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# Do Board of Directors and Shariah Supervisory Board Characteristics Affect Performance?

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*ABSTRACT*

*This paper aims to examine the impact of Board of Directors (BOD) and Shariah Supervisory Board (SSB) characteristics on the performance of Malaysian and Indonesian Takaful Operators (TOs). We manually collected data on BOD characteristics (size, independence of directors and women's representation) and SSB characteristics (size, women's representation, and doctoral degrees) from the annual reports of 27 TOs in Malaysia and Indonesia from 2015 to 2022. This study uses panel data analysis as its empirical approach. Specifically, the study uses generalised least square (GLS) random-effect regression. The study highlights several interesting findings: (1) larger board size and the presence of female directors impact performance negatively; (2) board independence increases performance; (3) However, large SSBs tend to increase performance; and (4) Female scholars in the SSB negatively impact the performance of the TOs.*

*Keywords: Corporate governance; takaful operators; financial performance; shariah supervisory board*

## INTRODUCTION

With the growing Muslim population around the world, Islamic finance is gaining momentum every year. Impactful Insights (2024) reports that the global takaful (Islamic insurance) market, an important component of the Islamic finance sector, was valued at approximately $33.91 billion in 2023. They project it will grow at a compound annual growth rate (CAGR) of nearly 13% from 2024 to 2032. Although the Takaful market remains relatively small compared to other players in the Islamic finance industry, experts expect it to grow significantly as more market potential emerges. Most takaful operators (TOs) in Southeast Asia currently operate in the Malaysian and Indonesian markets, where the creation and growth of takaful businesses are more deeply rooted than elsewhere. Malaysia, in particular, is taking the lead as one of the largest global takaful markets and represents the hub of the industry. However, despite the similarities between Malaysia and Indonesia, we observed that TOs in Malaysia have better asset quality and growth stability. For instance, in the first quarter of 2023, the takaful market share in Indonesia was 9%, indicating growth from previous years. In 2020, takaful achieved a market penetration of 3.2% in Indonesia. In contrast, Malaysia's takaful sector has a more established presence. By 2023, the family takaful market in Malaysia accounted for 32% of the total insurance market, with a penetration rate of 20.1% in 2022 (Business Today 2024; Fitch Solutions 2023).

Similar to Islamic banks, the Board of Directors (BOD) and Shariah Supervisory Board (SSB) play crucial roles as governance control mechanisms to manage conflicts between shareholders, takaful participants, and managers in TOs. However, due to governance failures, TOs and insurance companies are not immune to economic scandals. For instance, the board of American Insurance Group (AIG) failed to effectively monitor and control their Financial Products division's activities and risk exposure, resulting in a loss of US$182 billion due to excessive risk-taking behaviour (Adams & Jiang 2016; Boubakri 2011). Similarly, a lack of board oversight in Weqaya Takaful and Reinsurance Co allowed management to engage in risky and unsustainable business practices, ultimately leading to the liquidation of the company in 2015 (Argaam 2021). TOs have significant responsibilities towards both shareholders and participants. However, they often prioritise the interests of the shareholders, which can negatively impact the participants. These conflicts add to the traditional disputes related to corporate governance, such as conflicts of interest between managers and shareholders. Recent failures have underscored the necessity of reassessing the roles of the BOD and SSB as crucial governance mechanisms in takaful, particularly regarding their influence on firm performance. Currently, there is a scarcity of research examining the governance of boards and SSBs and their impact on the performance of takaful companies. Therefore, this study aims to fill this gap by investigating the strengths and weaknesses of corporate governance mechanisms in takaful within countries recognized as takaful hubs, such as Malaysia and Indonesia.

Although researchers have increasingly focused on Islamic banks, they seem to have neglected research on TOs, particularly on governance and performance. It is still unclear, through empirical research, whether the characteristics of the board studied in conventional insurance and Islamic banks can also explain the performance of TOs. Our study builds upon the research conducted by Sallemi et al. (2021) on TOs and takes a more targeted approach to analysing the characteristics of the BOD and SSB in Malaysia and Indonesia. Sallemi et al. (2021)

did not explore the relationship between BOD and SSB gender diversity. They also did not scrutinise the board and SSB characteristics in each country in detail, a point addressed in this study.

Our study makes several contributions to the existing literature on TOs. Firstly, we are among the early studies that discuss the impact of the board characteristics and SSB and TO performance in Malaysia and Indonesia. Secondly, we analyse the impact of BOD and SSB characteristics on TO performance by individual traits and as a whole. Thirdly, our study covers the period that includes TO restructuring in Malaysia and the COVID-19 pandemic, providing additional insights. Our research indicates that the overall impact of the BOD and the SSB on the performance of takaful companies is minimal. However, upon closer examination of the specific characteristics of these boards, we found that larger board sizes generally reduce performance, whereas larger SSBs improve performance. Additionally, independent boards enhance the performance of TOs. Conversely, the presence of female directors and Shari'ah scholars on the board negatively impacts performance.

The study will begin with a brief overview of similar studies in Section 2. Section 3 will explain the methods and variables used in this study. Section 4 will discuss the empirical findings, and Section 5 will conclude.

## THEORETICAL MOTIVATION AND HYPOTHESIS DEVELOPMENT

### FUNDAMENTALS OF TAKAFUL

Takaful and insurance offer similar services that indemnify policyholders in the event of increasing unexpected specified risks. Both aim to manage risks effectively. Takaful differs from insurance because Shariah law governs it. Takaful applies the concept of risk sharing and adopts the Shariah contract of *tabarru* (donation) and *taawun* (cooperation). Based on the exchange transactions, the conventional insurance transactions incorporated elements prohibited in Shariah, such as *gharar* (uncertainty) and *maysir* (gambling) (Dahnoun 2018; Hassan et al. 2013).

TOs must maintain a clear financial separation between the participants and the TO funds. This circumstance ensures that participants' Tabarru funds remain separate from the Takaful operator's funds. Thus, TOs base their operations on cooperative risk sharing, Shariah-compliant underwriting policies and investment strategies, and maintaining a clear financial division between funds (Dahnoun 2018; Hassan et al. 2013). The structure of Takaful raises multiple governance issues. The central issue is that a TO is only a company that manages risks on behalf of participants who contribute some funds under the *tabarru* and *taawun* contracts. However, the TO does not assume any risk of its own. As part of its risk management activities, TO may take excessive risks or mismanage risks, and the implications of these risk management activities will not directly affect shareholders (Sallemi et al. 2021).

### GOVERNANCE STRUCTURE AND PERFORMANCE OF TOS

Corporate governance refers to policies, laws, and processes that affect how an organisation is led, managed, and controlled to increase corporate responsibility (Majid et al. 2011). Takaful firms must have good governance to help them achieve their goals, manage risks, maintain legal and ethical performance, and ensure shariah compliance. The governance structure is important to benefit shareholders, regulators, and the wider community (Ruhana et al. 2023). The IFSB 10: *Guiding Principles on Shariah Governance Systems for Institutions offering Islamic Financial Services* defines Shariah governance as the structures and processes adopted by stakeholders to ensure compliance with Shariah rules and principles. The SSB, or Shari'ah Supervisory Board, acts as the main governing body to ensure that Islamic financial institutions comply with Shariah law. It operates like non-executive directors and consists of specialised jurists in Islamic commercial jurisprudence.

The corporate governance structures in Malaysia and Indonesia differ in the board system, board composition, independent directors' roles, and board committees' functions. However, the main difference is in the board system: Malaysia follows a one-tier system influenced by English law/common law, while Indonesia follows a two-tier system (separate supervisory board) influenced by French/civil law (Khan et al. 2020). The effectiveness of governance depends on how well the chosen system aligns with the corporation's specific needs, culture, and regulatory environment. However, some argue that the two-tier governance structure is better since all members of the board commissioner cannot hold any executive position and are not involved in the company's operations. Jaffar et al. (2013) assert that the board of directors fully manages the company, assuming complete responsibility and separating the function from other entities. On the other hand, in a one-tier board system, all directors, including executives and non-executives, participate in decision-making, leading to a more integrated one-tier system (Jungmann 2006).

This study examines the effect of BOD and SSB members on Malaysian and Indonesian TOs' performance from a resource dependence theory and agency theory perspective. The study explores the specific relationship between BOD, SSB composition and performance. The BOD of Islamic financial institutions (IFIs) have different expectations and responsibilities imposed by the principles of Islamic finance, even though they have the same legal responsibilities as conventional financial institutions. Hence, the BOD of IFIs is expected to significantly influence board activity, reducing risk and improving performance (Grassa & Matoussi 2014; Sallemi et al. 2021).

On the other hand, SSB can have different influences on the operations of Islamic banks. Firstly, integrating SSB and BOD into IFIs could discourage BOD and management from lending aggressively and taking excessive risks despite the profitability of the projects (Baklouti 2022; Mollah et al. 2017). Secondly, SSB is subject to a conflict of interest between Shariah-compliant governance and financial success due to the anticipation of re-election and the high seat concentration of senior scholars (Alman 2012). Thirdly, shareholders or managers may hold SSB responsible for likely operating losses (Nomran et al. 2018).

Size is a crucial factor that is believed to significantly impact performance when it comes to the board. Resource dependence theory posits that expanding the board can bring in a broader range of experience and expertise, including independent directors or experts with various skills. This resource can help minimise the company's uncertainties and provide a wealth of knowledge and resources to meet its objectives (Baklouti 2022). Using ROE, Hakimi et al. (2018) found a positive association between board size and financial performance. On the other hand, agency theory suggests that a smaller board of directors can help reduce coordination and communication issues among members, leading to more effective management control, including monitoring, advising, and governing. Smaller boards are more functional and easier to control, making them more effective in supervision (Andres & Vallelado 2008; Xie et al. 2003).

In the context of Shariah governance in IFIs, previous literature (Hakimi et al. 2018; Nomran et al. 2018) has shown a positive correlation between SSB and IFIs' performance. A large SSB Islamic bank can reduce its reliance on external funding sources by employing many scholars who can provide strategic information through their formal and informal networks. Additionally, a large-sized SSB may have specialists in Islamic law from different schools of Fiqh who have sufficient knowledge of the consensus issues, thus helping make strategic decisions by better interpreting products and operations (Farag et al. 2018). A larger SSB improves the degree of stakeholders' representation and helps to control excessive risk-taking by managers and shareholders focused on maximising profitability and taking enormous risks (Nomran et al. 2018, Saifullah and Shamsuddin, 2018). Conversely, Matoussi and Grassa (2012) found that a larger SSB is negatively correlated with ROA, potentially because smaller boards are easier to control and, therefore, more effective in their supervisory roles. However, scholars still disagree on the appropriate size of the SSB. Many argue that for SSBs, the size should be between three and six members, with five being the optimal number (Nomran & Haron 2020).

Board independence is another key factor influencing firm performance. Numerous studies (Hussien et al. 2019; Mollah et al. 2017) have demonstrated that independent directors excel at company oversight because they need to uphold their industry reputation for skills and expertise. They are also more likely to adhere to regulations, enhance transparency, and safeguard shareholders' interests in conflicts with management (Zahid 2020). The IFSB 8: *Guiding Principles on Governance for Takaful (Islamic Insurance) Undertakings* emphasises the crucial role of independent directors in overseeing risk-taking activities in Islamic banks. Scholars have attributed governance failures during the 2008 global financial crisis to a lack of board independence. However, Bukair and Abdul Rahman (2015) suggest that an excess of independent directors can negatively impact a firm's performance, particularly during financial crises. Over-representation of independent directors might decrease a company's value because they face numerous influences and cannot perform their duties independently.

The next factor anticipated to impact performance is gender diversity. Having a board that has gender diversity is considered to have a positive impact on the performance of its members, according to studies conducted by Garcia-Meca et al. (2015) and Khan et al. (2018). Scholars believe that female directors bring broader, more independent perspectives and superior problem-solving abilities, leading to improved board decision quality and improved corporate performance. Female directors also tend to have better communication skills and are less prone to agency problems, enhancing board decision-making effectiveness (Adams & Ferreira 2009; Colaco et al. 2011). Studies by Mohammad et al. (2018), and Garcia-Meca et al. (2015) suggest that female directors can create corporate values that are more socially conscious. Amore and Garofalo (2016) found that banks with female directors tend to perform better financially when competition is low but worse when competition is high. In contrast, Khan et al. (2020) suggest that the presence of women on the board of directors in Islamic banks (IBs) might result in more conservative strategies, potentially making IBs less competitive. Furthermore, the inclusion of female directors could be perceived as a sign of lower religiosity in IBs, which might negatively impact their performance.

Similarly, Jabari and Muhamad (2020) argued that the presence of female scholars on the SSB improves the financial performance of Islamic banks in Malaysia and Indonesia. However, some studies (Elgadi & Ghardallou 2022; Khan et al. 2024) discovered an insignificant relationship between SSB gender diversity and financial performance in Islamic banks. This situation might occur in Pakistan due to fewer female scholars in SSBs, lack of educational qualifications and expertise, and appointments based on family ties and nepotism (Khan et al. 2024). The findings support Kramer et al. (2008), who reported that having at least three women on a board of directors significantly enhances good governance compared to boards with fewer women.

The qualifications of the SSB are important for effective decision-making. The competency and educational background of SSB members are essential for comprehending, evaluating, and contributing to strategic discussions (Almutairi & Quttainah 2017; Farook et al. 2011). Board members with higher academic qualifications have superior reasoning abilities, which contribute to more effective decision-making and enhance the monitoring of risk-taking behaviour (Berger et al. 2014). Shariah scholars comprise the SSB, assisting in its deliberations and providing opinions on the company's Shariah compliance status. The SSB is essential in safeguarding shareholders and depositors, ensuring companies adhere to Shariah laws, and reducing excessive risk-taking. Therefore, members of the SSB should possess financial and takaful knowledge, educational qualifications, and significant Shariah experience. Scholars expect that having SSB with PhD qualifications could potentially reduce risk and enhance the performance of the SSB (Alman 2012; Ramly & Nordin 2018; Shahrier et al. 2020). However, Khan et al. (2024) found no association between SSB higher education and financial performance. This might be due to the presence of SSB members who lack academic qualifications or degrees.

After reviewing the conflicting evidence and arguments regarding board characteristics and SSB on TO performance, we have formulated the following hypotheses:

$H_1$ Board of Directors characteristics are significantly related to TOs' performance in Malaysia and Indonesia.

$H_2$ Shariah Supervisory Board characteristics are significantly related to TOs' performance in Malaysia and Indonesia.

## DATA AND RESEARCH METHODOLOGY

### DATA COLLECTION

This study's sample includes TOs in Malaysia and Indonesia, spanning eight years from 2015 to 2022. The study focuses exclusively on operators that provide a comprehensive range of takaful products and services, enhancing the findings' generalisability and interpretability. Appendix A provides a detailed enumeration of the TOs under scrutiny, and Table 1 offers an extensive account of the sample.

TABLE 1. Number of the study's sample

| Year | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | Obs. |
|---|---|---|---|---|---|---|---|---|---|
| Country | | | | | | | | | |
| *Malaysia* | 11 | 11 | 11 | 14 | 15 | 15 | 15 | 15 | 107 |
| *Indonesia* | 6 | 8 | 10 | 12 | 12 | 12 | 12 | 12 | 84 |
| Total by year | 17 | 21 | 21 | 26 | 27 | 27 | 27 | 27 | 191 |

We manually collect data from various sources, including publicly accessible yearly reports of TOs. Financial metrics and performance indicators are gathered from the operators' annual records. Multiple sources such as Bloomberg, IslamicMarkets, LinkedIn, Wikipedia, and the annual and governance reports of the operators provide data on board and SSB memberships and Gross Domestic Product figures.

In 2022, there are more than 330 TOs in 47 countries worldwide (ICD-Refinitiv 2022). In this study, the sample of TOs is selected based on the accessibility of annual or financial reports. Table 1 shows the sample available for the study in Malaysia and Indonesia. As for observations, there are only 191 unbalanced panel data observations from TOs from 2015 to 2022. The short-year sample could be the limitation of the study. However, it provides important insights. In Malaysia, the Central Bank required separating TOs between family and general businesses. This separation occurred between 2017 and 2018.

### RESEARCH METHODS

We evaluated our hypothesis for TOs' performance by applying a dynamic panel data model that considers diversity in their Board and SSB attributes. To test this hypothesis, we used models cited in earlier studies (Mollah et al. 2017; Ramly & Nordin 2018). These models help investigate the correlation between governance structures and performance outcomes in TOs.

$$\begin{aligned} Performance_{i,t} = {} & \beta_0 + \beta_{1-5} BOD(B\_)_{i,t} + \beta_{6-10} SSB(S\_)_{i,t} + \beta_{11} TOcharacteristics_{i,t} \\ & + \beta_{12} Countrycontrol_{i,t} + Y_t + \varepsilon_{i,t} \end{aligned} \tag{1}$$

Where $Performance_{i,t}$ is the TOs' performance, using return on asset (ROA) or return on equity (ROE), $BOD\_STRENGTH_{i,t}$ is the BOD's strengths made of three characteristics of the Board of Directors, $SSB\_STRENGTH_{i,t}$ is the SSB's strengths, which is made of three characteristics of the Shariah Supervisory Board, $Lev_{i,t}$ is the ratio of total debt to total assets, $GDP_{i,t}$ is the gross domestic product growth rate, and $\varepsilon_{i,t}$ is the error term.

We used the Generalized Least Squares random effects regression technique for our regression analysis. Earlier research on IFIs performance has used this method (Mollah et al. 2017; Ramly & Nordin 2018). Researchers use this technique because it considers several key factors. Firstly, our data has a panel structure, making Ordinary Least Squares unsuitable. Secondly, fixed effects estimation could significantly lose degrees of freedom due to board structure variables exhibiting minimal changes over time. Lastly, GLS adjusts for error variance and patterns of serial correlation that are not accounted for in the original model, making our findings more robust.

We have calculated two regression models - one with fixed effects and the other with both fixed and random effects. We have conducted diagnostic tests such as the Breusch-Pagan test, the Lagrange Multiplier test for random effects, and the Hausman specification test to choose the better model. These tests help us determine the most suitable model for our analysis. We also ran an independent samples t-test to identify the significant difference between BOD and SSB characteristics of Malaysia and Indonesia TOs.

## VARIABLE DESCRIPTIONS

### DEPENDENT VARIABLE - PERFORMANCE

$Performance_{i,t}$ is gauged by employing metrics such as ROA or ROE (Mollah & Zaman, 2015).

### INDEPENDENT VARIABLES

We measure governance variables using BOD and SSB characteristics as independent variables. BOD (B_) and SSB (S_) characteristics for TOs *i* at time *t* are measured in this study. We quantify governance attributes through the characteristics of the BOD and SSB, which serve as our independent variables. The attributes are the board size (B_size, S_size), independence (B_independence), gender (B_woman, S_woman) and PhD (S_PhD).

We have created scores for BOD and SSB strength by summing up the following B and S measurements. The various aspects of corporate governance are assigned an equal weight and combined to form a single score $BOD\_STRENGTH_{i,t}$ to test $H_1$. BOD strength is a combined positive characteristic of the BOD. First, if the board size of the TO is larger than the sample's median, it gets a score of 1, otherwise 0; second, if the ratio of independent directors is higher than the median of the sample, it gets a score of 1, otherwise 0; and third, if the proportion of female directors is higher than the median of the sample, it gets a score of 1, otherwise 0. A higher score indicates more robust governance. Assessing corporate governance's effect on performance is more accurate when considering a package of combined factors (Wan Abdullah et al. 2015).

Several factors determine the "SSB_Strength" score, including the size of the SSB, the percentage of female members, and the percentage of members with a PhD degree. This score is useful in testing the hypothesis H2. SSB strength is a combined positive characteristic of the SSB. We have assigned each factor a code of either "0" or "1" to reflect the strength of the SSB. To assess the SSB strength, three criteria are used. First, if the size of the SSB of the TO is larger than the median size in the sample, it receives a score of 1; otherwise, it receives a score of 0. Second, if the proportion of female scholars on the SSB is higher than the sample median, it receives a score of 1; otherwise, it receives a score of 0. Third, if the proportion of scholars with PhD qualifications on the SSB exceeds the median of the sample, it receives a score of 1; otherwise, it receives a score of 0. A higher score indicates more robust Shariah governance.

### CONTROL VARIABLES

We have included leverage (LEV) as firm control variable and GDP rate (GDP) as country control variable. Leverage has a positive association with performance, meaning that the higher the leverage, the better the performance of the TO. We also expect a country's GDP rate to positively impact the performance of TOs, as it indicates the country's economic output. Table 2 contains detailed information about these variables and supporting references.

TABLE 2. Definition of variables

| Name of the variables | Symbols | Description of the variables |
|---|---|---|
| *Performance variables* | | |
| ROA | *ROA* | Net income divided by total assets (Mollah & Zaman 2015; Baklouti 2020) |
| Or | | |
| ROE | *ROE* | Net income divided by total equity (Mollah & Zaman 2015; Baklouti 2020-) |
| *Board governance variables* | | |
| BOD_STRENGTH | | Board size + Independent director + Woman |
| Board size | *B-Sz* | Number of board members (Khan et al. 2020; Sallemi et al. 2021) |

| | | |
|---|---|---|
| Independent director | *B-Ind* | The proportion of independent non-executive directors on the board (Mollah et al. 2017; Pathan 2009) |
| Woman | *B-Wom* | The proportion of female directors (Garcia-Meca et al. 2015, Elgadi & Ghardallou 2022) |
| *Shariah governance variables* | | |
| SSB_STRENGTH | | SSB size + Woman + PhD qualification |
| SSB size | *S-Sz* | Number of Shariah supervisory board members (Jabari & Muhamad 2020; Sallemi et al. 2021) |
| Woman | *S-Wom* | The proportion of female scholars (Jabari & Muhamad 2020) |
| PhD qualification | *S-PhD* | The proportion of scholars who graduated with PhD qualifications (Almutairi & Quttainah 2017; Farook et al. 2011) |
| *Bank-specific variable* | | |
| Leverage | *Lev* | Total debt over total asset (Khan et al. 2024) |
| *Country-specific variable* | | |
| GDP | *GDP* | GDP growth rate (Jabari & Muhamad 2020) |

# EMPIRICAL FINDINGS

## DESCRIPTIVE STATISTICS

Table 3 displays the descriptive statistics for both the dependent and independent variables used in the model. The table includes the number of observations, mean, and standard deviation values for all samples from Malaysia and Indonesia. The mean values for ROA and ROE are 0.3% and -0.6%, respectively. Comparing the two countries, the average ROA for Malaysian and Indonesian TOs is 0.6% and -0.1%, respectively, while the average ROE is 3.6% and -5.9%, respectively. Overall, Malaysian TOs report better performance than Indonesian TOs.

The mean $BOD\_STRENGTH_{i,t}$ is 1.890, with a minimum of zero and a maximum of three out of three TOs that score points in the BOD strength measures. Comparing Malaysia and Indonesia, Malaysia has a stronger BOD with an average value of 2.533, compared to Indonesia's 1.071. The minimum score for BOD strength for Malaysia is 1 and Indonesia is zero, while the maximum values are both three.

The mean $SSB\_STRENGTH$ is 1.922, with a minimum of zero and a maximum of three out of the full score of three. Comparing Malaysia and Indonesia, Malaysia has a stronger SSB with an average score of 2.757 than Indonesia with 0.857. The minimum (maximum) SSB strength score for Malaysia and Indonesia is one (three) and zero (two), respectively.

Respectively, BOD and SSB's minimum and maximum sizes are 1 and 9 and zero and 9, respectively, averaging 5.042 and 3.822. The minimum and maximum sizes of BOD in Malaysia are 4 and 9, while in Indonesia are 1 and 5. Researchers included Indonesia's board commissioner in the study sample, considering it similar to Malaysian BODs. The minimum and maximum sizes of SSB in Malaysia are 4 and 9, while in Indonesia are zero and 3. Malaysian TOs average have larger BOD (6.3 versus 3.5; significant difference $t(183.4)=-18.4$, $p<0.001$, two-tailed) and SSB (5.35 versus 1.88; significant difference $t(189)=-38.2$, $p<0.001$, two-tailed) sizes than their Indonesian counterparts.

Similarly, in terms of BOD independence, Malaysian TOs have a higher proportion of BOD independence, 64%, compared to 53% in Indonesia (significant difference $t(189)=-5.6$, $p<0.001$, two-tailed). Table 3 also shows the proportion of women (B_woman, S_woman) in BOD and SSB. Overall, males still dominate BOD and SSB memberships, with the minimum ratio of women on BODs being 0 for the full sample and each country. Surprisingly, in Indonesian TOs, the maximum ratio of women in BOD and SSB is 100%, indicating that all BOD or SSB members are women. On average, 69% of SSB members hold PhD qualifications. Malaysia TOs show higher Shariah scholars with PhD holder qualifications, 86%, compared to Indonesia, 47% (significant difference $t(105.7)=-9.3$, $p<0.001$, two-tailed).

The sample has an average debt-to-equity ratio of 0.743 with a minimum and maximum value of 0.002 and 1.120, respectively. The average GDP rate is 0.038, with a minimum and maximum value of -0.055 and 0.087, respectively. We have also performed an independent samples t-test on all the independent variables and found that there are highly significant differences, with Malaysia being higher than Indonesia in all categories of independent variables except for gender diversity (women on SSB). Takaful in Malaysia is seen as more dynamic than in Indonesia due to several factors, including its regulatory framework and government support, market penetration and awareness, institutional development, product innovation, and Shariah governance. Although Indonesia has progressed in developing its takaful sector, these combined factors have made Malaysia a more dynamic and advanced market for takaful.

To check the correlation between the variables in hypothesis testing models (1) and (2), a pairwise correlation of independent variables was presented in Table 4 before conducting the regressions. The data in Table 4 shows that the independent variables have low to moderate correlations. Therefore, there are no problems with multicollinearity in our regressions, as indicated by the correlation matrix for both dependent and independent variables. Most of the independent variables have a high correlation (except B-Sz and S-Sz=0.801), which means there is no issue with multicollinearity. As a rule of thumb, a correlation value of less than 0.80 indicates a weak correlation. Additionally, the variance inflation factor (VIF) has a mean of 2.060, which supports the absence of multicollinearity in the models.

TABLE 3. Descriptive Statistics and Independent Samples t-test between Malaysia and Indonesia

| | Descriptive Statistics | | | | | | | | | | | Independent Samples *t* test | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | All | | | | | Malaysia | | | Indonesia | | | t-test for Equality of Means | | |
| Variable | Obs | Mean | Std. Dev. | Min | Max | Obs | Mean | Std. Dev. | Obs | Mean | Std. Dev. | t-stat | df | Sig. (2-tailed) |
| ROA | 191 | 0.003 | 0.033 | -0.220 | 0.074 | 107 | 0.006 | 0.028 | 84 | -0.001 | 0.038 | -1.512 | 191.000 | 0.132 |
| ROE | 191 | -0.006 | 0.482 | -6.185 | 0.931 | 107 | 0.036 | 0.182 | 84 | -0.059 | 0.692 | -1.362 | 191.000 | 0.145 |
| BOD-Strength | 191 | 1.890 | 1.048 | 0.000 | 3.000 | 107 | 2.533 | 0.619 | 84 | 1.071 | 0.902 | -12.683 | 140.656 | 0.000** |
| B-Sz | 191 | 5.042 | 1.741 | 1.000 | 9.000 | 107 | 6.252 | 1.245 | 84 | 3.500 | 0.814 | -18.404 | 183.437 | 0.000** |
| B-Ind | 191 | 0.589 | 0.149 | 0.000 | 1.000 | 107 | 0.639 | 0.124 | 84 | 0.525 | 0.154 | -5.630 | 189.000 | 0.000** |
| B-Wom | 191 | 0.127 | 0.167 | 0.000 | 1.000 | 107 | 0.185 | 0.165 | 84 | 0.053 | 0.137 | -6.023 | 188.306 | 0.000** |
| SSB-Strength | 191 | 1.922 | 1.100 | 0.000 | 3.000 | 107 | 2.757 | 0.492 | 84 | 0.857 | 0.643 | -22.418 | 151.828 | 0.000** |
| S-Sz | 191 | 3.822 | 1.832 | 0.000 | 9.000 | 107 | 5.346 | 0.616 | 84 | 1.881 | 0.629 | -38.240 | 189.000 | 0.000** |
| S-Wom | 191 | 0.168 | 0.240 | 0.000 | 1.000 | 107 | 0.188 | 0.169 | 84 | 0.143 | 0.306 | -1.213 | 121.889 | 0.228 |
| S-PhD | 191 | 0.692 | 0.324 | 0.000 | 1.000 | 107 | 0.862 | 0.148 | 84 | 0.474 | 0.355 | -9.385 | 105.724 | 0.000** |
| Lev | 191 | 0.743 | 0.227 | 0.002 | 1.120 | 107 | 0.844 | 0.074 | 84 | 0.618 | 0.284 | -7.211 | 94.353 | 0.000** |
| GDP | 191 | 0.038 | 0.035 | -0.055 | 0.087 | 107 | 0.037 | 0.041 | 84 | 0.039 | 0.025 | 0.419 | 178.474 | 0.676 |

TABLE 4. Matrix of correlations

| | BOD-Strength | B-Sz | B-Ind | B-Wom | SSB-Strength | S-Sz | S-Wom | S-PhD | Lev | GDP |
|---|---|---|---|---|---|---|---|---|---|---|
| BOD-Strength | 1.000 | | | | | | | | | |
| SSB-Strength | 0.714 | 1.000 | | | | | | | | |
| B-Sz | 0.623 | 0.684 | 1.000 | | | | | | | |
| B-Ind | 0.419 | 0.283 | 0.287 | 1.000 | | | | | | |
| B-Wom | 0.362 | 0.301 | 0.234 | 0.134 | 1.000 | | | | | |
| S-Sz | 0.689 | 0.801 | 0.778 | 0.386 | 0.351 | 1.000 | | | | |
| S-Wom | -0.000 | 0.183 | 0.015 | 0.048 | 0.041 | -0.009 | 1.000 | | | |
| S-PhD | 0.493 | 0.727 | 0.503 | 0.155 | 0.289 | 0.624 | -0.092 | 1.000 | | |
| GDP | 0.030 | 0.041 | 0.030 | -0.018 | -0.034 | -0.061 | 0.013 | -0.036 | 1.000 | |
| Lev | 0.243 | 0.331 | 0.360 | 0.077 | 0.190 | 0.444 | 0.041 | 0.212 | -0.039 | 1.000 |

## THE IMPACT OF BOD CHARACTERISTICS ON TO PERFORMANCE

In this section, we will discuss the findings of our regression analysis on the impact of BOD on the performance of TOs in Malaysia and Indonesia.

Table 5 presents the results of our regression analysis on the impact of BOD characteristics on the performance of TOs in Malaysia and Indonesia. The study reveals that the size of the BOD significantly negatively impacts TO performance (which is influenced by the negative effect of BOD size and performance in Malaysian TOs). This finding supports the findings of previous studies (Andres & Vallelado 2008; Fernandes et al. 2017; Hakimi et al. 2018), which suggest that a large board size can lead to behavioural problems such as coordination and communication issues which deteriorate the quality of decisions made and, therefore reduces performance.

Our study findings revealed that board independence positively impacts performance (which is influenced by the positive effect of board independence and performance in Indonesian TOs). The study by Almutairi and Quttainah (2017) supports the idea that outside directors significantly impact monitoring, networking, information exchange, advising, and resource allocation, leading to a positive association between board independence and performance. Zabri et al. (2016) suggested that independent directors brought independence to the board and added to the directors' diversity of skills and expertise.

Our study found that female directors significantly negatively impact TO performance (which is influenced by the negative effect of female representation and performance in Malaysian TOs). The results might be due to the reluctance of female directors to have open and frank discussions about important management decisions (Hemrit 2020). Similarly, the presence of more female directors can cause a decrease in the ROA and ROE of TOs by 3.8% and 3.6%, respectively. This finding supports the results of Kramaric et al. (2018), who argued that more women on boards constrain performance. A diverse group, including gender diversity, risks engaging in harmful conflicts and resentments that can impede growth (Alesina & La Ferrara 2005; Dobbin & Jung 2010; Galinsky et al. 2015).

The study reveals that the overall BOD strength does not significantly impact TO performance. Various corporate governance measures can influence or counteract each other, obscuring significant underlying relationships. In this case, board size and female representation on the board counterbalance the effect of board independence on performance, affecting the perceived impact of board strength on financial performance and concealing deeper relationships between the board of directors and performance (O'Sullivan 2007). Consequently, our research suggests that the overall strength of the board of directors (BOD combined characteristics) does not significantly impact the performance of TOs.

TABLE 5. Results of panel data analysis: Malaysia and Indonesia (2015-2022)

| | | | | | | |
|---|---|---|---|---|---|---|
| Panel A: Combined BOD and SSB Strength | | | | | | |
| | All | Msia | Indo | All | Msia | Indo |
| WO OL | Final RE | Adj RE | Adj RE | Final RE | Adj RE | Adj RE |
| | ROA | ROA | ROA | ROE | ROE | ROE |
| B-Strength | -0.003 | -0.005* | -0.000 | -0.008 | -0.026 | 0.157 |
| | 0.276 | 0.084 | 0.959 | 0.873 | 0..266 | 0.113 |
| S-Index | 0.002 | 0.013*** | 0.052 | 0.048 | 0.087*** | 2.131*** |
| | 0.521 | 0.004 | 0.059 | 0.333 | 0.009 | 0.000 |
| Lev | 0.012 | 0.109** | 0.014* | -0.163 | 0.479 | -0.401 |
| | 0.405 | 0.014 | 0.065 | 0.369 | 0.125 | 0.006 |
| GDP | -0.026 | -0.047 | -0.037 | -0.869 | -0.158 | 0.741 |
| | 0.588 | 0.245 | 0.196 | 0.381 | 0.601 | 0.178 |
| Constant | -0.000 | -0.103** | -0.002 | 0.078 | -0.523* | 0.091 |
| | -0.986 | 0.018 | 0.914 | 0.600 | 0.091 | -0.498 |
| Obs. | 191 | 107 | 84 | 191 | 107 | 84 |
| R-squared | | | | | | |
| Within | 0.018 | 0.238 | 0.063 | 0.001 | 0.114 | 0.014 |
| Between | 0.002 | 0.138 | 0.063 | 0.125 | 0.001 | 0.131 |
| Overall | 0.008 | 0.001 | 0.051 | 0.015 | 0.025 | 0.025 |
| Panel B: Individual BOD and SSB Characteristics | | | | | | |
| | All | Msia | Indo | All | Msia | Indo |
| WO OL | Final RE | Adj RE | Adj RE | Final RE | Adj RE | Adj RE |
| | ROA | ROA | ROA | ROE | ROE | ROE |
| B-Sz | -0.003* | -0.004** | -0.000 | 0.024 | -0.025** | 0.157 |
| | 0.054 | 0.003 | 0.959 | 0.450 | 0.042 | 0.113 |
| B-Ind | 0.031** | 0.026** | 0.052* | 0.981*** | -0.021 | 2.131*** |
| | 0.027 | 0.879 | 0.059 | 0.000 | 0.868 | 0.000 |
| B-Wom | -0.038*** | -0.036*** | -0.037 | -0.037 | -0.224 | 0.741 |
| | 0.003 | 0.006 | 0.196 | 0.866 | 0.017** | 0.178 |
| S-Sz | 0.005** | 0.000 | 0.014* | -0.016 | 0.017 | -0.401*** |
| | 0.043 | 0.903 | 0.065 | 0.665 | 0.496 | 0.006 |
| S-Wom | 0.005 | 0.042** | 0.010 | -0.274* | 0.214* | -0.498* |
| | 0.684 | 0.023 | 0.524 | 0.067 | 0.099 | 0.052 |
| S-PhD | -0.000 | -0.034* | 0.010 | -0.023 | -0.308** | 0.187 |
| | 0.978 | 0.057 | 0.524 | 0.873 | 0.016 | 0.443 |
| Lev | 0.148 | 0.074* | 0.024 | -0.131 | 0.224 | -0.183 |
| | 0.303 | 0.082 | 0.156 | 0.466 | 0.456 | 0.481 |
| GDP | -0.014 | -0.041 | 0.054 | -0.816 | -0.083 | -2.936 |
| | 0.762 | 0.329 | 0.624 | 0.399 | 0.782 | 0.288 |
| Constant | 0.190*** | -0.006 | -0.070** | -0.442** | 0.208 | -0.790* |
| | 0.043 | 0.916 | 0.011 | 0.032 | 0.579 | 0.093 |
| Obs. | 191 | 107 | 84 | 191 | 107 | 84 |
| R-squared | | | | | | |
| Within | 0.104 | 0.301 | 0.167 | 0.061 | 0.216 | 0.249 |
| Between | 0.173 | 0.087 | 0.523 | 0.394 | 0.006 | 0.517 |
| Overall | 0.114 | 0.008 | 0.260 | 0.112 | 0.068 | 0.268 |

Notes: The table displays the estimated coefficients and standard errors, represented in brackets, for the overall data of Malaysia and Indonesia, as well as their individual financial performances. The estimation was conducted using panel random effects with cluster robust standard errors. The financial performances measured are Return on Asset (ROA) and Return on Equity (ROE). The symbols *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively.

## THE IMPACT OF SSB ON TO PERFORMANCE

In this section, we will discuss the findings of our regression analysis (Table 5) on the impact of SSB on the performance of TOs in Malaysia and Indonesia.

Our study indicates that a higher number of SSB scholars positively influence TO performance measured in ROA. These findings support Farag et al. (2018), Nomran et al. (2018) and Saifullah and Shamsuddin (2018), who argued that large SSB Islamic could reduce agency costs. The management understands the degree of complexity and thus foresaw the benefits of the increased monitoring exceeding the monitoring cost, and thus, TOs tend to have larger SSB. They can also fulfil their role in certifying new financial products to bring more businesses to TOs, hence better financial performance. A larger SSB size increases efficiency in time and resource allocation within the complexity of takaful regulations across different countries. A larger SSB helps control insolvency and operational risks by managers and shareholders.

Interestingly, our study found that the presence of female scholars has a negative impact on ROE but has no significant effect on ROA (which is influenced by the negative effect of female scholars in the SSB and performance in Indonesian TOs). A broader range of perspectives and viewpoints from female directors could impede the decision-making process by creating divisions and conflicts (Elgadi & Ghardallou 2022). However, the presence of PhD scholars as SSB members does not significantly impact both performance measures, namely ROA and ROE. As with corporate boards, the presence of female members and scholars with PhD qualifications can mitigate the impact of board size on performance. This dynamic changes the perceived influence of SSB strength on financial performance (O'Sullivan 2007). Our research indicates that the overall SSB strength (combined SSB characteristics) does not significantly impact the performance of TOs.

During the COVID-19 pandemic, the Malaysian government implemented financial measures to support the economic sector, including the takaful industry, to mitigate negative economic impacts. During these challenging times, the return enjoyed by Malaysian takaful companies slightly decreases. Therefore, Malaysian TOs pursue more unified and multi-dimensional growth through enhanced standardization, a stronger emphasis on social functions, and increased technology utilisation, thus sustaining takaful companies' performance during the pandemic (Calvin 2020; Eldaia 2021). Business restructuring for Malaysian TOs during 2018 also did not affect their income.

To ensure robustness, we re-estimate our regression models using robust random effects, robust random effects with outliers removed, and robust models both with and without outliers. Additionally, the study employs a dynamic panel model specification, estimated using the difference-GMM estimator. This serves as a robustness check and addresses potential endogeneity issues, such as reverse causality. We found that the results were consistent with main analysis.

## CONCLUSION AND RECOMMENDATION

This research aims to analyse how corporate and Shariah governance impacts the performance of TOs in Malaysia and Indonesia. We conducted a study using a sample of Malaysian TOs and fully operational Indonesian TOs from 2015 to 2022, using panel regression, a common method in this type of research. Our findings indicate that both the BOD and the SSB have a minimal overall impact on improving the performance of TOs in Malaysia and Indonesia. TOs face higher risks than conventional insurance, highlighting the need for more robust corporate governance mechanisms. Improved governance practices can increase the confidence of stakeholders, including policyholders, investors, creditors, owners and shareholders, management, Zakat beneficiaries, government, community, employees, customers and Zakat payers. The results of this study indicate that there are significant differences in the BOD and SSB characteristics of TOs between Malaysia and Indonesia, except for female representation as Shariah scholars. The results revealed that Malaysian BOD and SSB are more dynamic than Indonesia. This study extends previous research on takaful by investigating the overall strength of the BOD and SSB and their impact on TOs' performance. This study also addresses gender diversity in takaful, a previously overlooked study area.

The study has highlighted some interesting findings: Having a larger board size tends to have a negative impact on performance, which contrasts with SSB with a large size that could enhance performance. Secondly, independent boards improve the performance of TOs. Finally, female representations in the BOD and the SSB negatively affect the performance of the TOs.

The findings of this research offer valuable insights for policymakers and regulators regarding governance policies for TOs. This study highlights the need to carefully consider the composition of the board of directors (BOD) in listed companies, particularly in Malaysia. It emphasizes the importance of optimizing board size to include diverse perspectives while ensuring effective decision-making processes. It also suggests that companies should regularly review their board structures to enhance board dynamics.

The study also addresses the impact of gender diversity on performance and suggests that the negative effect could be reduced by analysing root causes, promoting inclusive culture, enhancing integration, and supporting policies and practices that support gender diversity.

For Indonesian TOs especially, the study recommends paying attention to the composition of women scholars in the SSB to avoid any negative impact on performance. It suggests that increasing cultural sensitivity and awareness, providing education and training, and strengthening support systems can help reduce the negative effect of women's representation on performance. The study focuses on the representation of women, contributing to the existing literature on corporate boards and Shariah governance in the TO sector. Future research should delve into the specific role of women's representation in the BOD and the SSB. It is recommended that future studies include a wider range of countries to ensure a more balanced and conclusive outcome.

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# APPENDIX A

| Bil | List of Takaful Operators | Country |
|---|---|---|
| 1. | AIA | Malaysia |
| 2. | AMMET | Malaysia |
| 3. | Etiqa Family | Malaysia |
| 4. | Etiqa General | Malaysia |
| 5. | FWD-HSBC | Malaysia |
| 6. | GE | Malaysia |
| 7. | HLMT | Malaysia |
| 8. | MAA Zurich F | Malaysia |
| 9. | MAA Zurich G | Malaysia |
| 10. | PRU | Malaysia |
| 11. | Sunlife Aviva | Malaysia |
| 12. | Takaful Ikhlas F | Malaysia |
| 13. | Takaful Ikhlas G | Malaysia |
| 14. | Takaful Malaysia Family | Malaysia |
| 15. | Takaful Malaysia General | Malaysia |
| 16. | PT-AAS | Indonesia |
| 17. | PT-ACSI | Indonesia |
| 18. | PT-AJS | Indonesia |
| 19. | PT-AJS-JMA | Indonesia |
| 20. | PT-AJS-AGA | Indonesia |
| 21. | PT-AJS-AlAmin | Indonesia |
| 22. | PT-AJS-Bumi | Indonesia |
| 23. | PT ASKI | Indonesia |
| 24. | PT-AST | Indonesia |
| 25. | PT-ATK | Indonesia |
| 26. | PT-ATU | Indonesia |
| 27. | PT-CLS | Indonesia |