (2023). Does the attendance of independent directors at shareholder meetings matter? The case of risk taking. *China Journal of Accounting Studies*, *11*(4), 826-863.

Ramly, Z., & Basharahil, N. (2021). Bank governance and risk-taking: A survey of the literature. *The Middle East International Journal for Social Sciences*, *3*(4), 236–259.

Reed, W. R., & Ye, H. (2011). Which panel data estimator should I use? *Applied Economics*, *43*(8), 985–1000.

Rimin, F., Bujang, I., Wong Su Chu, A., & Said, J. (2021). The effect of a separate risk management committee (RMC) towards firms' performances on consumer goods sector in Malaysia. *Business Process Management Journal*, *27*(4), 1200–1216.

Roodman, D. (2009). How to do xtabond2: An introduction to difference and system GMM in Stata. *Stata Journal*, *9*(1), 86–136.

Singh, P. J., Power, D., & Chuong, S. C. (2011). A resource dependence theory perspective of ISO 9000 in managing organizational environment. *Journal of Operations Management*, *29*(1–2), 49–64.

Srivastav, A., & Hagendorff, J. (2016). Corporate governance and bank risk-taking. *Corporate Governance: An International Review*, *24*(3), 334–345.

Sun, J., & Liu, G. (2014). Audit committees' oversight of bank risk-taking. *Journal of Banking and Finance*, *40*(1), 376–387.

Umar, U. H. (2024). Gender diversity, foreign directors and sector-wise corporate philanthropic giving of Islamic banks in Bangladesh. *Gender in Management: An International Journal*, *39*(2), 206-221.

Umar, U. H., Abduh, M., & Besar, M. H. A. (2023a). Shari'a supervisory board and Islamic banks' insolvency risk. *Journal of Islamic Monetary Economics and Finance*, *9*(3), 419-442.

Umar, U. H., Abduh, M., & Besar, M. H. A. (2023b). Standalone risk management committee, risk governance diversity and Islamic bank risk-taking. *Risk Management*, *25*(3), 1–23.

Wooldridge, J. M. (2009). Introductory econometrics: A modern approach 4th ed., S.-W. CengageLearning. (2009). *Introductory Econometrics: A Modern Approach* (4th ed.). Cengage Learning.

Žigraiová, D. (2016). Management board composition of banking institutions and bank risk-taking: The case of the Czech Republic. *IES Working Paper*, *02/2016*, 52.

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