

## SHARIA SUPERVISORY BOARD, BOARD ATTRIBUTES AND REAL EARNINGS MANAGEMENT IN ISLAMIC BANKS

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### ABSTRACT

This study examines how the Sharia Supervisory Board (SSB) moderates the effects of Board of Directors (BOD) characteristics on real earnings management (REM) of Islamic banks. Using unbalanced data encompassing 45 Islamic banks across 15 countries from 2012 to 2023, it documents a negatively significant influence of board size, independence, and expertise on REM. The influence of board's diligence, however, is absent. The study further notes that the SSB index moderates the effect of BOD attributes on REM in Islamic banks. The findings hold important implications for policymakers and regulators in shaping regulations on SSB and BOD oversight functions to curb REM practices. The study also contributes to the literature by offering further empirical evidence on the relationship between corporate governance and REM in Islamic banks.

*Keywords:* REM, SSB index, BOD attributes, Islamic banks.

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## I. INTRODUCTION

The transparency of financial reporting is fundamental to fostering shareholders' and other stakeholders' confidence (Al Absy, 2023). Moreover, adequate presentation of the organization's economic conditions is crucial for informed decision-making. Therefore, managers are responsible for ensuring the adequate availability of such information (Neifar et al., 2020; Saleh et al., 2023; Susanto & Pradipta, 2016). However, several financial scandals and the global financial crisis of 2008 have eroded such confidence, sparking debates within academia and regulatory bodies regarding the quality of earnings reports in corporations (Talbi et al., 2015).

The primary concern revolves around the prevalence of earnings management (EM) practices within financial reporting, which have misled various stakeholders (Kumari & Pattanayak, 2017). Often driven by conflict of interest between managers, shareholders, and other stakeholders, the EM practices may incentivize managers to portray opportunistic behavior (Jensen & Meckling, 1976; Mersni & Ben Othman, 2016). Hence, managers manipulate reported earnings to reflect the achievement of predetermined financial targets for incentive compensation, to cultivate more favorable perceptions, or to align with analysts' expectations (Leuz et al., 2002). Earnings management, as described by Malik (2015), includes the manipulation of accounting standards (Accrual earnings management) or real operation activities (Real earnings management). Both approaches obscure the company's financial performance and exacerbate the corporation's information gap between managers, shareholders, and other stakeholders (Abu-Dawleh et al., 2022).

Extant studies suggest that the accrual earnings management (AEM) method is prevalent in Banks (Aleqab & Ighnaim, 2021; Hamdi & Zarai, 2012; Mersni & Ben Othman, 2016). However, auditors can easily detect earnings management based on AEM because it involves accounting measures explicitly disclosed in the financial statement (Chou & Chan, 2018). This has incentivized managers to use real earnings management (REM), which is harder to detect. Besides, Islamic banks, which have distinct features compared to conventional banks, face additional motives for EM. Furthermore, Islamic banks' business operation is often exposed to high levels of uncertainty, leading to further losses, especially on transactions related to margin and profit-sharing contracts (Hamdi & Zarai, 2012). To prevent such risk, Bank managers manipulate actual operational activities to retain the trust of existing depositors and attract new ones.

The earnings models in the banking industry have evolved significantly over the past decades. Banks have transitioned from primarily generating interest-based earnings to focusing on non-interest earnings, such as project financing, wealth management, trade financing, and bank assurance (Chou & Chan, 2018). Therefore, REM in banking involves managing commissions and fees earned from customers and other banks' charges. Similarly, banks can inflate or delay revenue by adjusting loans and other products (Agrawal & Chadha, 2005; Chou & Chan, 2018; Ozili & Outa, 2019). Beyond revenue manipulation, banks also manage expenses to influence earnings. These include scheduling interest expenses, research and development (R&D) costs, advertisement expenses, general and administrative expenses, and replacement costs, based on management discretion

to attain a predetermined financial performance target (Chou & Chan, 2018; Wafaretta & Restuningdiah, 2020). Other methods may include timing the sales of financial instruments to influence the recognition of gains or losses (Agrawal & Chadha, 2005). In addition, REM in Islamic banks arises from income generated through Islamic-based contracts (Murabaha, Mudharabah, Istishnah, Salam, Ijarah, or Musharaka), often necessitates adjusting conventional methods, including structuring income to Sharia-compliant products, managing profit-sharing distribution (which replaces conventional interest) and manipulating discretionary expenses (Wafaretta & Restuningdiah, 2020).

However, empirical studies on EM practice in Islamic banks provide mixed results. Some scholars indicate that the core principles of Sharia Law in Islamic banks curtail the EM practices (Abbas et al., 2021; Haniffa & Hudaib, 2007). In contrast, others suggest that Islamic banks, similar to their conventional counterparts, strive to maximize profit, which causes earnings manipulation (Boulila Taktak et al., 2010; Mersni & Ben Othman, 2016). This generally undermines the effectiveness of corporate governance mechanisms (Talbi et al., 2015). Abu-Dawleh et al. (2022) report that ethical conduct within Islamic banking is expected to address the root cause, such as reducing agency costs, risk-taking behavior, and discouraging EM practices, supported by the presence of the Sharia Supervisory Board (SSB) (Alam Choudhury & Ziaul Hoque, 2006). The SSB acts as a critical governance mechanism, ensuring adherence to Sharia principles and strengthening the Board of Directors (BOD) monitoring financial activities. Furthermore, the BOD is the pinnacle of an organization's governance structure and has been proven effective in enhancing firms' performance and aligning the interests of managers with those of shareholders (Alam Choudhury & Ziaul Hoque, 2006).

The SSB is a key component of the governance structure within Islamic banks, providing additional layers of governance that complement the board of directors to ensure the Islamic bank operation adheres to the Sharia Law. This structure has become more advanced in response to the global growth in the Islamic banking industry (Umar et al., 2023). SSB ensures that Islamic banks' management operations adhere to Sharia principles, sustaining stakeholders' trust (Muhammad et al., 2021). This helps minimize agency conflicts and the information gap that may influence managers to act opportunistically. Hasan (2009) indicates that the primary role of the SSB is to advise the banks on Sharia-related issues. Hence, SSB promotes transparency and accountability by safeguarding several parties' interests (Khan et al., 2018). Al Abbad et al. (2019) note that SSB functions as an independent oversight body that collaborates with the board of directors to guarantee openness and accountability in the operational process. Similarly, Mollah & Zaman (2015) argue that for effective operation and compliance with Sharia principles, the BOD is broadened to incorporate the SSB as an additional layer for corporate governance in Islamic banks.

Given the significant limitation of previous studies on Islamic banks, examining the moderating effect of SSB in the correlation between BOD attributes and REM in Islamic banks is important. Notably, our study is the first to empirically investigate the moderating effect of the SSB on the association between BOD attributes and REM. The existing research primarily focuses on risk-taking or performance in Islamic banks. Thus, this study applies the REM model using a sample of 45 full-

fledged Islamic banks across 15 countries by investigating how SSB moderates the effect of BOD's attributes on REM. Hence, the findings offer valuable insights for policies and regulations to enhance the corporate governance mechanism, which will help in strengthening the collaboration between the SSB and BOD to promote Sharia compliance and openness, curtail information asymmetry, and curb the likelihood of managerial manipulation of REM in Islamic banks. Lastly, the study contributes to the literature on the relationship between corporate governance and REM in Islamic banks.

The remaining part of the paper is structured as follows: Section 2 provides literature, theoretical review, and hypothesis development; Section 3 offers methodology; Section 4 outlines the results and analysis. Finally, Section 5 presents the conclusion and recommendations.

## **II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

### **2.1. Underpinning Theory**

Several studies cite the agency theory as a basis to explain managers' incentives for EM, highlighting inherent agency conflict between the manager and shareholders (Hudayati et al., 2023). The agency theory posits that the firm is the central entity for a contractual agreement between the principal and the agent, driven by differences in interest and information asymmetry (Jensen & Meckling, 1976). Fama & Jensen (1983) assert that agency conflict arises when managers pursue their self-interest, which contradicts the shareholders' interests. Consequently, the critical challenge is aligning managers' interests with shareholders (Eldaia et al., 2023). However, several studies have pointed out the limitations of Agency theory (Aleqab & Ighnaim, 2021; Daily et al., 2003; Grossman & Hart, 1992) and argued that it is a basis that explains the existence of the principal-agent connection in the Anglo-Saxon Model. Therefore, the Theory may not fully explain how corporate governance mechanisms operate in other business settings with different corporate governance models, especially in Islamic banks, given that the presence of other players, such as the SSB and investors' account holders (IAHs), among others, beyond the scope of the agency relationship.

The stakeholder Theory asserts that a firm's success is influenced not only by its owners (shareholders) and managers but also by the stakeholders, who can influence or be influenced by its performance (Freeman, 1984). The stakeholder theory forms the basis of several studies in corporate governance, as it promotes transparency in financial disclosure by minimizing the information gap (Hudayati et al., 2023). Patrick et al. (2015) argue that the stakeholder theory posits that managers in organizations are responsible for broader relationships, distinguishing it from agency theory, which focuses solely on the manager and shareholder relationship. Similarly, Abdul Rahman & Haneem Mohamed Ali (2006) contend that the stakeholder theory emphasizes the necessity of cultivating positive relationships with relevant parties to ensure a balance of interest.

In Islamic banks, the stakeholder theory serves as the foundation for Islamic governance, complementing the agency theory by validating the inclusion of the SSB as an independent body. The board is liable for ensuring compliance with Sharia Law (Hudayati et al., 2023). This alignment upholds the principles

of responsibility and transparency in Islamic banks, preventing managers from tailoring decisions to benefit only shareholders (Islam & Bhuiyan, 2019). Similarly, under the stakeholder theory, managers represent shareholders and other stakeholders, demonstrating the importance of ethical consideration and legal structures in shaping managers' behavior in line with Islamic principles (Al-Nasser Mohammed & Muhammed, 2017; Hill & Jones, 1992). Therefore, it is crucial for the Islamic institution to recognize all the stockholders involved (Raman & Bukair, 2013).

## **2.2. Real Earnings Management (REM)**

Several studies suggested that managers' involvement in EM practice represents opportunistic behavior aimed at misrepresenting firms' actual economic condition (Almarayeh et al., 2024; Biswas et al., 2022; Healy & Wahlen, 1999). Donnelly & Mulcahy (2008) argue that managers' inclination to provide discretionary disclosure significantly contributes to distortion in companies' financial reports. Hence, bank managers use their discretion to manipulate real business activities, which entails a deliberate deviation from actual operations driven by managers' intent to achieve personal interest by adjusting the revenue and expenses (Chou & Chan, 2018; Kumari & Pattanayak, 2017).

Biswas et al. (2022) state that REM can cause information asymmetry or intensify agency conflict. Hence, a robust corporate governance framework is paramount to mitigate such effects (Beekes et al., 2004). Thus, BOD plays a vital role in supervising managers and aligning their interests with shareholders' interests. Several studies (Abed et al., 2012; Mersni & Ben Othman, 2016; Abdul Rahman & Haneem Mohamed Ali, 2006) have provided empirical evidence showing that the BOD plays a critical role in monitoring financial reporting, thereby reducing the manipulation of accounting information. Similarly, The Sarbanes-Oxley Act suggests that the BOD with a high proportion of independent directors is less likely to experience earnings manipulation (Agrawal & Chadha, 2005). Conversely, other studies have indicated that the BOD might be among the factors that contribute to corporate failures and global scandals due to ineffective leadership and oversight, leading to poor decision-making and accountability, which might increase information asymmetry and erode stakeholders' confidence (Alghamdi & Ali, 2019; Attia et al., 2022).

Islamic banks' governance is made of two independent bodies, the SSB and BOD, both of which play a vital role in shaping the corporate governance structure of the banks, making a shift to a multi-layer model (Nomran & Haron, 2020). Hence, the BOD serves as the initial layer of the governance structure responsible for legal oversight, while the SSB functions as a second layer task responsible for moral oversight. Despite their distinct roles, the SSB functions are closely aligned with those of the BOD as both oversee the effectiveness of management of the organization's financial performance (Almarayeh et al., 2024). However, the SSB comprises experts on Sharia principles that primarily focus on ensuring compliance of banks' operations with Sharia principles, while the BOD focuses more on legal responsibility (Mukhibad & Nurkhin, 2019; Nomran & Haron, 2020). According to Quttainah & Almutairi (2017), the SSB plays a crucial role in

influencing managerial behavior that minimizes the possibility of agency conflict in Islamic banks.

Hamza (2013) and Alam et al. (2020) emphasize that the SSB oversight function contributes to an effective governance structure, which helps reduce agency conflict to maintain stakeholders' trust in the bank's operation. Similarly, Hendra (2016) notes that the distinct feature of governance in Islamic banks is the presence of SSB, which plays a crucial role in assisting the BOD by overseeing the management to ensure ethics and compliance with business practice per Sharia principles. Elnahass et al. (2024) argues that SSB helps ensure that policies set by BOD and management align with Islamic principles, including financial policies that affect the stakeholders. Consequently, the SSB has the duty to safeguard stakeholders' interests per the Sharia principles.

### **2.3. Hypothesis Development**

#### **2.3.1. Board Size**

The size of the board relates to the number of directors on a company's BOD (Umar, 2022). Despite its importance as a fundamental aspect of board attributes, optimal board size remains a topic of debate and contention in corporate governance literature. Similarly, the agency theory suggests that the scope of the BOD affects its ability to oversee managers (Fama & Jensen, 1983). The size of the BOD has played a pivotal role in enabling boards to effectively supervise management and collaborate efficiently in overseeing business operations (Persons, 2006). There are two distinct opinions concerning the impact of board size on EM. Proponents of larger boards argue that they are more effective in preventing EM because of their diverse skills and experiences. This diversity allows for more efficient redistribution of tasks and resources (Al-Haddad & Whittington, 2019; Klein, 2002). Furthermore, the agency theory indicates that the benefit of larger boards includes enhancing monitoring efficiency over EM practice (Githaiga et al., 2022). However, the significant challenge of a larger board is the difficulty in coordinating members, which can lead to slow decision-making. Conversely, some studies suggest that small board sizes can improve the firm's performance and speed decision-making (Marsni & Ben Othman, 2016). However, their limited monitoring capability makes them more susceptible to managerial influence and increases the risk of opportunistic managerial practices and information asymmetry (Chen et al., 2015; De Andres et al., 2005; Epps & Ismail, 2009; Mersni & Ben Othman, 2016).

Empirical studies that show the effect of board size on EM is inconclusive. Al Azeez et al. (2019) find no significant correlation between the size of the board and EM. However, Harakeh et al. (2019) and Kyaw et al. (2015) reveal its positive association with EM. Conversely, the studies by Marrakchi Chtourou et al. (2001) and Hashim & Devi (2008) report a negative association, indicating that boards with large members are more effective in minimizing EM behavior. The effect of board size on EM also varies across countries. Xie et al. (2003) and Kang & Kim (2012) find a negative association in the US and Korea, respectively. Oh & Jeon (2017) report a positive correlation in Korea. Chouaibi et al. (2018) report a negative correlation in Tunisia. Al-Haddad & Whittington (2019) find a positive correlation in Jordan. In contrast, a study by Almarayeh et al. (2024) reports an

insignificant relationship. Despite the mixed findings in previous literature, this study argue that a larger BOD may be more effective than a small one due to the diversity of the members' skills and expertise, which can strengthen its oversight function. Thus, we propose the following hypothesis.

H1. BOD size negatively influences the REM in Islamic banks.

### **2.3.2. Board Independence**

The presence of independent directors on the board is captured by the proportion of independent members to the number of the BOD (De Andres et al., 2005; Klein, 2002). Independent members on board are viewed to have expertise which allows them to monitor managerial decisions objectively and prevent potential manipulation, as their reputation is at stake in the event of corporate financial failure (Persons, 2006; Srinivasan, 2005). The agency theory underscores the significance of independent directors in ensuring the effectiveness of BOD functions (Fama & Jensen, 1983). Recommendations from the Organization for Economic Cooperation and Development (OECD, 2004) and the 2009 Joint Forum on Corporate Governance (JCGC) suggest that one-third of the BOD should be independent directors.

Studies that documented the negative correlation between BOD independence and EM include Chen et al. (2015) for Taiwan, Cornett et al. (2009) for the UK, and Kumari & Pattanayak (2017) for India, which is consistent with the findings of Bajra & Cadez (2018) and Rajeevan & Ajward (2020). On the contrary, Bao & Lewellyn (2017), Cho & Chung (2022), and Waweru & Prot (2018) document a positive relationship between them. Studies that find no significance include Abed et al. (2012), Bansal (2021), Chatterjee (2020), and Geraldes Alves (2011).

Regarding REM, studies by Garcia Osma (2008) for the UK and Aleqab & Ighnaim (2021) for Jordan document a negative relationship. Conversely, Alquhaif et al. (2021) report a positive association between long-term serving independent board members and REM. Based on the agency theory, a large proportion of independent directors on BOD is expected to increase the oversight of its function, improve internal control, and enhance the effectiveness of the board decision-making process. Thus, we propose the following hypothesis.

H2. The presence of independent members on BOD negatively influences REM in Islamic banks.

### **2.3.3. Board Expertise**

The expertise of board members is critical for their oversight of management, helping to identify areas of concern and holding management accountable for accurate and transparent reporting (Cho & Chung, 2022). The literature suggests that diversity in knowledge and experience, especially financial expertise, enhances BOD's ability to oversee management effectively (Yusoff, 2010; Siam et al., 2014). Be' dard et al. (2004) posit that boards need sufficient members with expertise to effectively comprehend the implication of managers' discretion on

the financial report process, detect and prevent fraud, and grasp the complexity of the financial report. It also enables BOD to ensure that managers make objective decisions. Similarly, Dienes & Velte (2016) argue that board members lacking financial experts cannot proffer concrete opinions during the board's discussions.

Prior literature indicates the importance of directors with financial expertise in mitigating manipulative EM practices (Agrawal & Chadha, 2005; Al Azeez et al., 2019). Siam et al. (2014) report that having at least one expert director on the BOD can mitigate AEM. In contrast, Xie et al. (2003) identify a positive link between a higher proportion of outside directors with financial backgrounds and lower discretionary accruals, supporting the effectiveness of the board's oversight function. Qi et al. (2018) observe that when board members with financial expertise correlate with earnings management, financial knowledge can be a double-edged sword, acting as either an effective oversight tool or a means for manipulative activities.

However, Khuong et al. (2022) report that the board members' expertise had no significant effect on AEM. In contrast, Asogwa et al. (2019) find that the earnings of firms in Nigeria improve when there are appropriate compositions of experts on the corporate board. Hence, BOD with members with financial expertise is considered more effective at curbing earnings manipulation due to their thorough understanding of organizational operations and significant experience in identifying operational manipulation. Therefore, we argue that appointing directors with financial expertise on board enhances its oversight function. Consequently, we formulate the hypothesis below.

H3. BOD expertise negatively influences the REM in Islamic banks.

#### **2.3.4. Board Diligence**

Regularly attending board meetings is vital for board effectiveness, as it facilitates engagement, oversight, and timely decision-making. Sáenz González & García-Meca (2014) suggest a positive link between the frequency of meeting attendance and board engagement in core functions, such as tracking progress and oversight, which ensures the reliability of financial reporting. However, frequent meetings consume significant management effort and raise the costs associated with the corporate board, including meeting fees and travel costs (Evans et al., 2002). Kapoor & Goel (2019) emphasize that the frequent attendance of directors, especially independent directors, is a vital constituent of corporate governance, as their presence reflects their diligence and objective contribution, as they are perceived to be the cornerstone for effective governance and their active participation ensures transparency and accountability, which improves stakeholders' confidence.

Empirically, Masulis & Mobbs (2014) hold that the attendance records of board meetings can reflect directors' level of dedication to their responsibilities. Studies such as Sáenz González & García-Meca (2014) have shown that frequent board meetings help to reduce EM. Similarly, Chou et al. (2013) and Evans et al. (2002) report a positive correlation between BOD's meeting attendance and firms' performance and profitability, respectively. Chatterjee (2020) argued that Board quality is defined by the independence and diligence of its members, which

effectively reduces EM. In addition, Sarkar et al. (2008) examine board attributes and their impact on opportunistic EM, finding that board attributes such as diligence proxied by independent directors' attendance at board meetings reduce EM practices.

Similarly, Kapoor & Goel (2019) find that independent directors' diligence negatively influences EM in India. They further argue that BOD's diligence contributes to robust corporate governance within the firms. Similarly, drawing from agency theory, it is crucial for the board of directors, particularly independent directors, to attend the meetings and guarantee their frequent commitment to strengthening the BOD's capability. Hence, we posit the following hypothesis.

*H4. BOD diligence negatively influences REM in Islamic banks.*

### **2.3.5. Moderating Variable**

Islamic banks operate under Sharia governance, which sets them apart from conventional banks' corporate governance due to the involvement of a Sharia Supervisory Board (SSB). Numerous studies have emphasized the critical role of the SSB in upholding integrity and enhancing the credibility of Islamic banks (Mersni & Ben Othman, 2016; Ramly & Nordin, 2018). Sabrun et al. (2018) argue that adherence to the Sharia principles improves the governance structure of Islamic banks. SSB is critical in ensuring Islamic banks adhere to Islamic values, protecting shareholders' and other stakeholders' interests (Ashraf & Lahasna, 2017; Azmat et al., 2021). This is consistent with stakeholder theory, which emphasizes the need of all parties, including managers and various stakeholders, to fulfill their responsibilities and adhere to the guidelines established in Islamic principle contracts (Iqbal & Mirakhor, 2004; Malik, 2015).

Although the SSB and the BOD are crucial for Islamic governance in Islamic banks, their moderating effect on earnings management behavior remains largely unexplored and requires further investigation. Existing empirical studies, including the one by Neifar et al. (2020), report that SSB strengthens the positive influence of board efficacy on Islamic banks' performance and operational risk. In Malaysia, Eldaia et al. (2023) find that the quality of the Sharia committee strengthens the association between BOD characteristics and the performance of Takaful companies. Similarly, Andarini & Wahyuni (2023) discover that the SSB moderates the impact of the board attributes on Islamic banks' performance.

Some studies also explore the impact of SSB on earnings management practices in Islamic banks. For example, Marsni & Ben Othman (2016) find that SSB significantly limits earnings management practices in Islamic banks. Similarly, Rasyid (2015) reports that the SSB negatively impacts earnings management at Islamic Commercial Banks. Furthermore, Hamdi & Zarai (2012) and Haris et al. (2023) observe that SSB mitigates earning management practices in Islamic banks. Thus, these findings highlight the SSB's role in monitoring Islamic banks' compliance with Sharia principles to limit practices such as earnings management. Based on the above discussion, we propose the following hypothesis:

*H5. SSBI has a negative impact on REM in Islamic banks.*

Furthermore, given the crucial role of SSB in the corporate governance of Islamic banks, we further argue that it can moderate the association between the board attributes and REM in Islamic banks. Accordingly, we formulate the following hypotheses;

*H5a.* SSB moderates the impact of board sizes on mitigating REM in Islamic banks.

*H5b.* SSB moderates the impact of board independence on mitigating REM in Islamic banks.

*H5c.* SSB moderates the impact of Board expertise on mitigating REM in Islamic banks.

*H5d.* SSB moderates the impact of Board diligence curbing REM in Islamic banks.

### III. METHODOLOGY

#### 3.1. Sample

The sample used in this study comprises 45 full-fledged Islamic banks covering over 12 years from 2012 to 2023 from the following countries: Saudi Arabia, Bahrain, United Arab Emirates (UAE), Jordan, Oman, Egypt, Indonesia, Malaysia, Pakistan, Maldives, Malaysia, Sri Lanka, Bangladesh, Egypt, and Nigeria. Following Umar et al. (2023), the study selection criteria are as follows: a bank is Sharia compliant, has a financial report accessible for a minimum of four years, provides comprehensive details on corporate governance, especially regarding Board of Directors' attributes, and provides reports in English. Based on these criteria, we have an unbalanced panel dataset of 485 bank-year observations. Table 1 details the measurements of variables used in the study.

**Table 1.**  
**Measurement of Variables**

Variable	Abbreviation	Measurement
Real Earnings Management	REM	REM is the addition of abnormal revenue sharing-distributed (ABRSD), abnormal cash flow (ABCFL), and abnormal discretionary expenses (ABDIEX).
Board Size	BS	The number of board members
Board Independent	BIND	The proportion of independent members on the board
Board Expert	BXP	The proportion of BOD members with financial qualifications on the board
Board Diligence	BDL	The proportion of board annual meetings attended by independent directors

**Table 1.**  
**Measurement of Variables (Continued)**

Variable	Abbreviation	Measurement
Sharia Supervisory Board Index	SSBI	The SSB index was constructed using the following SSB attributes: First, SSB size: A value of one is assigned if the size has at least three members; otherwise, it is assigned zero. Second, frequency of SSB meetings: A value of one is assigned if the SSB convenes quarterly meetings annually; otherwise, it is assigned zero. Third, SSB financial expertise: A value of one is assigned if the SSB includes at least two members with financial expertise; otherwise, it is assigned zero. Finally, SSB members have multiple memberships. A value of one is assigned if the SSB has at least two members holding multiple board positions; otherwise, it is assigned zero.
Bank leverage	LEV	The ratio of debt to the total Asset
Big4 Audit firms	Big4	The dummy variable is assigned 1 if the bank is audited by one of the big four audit firms; otherwise, it is assigned zero.
GDP growth rate	GDP	Gross domestic product rate

Source: Produced by Authors

### 3.2. Method

The study adopts the panel data framework outlined by Ascarya & Indra (2021) due to its various benefits, which include (1) the ability to incorporate the individual fixed effect, (2) Improving the accuracy of regression estimates, and (3) the ability to capture temporal effects while avoiding aggregation bias. Having conducted the chow-test and Breusch-Pagan LM test, the results indicate that fixed effect (FE) and Random effect (RE) are preferred over the Pooled Least Squares (PLS) model. The Hausman test is performed to determine the appropriate method for the analysis between FE and RE, and the result is significant, indicating that the FE model is suitable for analysis. We further tested for heteroscedasticity, and the result suggests its presence. Thus, the heteroscedasticity panel corrects standard errors (HPCSE) is employed to address the problem. This regression method enhances the standard error reliability of panel data by accounting for heteroskedasticity (Polselli, 2023).

However, the above estimation may be subject to endogeneity issues. Statistically, endogeneity arises when the predictor variables are correlated with the residual (Ascarya & Indra, 2021). To address this problem, the generalized method of moments (GMM) estimator is normally applied (Roodman, 2009). Therefore, we employ a two-step system GMM estimator to validate the HPCSE regression results.

### 3.3. Measurement of the Variables

#### 3.3.1. Dependent Variable

According to Zang (2012), REM in non-financial industries encompasses abnormal production costs, abnormal cash flow, and abnormal discretionary expenses. However, in banks, REM is measured as abnormal interest expenses, abnormal discretionary expenses, and abnormal cash flow (Surifah, 2015; Wafaretta & Restuningdiah, 2020). The interest paid to the depositors represents the cost of sales, replacing the production cost fund in the manufacturing industry.

Islamic banks operate based on Islamic principles, prohibiting interest-related transactions. Therefore, REM in Islamic banks is measured by replacing abnormal interest costs in conventional banks with abnormal revenue-sharing distribution because the cost of interest expenses in conventional banks is represented by revenue-sharing distributed to depositors in Islamic banks. The study adapts the model developed by (Surifah, 2015) to define REM, which comprises three proxies: abnormal revenue sharing-distributed (ABRSD), abnormal cash flow (ABCFL), and abnormal discretionary expenses (ABDIEX). The measurement of REM is based on the following three equations

$$\frac{RSD_{it}}{TA_{it-1}} = \beta_0 + \beta_1 \frac{1}{TA_{it-1}} + \beta_2 \frac{REV_{it}}{TA_{it-1}} + \beta_3 \frac{\Delta REV_{it}}{TA_{it-1}} + \beta_4 \frac{\Delta REV_{it-1}}{TA_{it-1}} + \varepsilon_{it} \quad (1)$$

$$\frac{CFO_{it}}{TA_{it}} = \beta_0 + \beta_1 \frac{1}{TA_{it-1}} + \beta_2 \frac{REV_{it}}{TA_{it-1}} + \beta_3 \frac{\Delta REV_{it}}{TA_{it}} + \varepsilon_{it} \quad (2)$$

$$\frac{DIE_{it}}{TA_{it-1}} = \beta_0 + \beta_1 \frac{1}{TA_{it-1}} + \beta_2 \frac{REV_{it-1}}{TA_{it-1}} + \varepsilon_{it} \quad (3)$$

where  $RSD_{it}$  is the revenue sharing distributed for investors for  $i$  bank at time  $t$ .  $CFO_{it}$  is the cash flow for the bank from operating activity during time  $t$ .  $DIE_{it}$  is the discretionary expenses for  $i$  bank for time  $t$ . The discretionary expenses include administration and general expenses, advertisement (Roychowdhury, 2006), expenses in providing assets and possible losses, estimated loss for commitment, and contingencies (Surifah, 2015).  $REV_{it}$  relates to operating revenue for  $i$  bank at time  $t$ ,  $\Delta REV_{it}$  is a change in operating revenue for  $i$  bank at period  $t$ , and  $TA$  is total assets.  $\varepsilon_{it}$  is the error term for  $i$  bank for time  $t$ .

The residuals from equations 1, 2, and 3 represent ABRSD, ABCFL, and ABDIE respectively. Thus, REM is estimated using the ABRSD, ABCFL, and ABDIE summation. If revenue sharing is controlled upward, cash flow is managed to increase, and discretionary expenditure is reduced to achieve higher earnings, the above tasks will support one another, increasing earnings (Wafaretta & Restuningdiah, 2020).

#### 3.3.2. Explanatory Variable

**Independent Variables:** We focus on four relevant aspects of the Board attributes (size, independence, financial expertise, and diligence), which are defined in Table 1.

**Moderator Variables:** The study develops the SSB index based on relevant literature and various corporate governance codes (Biswas et al., 2022; Umar, 2022). The index incorporates four SSB attributes (size, meeting, financial expertise, and multiple memberships) (see Table 1), summed in to SBB index using the Principal component analysis (PCA). After applying Viremax rotation, the component loading factors indicate that PC1, which captures most of the data's variation, has positive values. Thus, we select the PC1 to construct the SSB index. The variables, SSB size (0.6832), SSB meeting (0.7072), SSB financial expertise (0.5731), and SSB multiple membership (0.5492) account for most of the variation in the construction of the index (Zaman et al., 2016).

**Control variable:** The study uses three control variables (bank leverage, Big4, and GDP growth rate) to represented firm and economic characteristics, which are based on previous studies.

### 3.4. Empirical Model

We employ unbalanced panel data of 45 full-fledged Islamic banks over the period of 12 years. We begin by testing the direct impact of BOD attributes on REM using the following equation:

$$\text{REM}_{it} = \beta_0 + \beta_1 \text{BS}_{it} + \beta_2 \text{BIND}_{it} + \beta_3 \text{BXPT}_{it} + \beta_4 \text{BDIL}_{it} + \beta_5 \text{LEV}_{it} + \beta_6 \text{BIG4}_{it} + \beta_7 \text{GDP}_{it} + \varepsilon_{it} \quad (4)$$

Then, we investigate how SSBI moderates the relation between BODS attributes and REM. To this end, equation (4) is expanded to include the interaction between the SSB index and Board attributes:

$$\text{REM}_{it} = \beta_0 + \beta_1 \text{SSBI}_{it} + \beta_2 \text{BSSBI}_{it} + \beta_3 \text{BINDSSBI}_{it} + \beta_4 \text{BXPSSBI}_{it} + \beta_5 \text{BDLSSBI}_{it} + \beta_6 \text{LEV}_{it} + \beta_7 \text{BIG4}_{it} + \beta_8 \text{GDP}_{it} + \varepsilon_{it} \quad (5)$$

where REM is the proxy of real earnings manipulation for *i* bank at time *t*.  $\text{BS}_{it}$  is the size of the board for *i* bank in period *t*.  $\text{BIND}_{it}$  is board independence for *i* bank in period *t*.  $\text{BXPT}_{it}$  is the board expert for Bank *i* in period *t*.  $\text{BDIL}_{it}$  is the board diligence for the *i* bank in period *t*. In order to assess the moderating role of the SSBI on the effect of BOD attributes on REM, we have interaction variables as in (5):  $\text{BSSBI}_{it}$ ,  $\text{BINDSSBI}_{it}$ ,  $\text{BXPSSBI}_{it}$ , and  $\text{BDLSSBI}_{it}$ .

## IV. RESULTS AND ANALYSIS

### 4.1. Descriptive Statistics

The descriptive statistics are presented in Table 2. The REM average is 0.06, with minimum and maximum values of 0.01 and 0.13, respectively. The average number of board of directors is 10 members, with a minimum of five. Some banks have up to 20 members on their boards. Independent directors comprise approximately 4 percent on average. While some banks have no independent directors, others have

up to 10% of their directors as independent. On average, directors with expertise account for 2 percent of the board. Although 9 percent of some banks' boards of directors are experts, other banks have not appointed expert as directors. The board's diligence varies from 0 to 16%, with an average of approximately 3 percent.

**Table 2.**  
**Descriptive Statistics**

Variable	Obs.	Mean	Std. Dev.	Min	Max
REM	485	0.06	0.03	0.01	0.13
BS	485	10.26	3.83	5.00	20.00
BIND	485	3.71	2.05	0.00	10.00
BXP	485	2.87	2.36	0.00	9.00
BDL	485	6.72	4.30	0.00	16.00
LEV	485	0.70	0.29	0.13	0.96
Big4	485	0.69	0.46	0.00	1.00
GDP	485	0.067	0.014	0.042	0.085

Source: Produce by Authors using STATA

The LEV has an average of 70%, with a minimum of 13% and a maximum of 96%. For the Big4, the value ranges from 0 to 1, with an average of 0.69. The GDP growth has a mean of 0.067 and values ranging from 0.045 to 0.085, respectively.

#### **4.2. Univariate Analysis**

Table 3 shows the correlation matrix and the variance inflation factors (VIF). Although some variables exhibit statistically significant correlations, the correlation coefficients remain below the critical threshold of 0.80, as indicated by Kennedy (2008). This is further supported by the VIF provided in Table 3, which ranges from 1.12 to 6.31, all lower than the value of 10, indicating that multicollinearity should not be a concern.

**Table 3.**  
**Spearman Correlation Matrix**

	REM	BS	BIND.	BXP	BDL	SSBI	LEV	Big4	AGE	GDP	VIF
REM	1.000										
BS	0.028	1.000									6.31
BIND	-0.037	0.133***	1.000								4.57
BXP	-0.013	0.161	0.084*	1.000							3.20
BDL	-0.022	0.133***	0.196***	-0.027	1.000						1.55
SSBI	0.006	0.030	-0.050	0.101**	-0.007	1.000					1.28
LEV	-0.061	0.181***	-0.128***	0.188***	-0.149***	-0.032	1.000				1.16
Big4	-0.036	0.443***	0.168***	-0.208***	0.112*	-0.067	-0.190***	1.000			1.16
AGE	-0.005	0.019	0.051	-0.026	0.058	-0.008	0.116**	0.212***	1.000		1.15
GDP	0.039	0.358***	-0.167***	0.148***	0.070	0.106**	0.149***	-0.271***	-0.108**	1.000	1.12

Note: \*P<0.10; \*\*P<0.05;\*\*\*P<0.01

Source: Generate by Authors using STATA

### 4.3. Regression Results

As explained earlier, we use the heteroscedasticity panel correct standard errors (HPCSE) for the main regression and the results are presented in Table 4. Model 1 displays the finding of the direct impact of the board attributes on REM while Model 2 the results of the moderating role of the SSBI on the influence of the Board attributes and REM.

**Table 4.**  
**Panel-Corrected Standard Error (PCSE) Regression**

	DV=REM			
	Model 1		Model 2	
	Coef.	P-value	Coef.	P-value
BS	-0.0056	0.06*	-	-
BIND	-0.0110	0.00***	-	-
BXP	-0.0090	0.00***	-	-
BDL	-0.0070	0.29	-	-
SSBI			0.0219	0.91
BSSBI			-0.0005	0.00***
BINDSSBI			0.0002	0.00***
BXPSSBI			0.0006	0.00***
BDLSSBI			-0.0027	0.01***
LEV	-0.1265	0.00***	-0.0167	0.00***
GDP	-0.0169	0.00***	0.0040	0.00***
Big4	-0.0015	0.00***	-0.0002	0.00***
cons	0.2354	0.00***	0.0474	0.00***
Wald child2		223.650		259.630
Prob>Chi2		0.000***		0.000***
R-Square		0.230		0.220
Hausman test		0.000***		0.003***

Note: \*P<0.10; \*\*P<0.05; \*\*\*P<0.01

Source: Generated by Authors using STATA

From Model 1, we note that BS negatively and significantly impacts REM ( $B=-0.0056$ ,  $p=0.06$ ). This finding aligns with Marrakchi Chtourou et al. (2001), Hashim & Devi (2008), and Iqbal & Mirakhor (2014). They note that larger board sizes curb REM. The findings confirm the anticipated influence of BOD attributes on EM manipulation in Islamic banks, precisely the capacity of a large BS to prevent real earnings manipulations in Islamic banks. Similarly, the findings validate the agency theory opinion that a large board, consisting of members with diverse expertise, improves oversight function, reduces agency conflicts, and decreases the possibility of managers manipulating earnings (Aleqab & Ighnaim, 2021; Attia et al., 2022). Thus, Hypothesis 1 (H1) that large board size curbs REM in Islamic banks is supported. We also observe that board independence (BIND) negatively and significantly associated with the REM ( $B=-0.0110$ ,  $p=0.00$ ). This result supports earlier findings (Chen et al., 2015; Cornett et al., 2009; Kumari & Pattanayak, 2017) that independent directors provide an external operational perspective,

enabling them to challenge managerial decisions and practices, thus reducing the possibility of REM. The finding also aligns with Al Azeez et al. (2019) opinion that BOD's independence is crucial for monitoring management to ensure alignment with shareholder interests. The result supports the agency theory view that non-executive directors are free from affiliations that may cause conflicts of interest and are crucial for preventing agency problems (Al-Faryan, 2024), providing supportive evidence for Hypothesis 2 (H2), which asserts that Board independence mitigates REM in Islamic banks.

The coefficient of board members with financial expertise (BXP) is negative and significant ( $\beta = -0.0090$ ,  $p = 0.00$ ), suggesting that financial expertise on board constrains managers from engaging in REM practices. The findings support Xie et al. (2003), who find a positive impact of higher proportions of board members with financial backgrounds and lower EM. Similarly, the findings also align with Be' dard et al. (2004) where they argue that members with expertise aid the BOD in effectively comprehending the implications of managers' decisions on financial reporting. This expertise enhances the board's ability to effectively monitor, detect, and prevent fraud and grasp the complexities of the financial report process. The result supports the stakeholder theory, emphasizing the relevance of having expert board members who can better comprehend and address the concerns and expectations of stakeholders (Ayuso & Argandoña, 2009). Thus, Hypothesis 3 (H3), which states that the presence of members' expertise on board mitigates REM in Islamic banks, is empirically supported. Regarding board diligence (BDL), the finding reveals that board diligence is insignificant. This result contradicts previous findings (Chatterjee, 2020; Sarkar et al., 2008), which note that board diligence effectively reduces EM. Similarly, this finding contradicts Kapoor & Goel (2019), who deduce that independent directors frequently attend board meetings to reflect their diligence and objective contribution, ensuring transparency and accountability and enhancing stakeholders' confidence. Thus, Hypothesis 4 (H4), predicting a negative effect of board diligence on REM in Islamic banks, is not supported.

Model 2 in Table 4 presents the results for the moderating role of the Sharia supervisory index (SSBI). We may note that the SSBI is not significant, suggesting that SSB quality does not influence REM in Islamic banks. This finding contradicts Umar et al. (2023), who argue that the presence of SSB prevents adverse behavior in Islamic banks. Thus, Hypothesis 5 (H5), which predicts a negative effect of SSBI on REM, is supported. Nevertheless, the interaction between SSBI and BS is negative and significantly ( $\beta = -0.005$ ,  $p = 0.00$ ), implying that the SSBI strengthens the effect of BS in curbing REM in Islamic banks. This result aligns with Marsni & Ben Othman (2016), highlighting the importance of having a large board for effective monitoring. This is consistent with Eldaia et al. (2023) finding that SSBI moderates the efficacy of BS in improving financial performance in Islamic banks. Besides, the finding aligns with stakeholder theory, highlighting the relevance of ethical practice in fostering integrity in Islamic banks to protect stakeholders' interests (Al-Nasser Mohammed & Muhammed, 2017; Islam & Bhuiyan, 2019). Furthermore, the results also support the agency theory, highlighting the significance of a large board with diverse experience and extensive Islamic knowledge of SSB members in strategic decision-making (Neifar et al., 2020). Consequently, Hypothesis 5a (H5a), which proposes that BSSBI mitigates REM, is supported.

Moreover, BINDSSBI positively and significantly impacts REM ( $\beta=0.002$ ,  $p=0.00$ ). The finding indicates that the SSBI moderates the impact of BOD's independence in incentivizes REM practice in Islamic banks. The findings contradict Mollah & Zaman (2015), who argue that Islamic bank BODs dominated by independent directors enhance the BOD's capability to oversee the executive team. Hypothesis 5b (H5b), which proposes the negative impact of BINDSSBI on REM in Islamic banks, is rejected. Similarly, BXPSSBI positively and significantly influences Islamic banks' REM ( $\beta=0.0006$ ,  $p=0.00$ ). This finding suggests that BXPSSBI encourages REM practice in Islamic banks. However, previous studies on BOD expertise provide mixed findings. Therefore, the financial expertise of the board can be viewed as a double-edged sword, facilitating either effective oversight or manipulative activities (Qi et al., 2018). The finding does not corroborate with the view of Haridan et al. (2018) and Zainuldin et al. (2018), who posit that SSB ensures ethical compliance and positively affects financial decisions. Thus, SSB is expected to strengthen BXT to enhance the dissemination of information and minimize the possibility of REM practices. Hence, Hypothesis 5c (H5c), which suggests that the moderating effect of the SSBI influences the impact of the BXP in curbing REM in Islamic banks, is rejected. Lastly, the BDLSSBI negatively and significantly impacts REM ( $\beta=-0.0027$ ,  $p=0.01$ ). This finding aligns with Vitolla et al. (2020), who argue that the frequent attendance of independent directors at board meetings helps them to confront management, especially in grey areas. In Islamic banks, the commitment reflects the interaction between SSB and BOD, which can be strengthened by ethical guidance to ensure Sharia compliance (Ramly & Nordin, 2018). This underscores the shared dedication of both SSB and BOD to monitor and maintain the balance among all the stakeholders' interests, which corroborates with the principles of stakeholder theory. Hypothesis 5d (H5d), which predicts the negative and significant influence of BDLSSBI on REM, is supported. Regarding the control variables, LEV, Big4, and GDP are negatively and significantly associated with REM.

#### **4.4. Robustness Result**

Table 5 presents the robustness result using the generalized method of moment (two-step GMM) regression. The validity of the GMM result is supported by a significant p-value of AR1 and an insignificant value of AR2, which confirms consistency of the estimates. Furthermore, the Hansen test result indicates that the instruments employed are valid.

**Table 5.**  
**Two-Step Generalized Method of Moments (GMM) Regression**

	Model 1		Model 2	
	Coef.	p-Value	Coef.	p-Value
I. REM	0.0080	0.00***	-	-
BS	-0.0093	0.00***	-	-
BIND	0.0852	0.36	-	-
BXP	-0.0134	0.00***	-	-
BDL	-0.0026	0.08*	-	-
SSBI			0.0298	0.08*
BSSBI			-0.0003	0.02**
BINDSSBI			-0.0025	0.00***
BXPSSBI			0.0019	0.00***
BDLSSBI			0.0001	0.44
LEV	-0.1637	0.10	-0.0427	0.00***
GDP	-0.0089	0.09*	-0.0116	0.00***
Age	-0.0013	0.00***	0.0067	0.60
cons	0.0041	0.00***	0.0855	0.00
Wald child2		2.00E+06		3.38E+06
Prob>Chi2		0.0000		0.0000
R1		0.0600		0.0000
R2		0.1460		0.8180
Hansen test		0.9850		0.9920

Note: \*P<0.10; \*\*P<0.05; \*\*\*P<0.01

Source: Produced by Authors using STATA

The findings from the two-step systems GMM in Table 5 are largely consistent with those in Table 4. Specifically, the result of Model 1 in both Tables indicates that BS has a negative and significant impact on REM in Islamic banks. In addition, the regressions demonstrate that BIND and BXP negatively and significantly influence REM, as shown in Table 4. However, BIND maintains a negative and significant impact, while BXP has a positive and significant effect on REM, as shown in Table 5. Regarding BDL, the finding in Table 4 shows a negative and insignificant, whereas Table 5 indicates a negative and significant impact on REM.

The regression in Model 2 suggests that SSBI is positive and insignificant in Tables 4 and 5. However, the finding shows that BSSBI is negative and significantly correlated with REM in both Tables. Similarly, BEXPSSBI is positive and significant in both Tables 4 and 5. Meanwhile, BINDSSB has a positive and significant effect on REM in Table 4 but a negative and significant impact on REM in Table 5. Furthermore, BDLSSBI exhibits a negative and significant effect on REM in Table 4, while its effect is positive and insignificant on REM in Table 5.

## V. CONCLUSION AND RECOMMENDATION

### 5.1. Conclusion

This study investigates how BOD attributes mitigate REM practice in Islamic banks. Given the strong emphasis on Islamic value in Islamic banks, the study integrates both agency theory and stakeholder theory to explore further the moderating effect of the SSB on the relationship between BOD attributes and REM. This approach highlights the importance of internal governance in balancing financial goals and ethical obligations through its oversight function to curb REM practices. The study employs HPCSE regression analysis using the sample data of 45 Islamic banks across 15 countries from 2012 to 2023.

We find that a large board size is effective in mitigating REM practice in Islamic banks and confirm that a large BOD comprises members with diverse experience and expertise, enhancing its ability to prevent managerial opportunism. The findings indicate that independent members' presence on BOD prevents the REM. Furthermore, the results reveal that members with financial expertise in BOD limit the REM practices. The result further suggests that board diligence does not prevent REM practices in Islamic banks.

The findings concerning the moderating role of the SSBI in the relationship between BOD attributes and REM practice in Islamic banks are mixed. Specifically, while SSB quality does not directly impact REM, it moderates the influences BS to further mitigate REM practices. In contrast, the coefficient of the interaction between SSBI and BIND are positive. Similarly, the moderating role of SSBI on BXP-REM relation strengthens its positive impact on REM. Finally, the finding further indicates that the interaction between SSBI and BDL minimizes REM practices in Islamic banks. The results are further validated using the two-system GMM regression.

### 5.2. Recommendations

The study contributes to both policy and academic fields. First, the findings have policy implications for the Central Bank to improve or review Islamic banks' corporate governance frameworks. The revised policy should mandate the banks to establish larger Board sizes and appoint more independent directors and directors with financial expertise, given their effectiveness in limiting REM in Islamic banks. Furthermore, policymakers should also consider incentivizing the independent directors to be active and more committed in board meetings, particularly on matters related to REM practices. Second, this study offers new insights into the moderating effect of SSB on the relationship between BOD attributes and REM in Islamic banks. Therefore, we recommend that the revised policy should also strengthen the collaboration between SSB and the BOD by reviewing their role and responsibility, given their effectiveness in curbing REM practices. In particular, the policy should emphasize fostering closer collaboration between the SSB and independent board directors and financial expertise through regular meetings on matters concerning REM practices in Islamic banks. Such collaboration can reduce information asymmetry and the likelihood of REM. Third, the findings can assist shareholders and other stakeholders in making decisions regarding optimal board attributes that enhance corporate effectiveness. And finally, the study contributes

to the literature by offering empirical evidence on the relationship between corporate governance and REM in Islamic banks.

Although the study makes significant contributions, it has several limitations. First, the study is based on 45 fully established Islamic banks that publish their annual reports in English. Some Islamic banks are excluded due to insufficient data (at least four years) during the study period. Future research should address this by expanding the sample size. Second, the study relies on the board's fundamental attributes and the SSBI's construction, which may not cover all dimensions of good governance. Future studies can explore internal or external corporate governance and their influence on REM practices. Finally, in defining the dependent Variable, the study uses revenue sharing distributed to investors as a substitute for interest expenses in conventional banks or production costs in non-financial institutions. Future studies could consider using other proxies, such as discretionary accruals.

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