

Characteristics of Board and Shariah Board on Risk-Taking and Performance: Evidence from Takaful Operators in Malaysia

(Ciri-ciri Lembaga Pengarah dan Lembaga Shariah ke atas Pengambilan Risiko dan Prestasi Pengendali Takaful di Malaysia)

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ABSTRACT

This study examines how board of directors (BOD) and Shariah board (SB) characteristics influence risk-taking and performance in Malaysian Takaful operators (TOs). These operators face unique challenges when balancing financial growth with strict adherence to Shariah principles. The study analyse data from 15 TOs from 2012 to 2021, resulting in a total of 124 firm-years of observations using panel data regression techniques. The key findings are a higher proportion of women on BOD leads to less risk-taking, while larger SB with more PhD members encourage it. However, the impact on performance is mixed. More women on BOD might reduce returns on assets, while frequent BOD meetings and a highly qualified SB might lower return on equity. This research offers valuable insights, where investors should consider the risk-return trade-off when evaluating TOs based on BOD and SB composition while managers need to balance risk management with Shariah compliance by building diverse BOD and optimising SB structure. Industry regulators should promote sound governance practices and collaboration between BOD and SB. Overall, the study contributes to the corporate and Shariah governance literature, shedding light on the complex interplay between BOD composition, SB expertise, risk-taking and performance in a complex industry.

Keywords: Corporate governance; Shariah governance; takaful operators; risk-taking; financial performance

ABSTRAK

Kajian ini mengkaji bagaimana ciri-ciri lembaga pengarah (BOD) dan lembaga Shariah (SB) mempengaruhi pengambilan risiko dan prestasi pengendali Takaful (TO) di Malaysia. TOs menghadapi cabaran unik apabila mengimbangi pertumbuhan kewangan dengan pematuhan ketat prinsip Shariah. Kajian menganalisa data daripada 15 TOs dari 2012 hingga 2021, menghasilkan 124 pemerhatian firma-tahun menggunakan teknik regresi data panel. Penemuan utama ialah nisbah wanita yang lebih tinggi dalam BOD membawa kepada pengambilan risiko yang rendah, manakala saiz SB yang lebih besar dengan lebih ramai ahli PhD menggalakkan risiko. Walau bagaimanapun, kesan ke atas prestasi adalah bercampur. Lebih ramai wanita dalam BOD mengurangkan pulangan ke atas asset, manakala kekerapan mesyuarat BOD dan lebih ramai SB yang berkecualan PhD menurunkan pulangan ke atas ekuiti. Penyelidikan ini menawarkan pandangan berharga, di mana pelabur harus mempertimbangkan pertukaran risiko-pulangan apabila menilai TOs berdasarkan komposisi BOD dan SB manakala pengurus perlu mengimbangi pengurusan risiko dengan pematuhan Shariah dalam mempelbagaikan BOD komposisi dan mengoptimalkan struktur SB. Pengawal selia harus menggalakkan amalan tadbir urus yang baik dan kerjasama antara BOD dan SB. Secara keseluruhannya, kajian ini menyumbang kepada literatur tadbir urus korporat dan Shariah, menjelaskan interaksi kompleks antara komposisi BOD, kepakaran SB, pengambilan risiko dan prestasi industri Takaful.

Kata kunci: Tadbir urus korporat; tadbir urus Shariah; pengendali takaful; pengambilan risiko; prestasi kewangan.

INTRODUCTION

The global Takaful market is experiencing impressive growth, projected to reach US\$126.8 billion by 2032 from US\$31.7 billion in 2022 (Allied Market Research 2023). This translates to a compound annual growth rate of 15.2% over the next decade. This expansion is driven by factors such as a large Muslim population, increased awareness, and technological advancements. Malaysia serves as a prime example of this global trend. In 2022, the market share of Takaful fund assets and net contributions in the country reached 13.4% and 23%, respectively.

This outpaces conventional insurance growth. The family Takaful penetration rate also rose from 18.6% in 2021 to 20.1% in 2022 (Bank Negara Malaysia 2022; Malaysian Takaful Association 2022). The consistent rise in Takaful adoption highlights its growing importance within the global and Malaysian Islamic finance landscape.

Despite its success, the Takaful industry is not immune to financial failures. Past financial scandals raise questions about the effectiveness of monitoring mechanisms in preventing managers from excessive risk-taking. Cases such as American Insurance Group (AIG), and Weqaya Takaful and Reinsurance Co highlight the potential consequences. AIG case involved the bailout of the conglomerate amounting to US\$182 billion due to excessive risk-taking (Adams & Jiang 2016; Boubakri 2011; Harrington 2009), while the latter involved lawsuit filed by the Capital Market Authority (CMA) towards the members of the board resulting them to be convicted and fined SAR1.3 million (Capital Market Authority 2023).

This rapid growth, coupled with inherent product and operational risks, emphasises the importance of strong corporate governance (CG) for Takaful operators (TOs). Stakeholders, especially the Muslim community, expect TOs to prioritise sound governance. Enhanced transparency and higher CG are crucial to build trust and ensure appropriate risks management and performance. Furthermore, TOs tend to be more susceptible to CG challenges because their business structure creates a complex agency dilemma stemming from the interactions between management, shareholders, and policyholders.

TOs operate under a unique structure. Unlike conventional insurance companies, they have a Shariah board (SB) alongside a conventional board. The SB plays a vital role in ensuring Shariah compliance through monitoring, supervision, and advisory functions (Grassa 2013). Strong governance in the SB improves financial performance of Islamic financial institutions (IFIs) by encouraging the development of innovative products and services that comply with Shariah law (Alkhamees 2013; Hasan 2011). Moreover, diligent oversights by the SB are crucial for TOs as any shortcomings could undermine the trust of stakeholders and increase financial risks (Grassa, 2013).

While previous studies have established the positive impacts of CG on performance and risk management in conventional financial institutions (Elamer et al. 2018; Laeven & Levine 2009), research on Takaful governance is limited. Existing studies primarily focus on Islamic banking on risk-taking behaviour (Aslam & Haron 2020; Abou-El-Sood 2019;) and performance (Zahid & Khan 2019; Hemrit 2020; Srairi 2015; Mollah & Zaman 2015), leaving only a few exploring governance and risk-taking behaviour (Rubio-Misas 2020) and performance (Abdul Kader et al. 2014; Karbhari et al. 2018, BenSaid 2023; Sallemi & Zouari 2024) in Takaful industry.

This research gap motivates our investigation. We aim to understand how BOD and SB characteristics, including their compositions, influence the risk-taking behaviour and performance of TOs in Malaysia. We utilise both agency and resource dependency perspective to explore this relationship.

This paper offers several contributions to the Takaful literature. First, we examine the impact of BOD and SB characteristics on both risk-taking and performance, unlike prior studies that focused on one aspect. For example, Abdul Kader et al (2014), Karbhari et al. (2018), BenSaid (2023) and Sallemi & Zouari (2024) focused on the influence of CG on performance and efficiency alone while only Rubio-Misas (2020) that we are aware of, focuses on CG and insolvency risk. Second, we examine the attributes of BOD and SB of TOs, individually as well as in aggregate by developing the CG and SG strengths. Our BOD and SB characteristics are more extensive than previous studies. Third, our study covers a period encompassing separate licenses for Takaful family and general and the COVID-19 pandemic, providing valuable insights. Our findings can provide policymakers and regulators in formulating effective governance strategies when dealing with future challenges and crises.

This paper contains six sections. The next two sections review institutional background and past related literature. Section 4 and 5 explain the methodology and discussion on the findings, respectively. Section 6 concludes.

INSTITUTIONAL BACKGROUND

Takaful is “*a scheme based on brotherhood, solidarity and mutual assistance which provides for mutual financial aid and assistance to the participants in case of need, whereby the participants mutually agree to contribute for that purpose*” (Takaful Act of Malaysia 1984). It applies the concept of risk-sharing and Shariah contract of tabarru (donation) and taawun (cooperation). Takaful offers services that compensating policyholders for unforeseen and specified risks. Its operational activities are complex and not easily understood relying on sophisticated projections such as mortality rates, future expenses, rates of policy lapse and continuation as well as expected returns on investments (Boubakri 2011; Adams & Jiang 2016;).

The nature of takaful leads to various governance challenges. The fundamental concern is that TOs act merely as managers of risks for a group of participants, and do not itself assume any risk. In managing these risks, TOs might engage in excessive risks or poor management practices, the repercussions of which do not impact the shareholders directly. In other words, the decision-makers do not fully experience the outcome of their choices. TOs gain from maximising contracts, which could result in taking on an excessive number of poor risks. Such

risks have adverse effects on the participants, whereas an increase in contracts and contributions is advantageous for the TOs.

Malaysia provides an interesting setting for analysing the impact of internal board mechanisms (BOD and SB attributes) on risk-taking behaviour and financial performance for several reasons. First, Malaysia operates a dual financial system where TOs function alongside traditional insurance (Ibrahim et al. 2012; Razak, A. et al. 2021; Alshammari et al. 2018; Rubio-Misas 2020). Secondly, Malaysia has a predominantly Muslim population, accounting for 61.4% (Kamarudin et al. 2017). Thirdly, Malaysian TOs demonstrate superior asset quality and stability in growth when compared to their counterparts in both Muslim and non-Muslim countries that provide takaful services. In 2021, Malaysia was ranked 24th in the Economic Complexity Index with a score of 1.09, and it was 21st in global exports amounting \$333b. The Malaysian economy ended 2022 on a strong note, with a 7% GDP growth in the fourth quarter and an overall annual growth of 8.7%. Despite these strengths, the market penetration and share of takaful remain relatively modest.

LITERATURE REVIEW

AGENCY AND RESOURCE DEPENDENCY THEORIES

AGENCY THEORY (AT)

The AT delves into the contractual relationship between a firm's principals (shareholders) and agents (managers) within an organisation (Fama & Jensen 1983). It highlights the potential for conflict of interest, known as agency problems, when managers' decisions don't match the objectives of shareholders. To align managers with the firm's objectives, BOD mechanisms such as independent directors are brought in to oversee and advise the management team to act in the best interests of shareholders (Brennan 2006; Fama 1980). Additionally, SB members with diverse backgrounds play important roles in alleviating these conflicts by enforcing adherence to Islamic tenets.

RESOURCE DEPENDENCE THEORY

RDT posits that organisations depend on external resources to survive and thrive (Garcia-Meca et al. 2015; Hemrit 2020; Mollah & Zaman 2015, Nainggolan et al. 2022; Nomran et al. 2018). It emphasises that firms rely on various resources, either tangible (financial capital and technology) or intangible (expertise and reputation). Board plays a crucial role in acquiring and managing these resources. According to Pfeffer (1972), board mechanisms such as compositions and sizes are not independent choices, instead, they result from the firms' rational choice to respond to the external environment. Additionally, SB acts as a legitimising principle to ensure alignment with Islamic principles, which affect resource allocation and decision-making. As highlighted by Hillman et al. (2009), RDT views boards as valuable assets that contribute to a firm's sustainability.

HYPOTHESIS DEVELOPMENT

CG broadly encompasses processes, policies, and legal frameworks that influence the way a firm is directed, managed, and controlled (Majid et al. 2011) while SG deals with framework and procedures adopted in IFIs to ensure compliance to Shariah laws and principles (IFSB 2009). The presence of SB in IFI takes a similar role to that of non-executive directors in enforcing Shariah law within IFIs.

The dual governance frameworks play a critical role in effective management within TOs. Although the legal responsibilities of IFIs' BOD are like those of traditional financial institutions, Shariah principles indirectly impose unique responsibilities on the BOD (Grassa & Matoussi 2014). Drawing from AT and RDT, the BOD's role impacts the functioning of Shariah governance. Additionally, specific BOD characteristics are expected to enhance monitoring functions leading to reduces risk and improved performance.

The integration of SB and BOD in IFIs acts as a check against undue risk-taking behaviours. Alman (2012) highlights that SB faces a dilemma in balancing Shariah adherence with financial viability. SBs may be held responsible by shareholders or senior executives for operational losses, especially when SBs exhibit excessive conservatism in adhering to Shariah principles or prioritise risk aversion, thereby missing potentially more profitable opportunities (Nomran et al. 2018). Therefore, SB members are expected to possess certain qualifications and skills to discharge their responsibilities effectively.

The SB's fundamental responsibility is to ensure that the operations, including products, services, and policies of are in line with Shariah principles (Amanullah 2015; Haridan et al. 2018). The SB's oversight of Shariah adherence is crucial to maintain the integrity of economic transactions and preventing management from pursuing overly aggressive or risky strategies (Hassan et al. 2019). Shariah non-compliance activities may result in short-term income loss and long-term reputation risks (Basiruddin & Ahmed 2020). Hence, it is imperative for

SB members to have a deep understanding of Shariah requirements related to product development and everyday business functions.

BOARD SIZE

Agency theory argues that a fundamental challenge exists due to conflicting goals between managers and shareholders. To address this conflict, board members act as a supervisory body, guiding managers towards the company's strategic goals. Some argue that a larger board enhances oversight, networking, and expertise, potentially leading to improved performance (Hakimi et al. 2018) and reduced risk. However, others contend that a larger board may decelerate decision-making. From the perspective of resource dependency theory, firms might gain diverse skills, expertise, and knowledge crucial for better performance and less risk-taking (Baklouti 2022; Sallemi et al. 2021). A larger board, especially one with independent directors experienced in business or finance, could leverage a broader range of expertise (Farag et al. 2018; Xie et al. 2003). Yet, there are arguments favouring a smaller board for greater efficiency (Andres & Vallelado 2008).

H_{1a} There is a negative relationship between board size and TO risk-taking.

H_{1b} There is a positive relationship between board size and TO performance.

INDEPENDENT DIRECTORS

Independent directors (INEDs) are valued for their effectiveness as they are seen as impartial and not prone to conspiring with management. Prior literature finds that the capacity of board to monitor management performance and oversee risk-taking activities is enhanced if there are more independent directors on the board (Elamer et al. 2018; Hussein et al. 2019; Mollah et al. 2021; Pathan 2009; Ramly & Nordin 2018; Sallemi et al. 2021; Xie et al. 2003). They act as a safeguard against management taking excessive risk without appropriate risk mitigation strategy. Empirical studies by Mollah and Zaman (2015) demonstrate that IFIs with a greater number of independent directors are more effective at supervising and controlling the management team. Similarly, Ramly and Nordin (2018) find that a higher number of independent directors reduces insolvency risk, especially when the board comprises members with expertise in banking and finance. However, the presence of independent directors might negatively affect performance due to their tendency towards overcaution and avoiding risks (Andres & Vallelado 2008; Bukair & Abdul Rahman 2015; Pathan & Faff 2013; Rachdi & Ameer 2011).

H_{2a} There is a negative relationship between ratio of independent directors and TO risk-taking.

H_{2b} There is a positive relationship between ratio of independent directors and TO performance.

MEETING FREQUENCY

The frequency of board meetings held annually may reflect the directors' engagement levels. Vafeas (1999) posits that boards are more adept in discharging its monitoring functions when it meets more frequently to discuss strategies and evaluate management performance especially during the period of distress. In contrast, infrequent meetings, may neglect critical issues and simply rubber-stamp executive decisions (Xie et al. 2003). It may hinder the boards' oversight of business operations and potentially increase the company's risk profile (Ferris et al. 2003). While some research found a positive relation between the frequency of board meetings and performance (Ntim et al. 2017; Nathan 2010; Anders & Vallelado 2008), others documented negative association (Vafeas 1999). They suggest a negative link attributing to inefficient meeting practices, particularly involving independent directors who need considerable time to grasp company matters (Vafeas 1999). In relation to SB, Baklouti (2022) and Sallemi et al. (2021) found that higher meeting frequency increases SB monitoring of all transactions which leads to improved financial performance of IB.

H_{3a} There is a negative relationship between meeting frequency and TO risk-taking.

H_{3b} There is a positive relationship between meeting frequency and TO performance.

FEMALE REPRESENTATION

Presence of woman in corporate boards has been on the rise (Wagner 2011), suggesting their positive impact on company value. While some studies find no clear link between the proportion of females' board members and financial performance of IFIs (Umar et al. 2023; Wachudi & Mboya 2012), other studies suggest that gender diversity can improve performance (Garcia-Meca et al. 2015; Nainggolan et al. 2022). These studies indicate IFIs with female directors tend to fare better in less competitive environment and maintain greater stability when competition is fierce. Despite this, the relationships between gender diversity and risk-taking in TOs is not extensively researched. Setiyono and Tarazi (2014), found that boards with diverse backgrounds and gender,

reduce risk levels, while Khan et al. (2018) shows IFIs with higher number of female directors have lower credit risk and are more efficient. In contrast, Khan et al. (2020) suggest the presence of women on board result in more conservative strategies, which making IFIs less competitive and negatively impact performance.

H_{4a} There is a negative relationship between ratio of female representation and TO risk-taking.

H_{4b} There is a positive relationship between ratio of female representation and TO performance.

FOREIGN DIRECTORS

The globalisation of business and banking deregulation has expanded IFIs' access to diverse resources, including foreign directors. Foreign directors may introduce advanced managerial techniques and latest technology, potentially enhance performance (Liang et al. 2013). But Fernandes et al. (2017) did not find any significant effect of foreign directors and performance. Similarly, Khalil and Taktak (2020) find SB has no significant impact on performance of Islamic banks (IBs). Masulis et al. (2012) challenge prevailing theories by revealing that foreign independent directors in the US are associated with poorer firm performance. They argue that foreign directors may be less familiar with local laws, governance standards, and management practices, hindering their ability to evaluate managerial decisions. This result aligns with Garcia-Meca et al. 2015. In relation to risk, Setiyono and Tarazi, 2014 found that foreign directors increase risk. In contrast, Nainggolan et al (2022) observed that foreign directors mitigate risk whereas Alabbad (2019) found foreign SB reduce risk taking in IB. SBs, in particular, prioritise their reputation in managing excessive risk-taking among IB managers.

H_{5a} There is a negative relationship between ratio of foreign directors and TO risk-taking.

H_{5b} There is a positive relationship between ratio of foreign directors and TO performance.

SB EDUCATIONAL QUALIFICATION

SB with highly educated qualifications (ie Doctorate) generally possesses extensive knowledge and religious skills which could significantly contribute to effective problem-solving, decision-making, creativity, and innovation (Kakabadse et al. 2010; Nomran et al. 2018; Shahrier et al. 2020). Alman (2012) asserts that the SB represents IFI shareholders and other stakeholders, ensuring all transactions, contracts and business operations adhere to Shariah principles. Ideally, the SB should include members with financial or banking expertise alongside educational qualifications and Shariah experience. Ramly and Nordin (2018) advocate for Shariah scholars to possess both Shariah knowledge and practical banking experience to enable them to deliberate issues concerning various aspect of financial contracts in financial products and services offering. Nevertheless, Khan et al. (2024) found no link between higher education in SB and financial performance, possibly because some SB members lack academic qualifications or degrees.

H_{6a} There is a negative relationship between ratio of SB members with PhD qualification and TO risk-taking.

H_{6b} There is a positive relationship between ratio of SB members with PhD qualification and TO performance.

METHODOLOGY

DATA COLLECTION

Our data consists of 15 TOs in Malaysia. Due to unavailability of annual reports, our sample only spans from 2012 to 2021. There are 124 firm-year observations of unbalanced panel data due to nondisclosure of some governance information in the annual reports. In addition, three and one new TOs were established in 2018 and 2019, respectively. To ensure the reliability of our analysis and minimise the influence of outliers, we employ Cook's distance Hat values plots. Observations with a Cook's distance exceeding 0.5, indicative of potentially high influence, will be further investigated (Law 2018). The sample of TOs used in the study is presented in Appendix A. All data are sourced mainly from the TOs' annual and governance reports.

RESEARCH METHODS

We employ a dynamic panel data model to test our hypothesis, considering the variations in BOD and SB characteristics. Following the approach of Mollah & Zaman 2015; Mollah et al. 2021; Ramly & Nordin 2018, apply a random effects Generalised Least Square technique to the models presented below:

$$\begin{aligned}
Risk - taking_{i,t} = & \beta_0 + \beta_1 BOD - Size_{i,t} + \beta_2 BOD - Ind_{i,t} + \beta_3 BOD - Meet_{i,t} \\
& + \beta_4 BOD - Fem_{i,t} + \beta_5 BOD - For_{i,t} + \beta_6 SB - Size_{i,t} + \beta_7 SB - Meet_{i,t} \\
& + \beta_8 SB - Fem_{i,t} + \beta_9 SB - For_{i,t} + \beta_{10} SB - Phd_{i,t} + \beta_{11} Size_{i,t} \\
& + \beta_{12} Lev_{i,t} + Y_t + \varepsilon_{i,t}
\end{aligned} \tag{1}$$

$$\begin{aligned}
Performance_{i,t} = & \beta_0 + \beta_1 BOD - Size_{i,t} + \beta_2 BOD - Ind_{i,t} + \beta_3 BOD - Meet_{i,t} \\
& + \beta_4 BOD - Fem_{i,t} + \beta_5 BOD - For_{i,t} + \beta_6 SB - Size_{i,t} + \beta_7 SB - Meet_{i,t} \\
& + \beta_8 SB - Fem_{i,t} + \beta_9 SB - For_{i,t} + \beta_{10} SB - Phd_{i,t} + \beta_{11} Size_{i,t} \\
& + \beta_{12} Lev_{i,t} + Y_t + \varepsilon_{i,t}
\end{aligned} \tag{2}$$

where, $risk-taking_{i,t}$ are the risk-taking proxies (Log Z-score calculated using ROA and ROE), $performance_{i,t}$ are the financial performance proxies (ROA and ROE), $BOD_{-i,t}$ are prefix indicating BOD characteristics for size (BOD-Size), ratio of independent directors (BOD-Ind), number of meetings (BOD-Meet), ratio of female directors (BOD-Fem) and ratio of foreign directors (BOD-For), $SB_{-i,t}$ are prefix indicating SB characteristics for size (SB-Size), number of meetings (SB-Meet), ratio of female directors (SB-Fem), ratio of foreign directors (SB-For) and ratio of members with PhD (SB-PhD), $Size_{i,t}$ and $Lev_{i,t}$ are the control variables. Details of the variables are presented in TABLE 1.

We employ the regression technique for several reasons (Baltagi & Wu 1999). First, Ordinary Least Squares (OLS) ignores panel data structure (Gambin 2004). Second, fixed effects cannot effectively estimate time-invariant parameters. Thirdly, BOD and SB structures do not exhibit significant variation over time. Applying fixed effect would result in a substantial loss of degrees of freedom, especially when the variation across time is limited (Wooldridge 2002).

VARIABLES DESCRIPTIONS

Dependent Variable We use Z-score as a proxy for risk-taking which is the most frequently used ratio in prior studies (Boyd & Runkle 1993; Fu et al. 2014; González et al. 2017; Laeven & Levine 2009). Z-score is calculated as follows:

$$Z - score - ROA_{it} = \frac{ROA_{it} + \frac{Equity_{it}}{Total\ assets_{it}}}{\sigma ROA_{it}} \tag{3}$$

$$Z - score - ROE_{it} = \frac{ROE_{it} + \frac{Equity_{it}}{Total\ assets_{it}}}{\sigma ROE_{it}} \tag{4}$$

where ROA_{it} (ROE_{it}) is the TOs' return on asset (return on equity), $Equity_{it}/Total\ assets_{it}$ is the ratio of equity over total assets and σROA_{it} (σROE_{it}) is the standard deviation of ROA_{it} (ROE_{it}). A three-year rolling window is used for all three components of the Z-score. Similar to previous studies, we use the logarithm form of the Z-score (Cummins et al. 2017; Rubio-Misas 2020). Z-score is expected to directly (inversely) be related to performance (risk-taking). TOs face insolvency when their asset is no longer sufficient to cover their liabilities. The Z-score indicates the number of standard deviations a firm's returns need to fall from the expected value to exhaust its equity, leading to insolvency (Fu et al. 2014). Finally, $performance_{it}$ is ROA and ROE (Mollah & Zaman 2015).

TABLE 1. Definition of variables

Abbreviation	Full name	Description
<i>Dependent variables</i>		
ROA	Return on asset	Net income over total assets
ROE	Return on equity	Net income over total equity
Z-Score-ROA (ROE)	Z-Score based on ROA (ROE)	Natural logarithm of Z-score. The Z-score represents the distance to default, calculated as the sum of ROA (ROE) and the capital-to-asset ratio, divided by the standard deviation of ROA (ROE). It measures how far a company is from potential insolvency. A higher Z-score indicates that the company is taking less risk.
<i>Independent variable</i>		
<i>CG variables</i>		
BOD-Size	Board size	Number of members in the board
BOD-Ind	Independent director	% of independent directors on the board
BOD-Meet	Board meeting	Frequency of board meetings in a financial year
BOD-Fem	Female	% of female directors
BOD-For	Foreigner	% of non-Malaysian directors

<i>SG variables</i>	<i>SG variables</i>	
<i>SB-Size</i>	SB size	Number of members in SB
<i>SB-Meet</i>	SB meetings	Frequency of SB meetings in a financial year
<i>SB-Fem</i>	Female	% of female directors
<i>SB-For</i>	Foreigner	% of non-Malaysian directors
<i>SB-PhD</i>	PhD qualification	% of SB members with PhD
<i>Control variables</i>		
<i>Size</i>	Size	Natural logarithm of total asset
<i>Lev</i>	Leverage	Total debt over total asset

INDEPENDENT VARIABLES

BOD and SB characteristics are used as governance variables. The attributes of BOD and SB for TOs i at time t are boards size (BOD-Size, SB-Size), independence (BOD-Ind), gender (BOD-Fem, SB-Fem), nationality (BOD-For, SB-For), and doctoral qualifications (SB-PhD).

It has been observed that a larger board size and greater board independence may imply better monitoring ability which lead to improve performance and reduce risk-taking (Hakimi et al. 2018; Pathan 2009; Xie et al. 2003). Further, a more frequent board meetings improves performance (Andres & Vallelado 2008; Baklouti 2022; Sallemi et al. 2021). However, not all research supports the notion that more frequent meetings enhance performance (Vafeas 1999). Gender diversity in board is expected to improve performance (Ferris et al. 2003; Garica-Meca et al. 2015; Khan et al. 2018; Nainggolan et al. 2022). On the other hand, the presence of foreign board members induces performance and reduce risk-taking (Liang et al. 2013; Fernandes et al. 2017). Lastly, SB members holding PhDs may reduce risk and improve performance (Grassa 2013; Grassa & Matoussi 2014).

CONTROL VARIABLES

In addition to our main variables, we include firm-level control variables: size (*Size*) and leverage (*Lev*). We anticipate a positive association between size and performance, conversely, size may have a negative impact on risk-taking. Leverage is expected to negatively influence performance. However, it may positively affect risk-taking. For details, refer to TABLE 1, which provides descriptions of these variables.

RESULTS

DESCRIPTIVE STATISTICS

TABLE 2 presents a summary of the descriptive statistics. The mean values of proxies for risk-takings, z-score calculated using ROA and ROE are 2.827 and 1.371, with standard deviations of 0.851 and 1.236, respectively which indicates that on average, Malaysian TOs has lower insolvency risk and has ample equity to absorb shocks.

The mean values of ROA and ROE are 0.32% and 3.63%, respectively, where the ROE is higher than the ROA. The higher ROE could indicate efficient utilisation of TOs equity capital, resulting in better returns for investors. However, it is essential to consider that high ROE might also be influenced by increased debt. The separation exercise between family and general takaful mandated by the Central Bank and later, the COVID-19 pandemic affected Malaysia, might have some impact to TOs performance.

The minimum and maximum sizes of both BOD and SB are 4 and 9, respectively, with an average of 6.53 and 5.32. On average, the BOD size of Malaysian TOs is larger than the SB size with standard deviations of 1.3370 and 0.6200, respectively. The lower standard deviation of SB size might be because the minimum number of SBs is regulated to five for full-fledged TOs and three for TOs which are subsidiaries to foreign financial institutions. Malaysian TOs have a higher proportion of BOD independence, which is 60%. The number of independent directors increased from 53% in 2012 to 69% in 2021.

TABLE 2 also shows the proportion of female (BOD-Fem, SB-Fem) and foreigners (BOD-for, SB-for) in BOD and SB. On average, the proportion of females in BOD and SB are 14.5% and 17.5%, respectively. Overall, the BOD and SB membership are still dominated by males, where the minimum ratio of female sitting in BOD is 0, while the maximum ratios of female in BOD and SB are 75% and 60%, respectively. In terms of foreign directors, on average 13.5% or 4.8% members in BOD or SB are foreign directors. On average 86% of SB members hold PhD qualifications. The asset size of TOs on average is 19.82 while leverage is 80%. Our sample has a high ratio of debt to equity.

TABLE 3 shows a pairwise correlation of both dependent and independent variables is low to medium, which indicates that our regressions have no problem with multicollinearity. The rule of thumb is correlation value less than 0.80 indicates a weak correlation. In addition, the variance inflation factor (VIF) shows a mean value of 1.25 which supports that there is no multicollinearity issue in the models.

TABLE 2. Descriptive statistics

Variable	Unit	Obs	Mean	Std. Dev.	Min	Max	Skewness	Kurtosis
Z-Score - ROA	Log	94	2.827	0.851	1.053	4.968	0.072	2.485
Z-Score - ROE	Log	88	1.371	1.236	-2.642	4.757	-0.054	4.138
ROA	Ratio	124	0.003	0.030	-0.109	0.069	-1.291	5.748
ROE	Ratio	124	0.036	0.169	-0.678	0.372	-1.321	6.721
BOD-Size	Num	122	6.525	1.337	4.000	9.000	0.416	2.261
BOD-Ind	Ratio	116	0.605	0.122	0.330	0.860	-0.164	2.981
BOD-Meet	Num	121	7.901	1.985	1.000	14.000	0.061	4.047
BOD-Fem	Ratio	122	0.145	0.149	0.000	0.750	1.101	4.565
BOD-For	Ratio	122	0.135	0.127	0.000	0.600	0.852	3.773
SB-Size	Num	122	5.320	0.620	4.000	9.000	1.962	11.781
SB-Meet	Num	124	8.629	3.437	2.000	26.000	2.308	11.953
SB-Fem	Ratio	122	0.175	0.159	0.000	0.600	0.531	2.555
SB-For	Ratio	122	0.048	0.087	0.000	0.400	1.474	4.096
SB-PhD	Ratio	122	0.860	0.159	0.400	1.000	-0.991	3.436
Size	Log	124	19.823	1.181	17.345	22.055	0.115	2.400
Lev	Ratio	124	0.798	0.129	0.060	0.960	-2.160	11.169

TABLE 3. Matrix of correlations

	BOD-Size	BOD-Ind	BOD-Meet	BOD-Fem	BOD-For	SB-Size	SB-Meet	SB-Fem	SB-For	SB-PhD	Size	Lev
BOD-Size	1.000											
BOD-Ind	-0.190	1.000										
BOD-Meet	0.003	0.296	1.000									
BOD-Fem	-0.353	0.127	0.333	1.000								
BOD-For	-0.191	0.077	-0.283	-0.233	1.000							
SB-Size	-0.052	0.062	0.057	-0.091	-0.001	1.000						
SB-Meet	-0.149	0.011	0.017	-0.038	0.293	0.184	1.000					
SB-Fem	-0.001	-0.012	-0.124	-0.031	0.207	-0.168	-0.162	1.000				
SB-For	-0.125	-0.064	0.196	0.177	0.311	-0.039	0.205	0.113	1.000			
SB-PhD	0.005	0.184	0.048	-0.152	0.190	-0.221	-0.041	0.436	0.099	1.000		
Size	-0.102	0.177	0.388	0.099	-0.025	0.174	0.288	-0.519	0.176	-0.317	1.000	
Lev	-0.124	-0.142	0.077	0.261	-0.434	0.157	-0.336	-0.152	-0.279	-0.284	-0.011	1.000

BOARD CHARACTERISTICS AND TOS' RISK-TAKING BEHAVIOUR

In our study, we examine the impact of BOD and SB characteristics on TO risk-taking and performance. The results are presented in TABLE 4.

TABLE 4 shows that BOD size has a significantly positive relationship with the first measure of risk-taking (Z-Score-ROA) ($\beta = 0.185, \rho < 0.1$), but insignificant for the second measure of risk-taking (Z-Score-ROE). Larger BOD size reduced risk-taking is consistent with Elamer et al. (2018). Conversely, a larger SB size induces risk-taking is supported by Nainggolan (2022) and Mollah et al. (2017).

BOD independence appears positive but lacks statistical significance in relation to both risk-taking measures. This finding aligns with Elamer et al. (2018); Vafeas (1999); and Nainggolan (2022).

The results for gender diversity shows that an increased proportion of females in the BOD linked to reduced risk-taking ($\beta = 1.159$ for Z-Score-ROA and $\beta = 2.040$ for Z-Score-ROE, both at $\rho < 0.05$). In SB, more females reduce risk-taking as measured by ROE ($\beta = 2.780, \rho < 0.05$). Nainggolan et al. (2022) also supports the significance of gender diversity in risk reduction within SB (though insignificantly in BOD). The explanation lies in females' greater risk aversion compared to their male counterparts, which discourages TOs from investing in risky projects (Umar 2023). The presence of foreign members on both BOD and SB do not have a statistically significant on risk-taking measures. While foreign board members can potentially bring a more diverse perspective and potentially lower risk appetite, this effect seems negligible in the Malaysian market. This might be because TO with foreign board members are often foreign owned potentially limiting the additional influence of foreign directors on risk-taking behaviour.

Intriguing findings is that SB members with a higher proportion of doctorate degrees induce risk-taking for both Z-Score-ROA ($\beta = -1.497$) and Z-Score-ROE ($\beta = -2.584$) at $\rho < 0.05$. This result contradicts the findings of Safiullah and Shamsuddin (2018) who suggested that an increase in PhD holders on SB reduces risk-taking. SB members with PhD qualifications likely possesses advanced knowledge in Islamic finance and risk management. Their expertise enables them to assess risks more comprehensively, potentially encouraging risk-taking based on their deep understanding of risk dynamics. Additionally, they prioritise long-term gains over short-term gains, which may drive initiatives such as innovative product development, market expansion and investment diversification. Striking a balance between risk aversion and the need for sustainable growth becomes crucial.

Interestingly, both BOD and SB attendance in meetings appear insignificant in influencing TOs' risk-taking. The finding diverges from Elamer, et al. (2018) who argued that an increased frequency of board meetings effectively monitors TO activities and reduce risks. The increased frequency of BOD meetings may not directly benefit shareholders if these meetings are dominated by routine business.

Lastly, the results on the impact of leverage and size on TO's risk-taking indicate that TOs with higher leverage and smaller size induce insolvency risk ($\beta = -6.694$ and $\beta = 0.444$, respectively, $\rho < 0.05$). TOs with greater debt commitments face heightened risk. As TO grow larger, they accumulate experience and stability compared to newer and smaller TOs.

BOARD CHARACTERISTICS AND TOS' PERFORMANCE

In TABLE 4, the last two columns present the regression results concerning the impact of BOD and SB characteristics on performance of TOs. Notably, it shows that board size (both BOD-size and SB-size), BOD independence, and the presence of foreign directors (BOD-for and SB-for), do not significantly affect TOs' performance. Interestingly, this lack of significance between board size and performance aligns with BenSaid's (2023) findings in the takaful industry but contradicts with Karbhari et al. (2018) and Sallemi et al. (2021). Board independence lacks statistical significance in relation to performance might be explained that the Shariah compliance might be the primary focus for TOs that overshadow the potential benefits of board independence on performance. As argued in the previous section, foreign board members are only engaged by foreign-owned TOs thus it fails to give impact to performance.

In addition, we observe that higher proportion of female directors in BOD has an inverse relationship with ROA ($\beta = -0.026$, $\rho < 0.01$). While having female directors can reduce insolvency risk, it comes at the cost of effecting overall TO performance. One possible explanation is that female directors may exhibit a greater risk aversion compared to male directors. This could lead TOs to be more cautious when considering investments, potentially reducing their exposure to high-risk but potentially high-reward projects (Umar 2023).

On the other hand, the presence of females in SB positively affects both ROA and ROE, although the results are statistically insignificant. This finding aligns with Baklouti (2022), who also found an insignificant relationship between female SB members and performance, but it contradicts the findings of Khan et al. (2018).

Additionally, the frequency of meetings (BOD-Meet and SB-Meet) are negatively significant on TO's financial performance, as measured by ROE ($\beta = -0.012$ for BOD-meet and SB-meet, $\rho < 0.1$ and $\rho < 0.05$, respectively). Our result aligns with BenSaid (2023) and differ from Datta (2018) in the conventional insurance. Due to routine nature of board meetings, the in increased in its frequency may not be necessarily useful to shareholders.

The presence of SB members with PhD qualifications significantly and adversely affects financial performance, as measured by ROE ($\beta = -0.304$, $\rho < 0.01$). This finding is consistent with Nomran et al. (2018), who observed a similar negative impact of PhD-qualified SB members on the performance of IFIs. We anticipated that SB members with a doctorate would enhance the financial performance of TOs. However, surprisingly, the results contradict this expectation. One possible explanation is that SB members with doctorate tend to adopt a conservative approach due to their understanding of Islamic principles. Their focus on ethical and Shariah compliance may sometimes conflict with the goal of maximising financial returns.

With respect to the impact of leverage, we find that leverage is positively related to ROA but negatively related to ROE ($\beta = 0.041$ and $\beta = -0.191$, $\rho < 0.01$). The positive effect on ROA arises because leverage increases the asset base of TOs, allowing them to generate earnings from asset utilisation. However, the negative impact on ROE is driven by higher proportion of non-profit bearing liabilities among Malaysian TOs. Additionally, the lower proportion of equity dilutes earnings per share, ultimately leading to lower ROE.

Lastly, the size of TOs significantly influences both performance measures – ROA and ROE ($\beta = 0.013$ and $\beta = 0.088$, respectively, $\rho < 0.01$). Larger TOs benefit from economies of scale, which contributes to their improved performance.

TABLE 4. Results of panel data analysis of 15 Malaysian TOs (2012-2021)

	Z-score - ROA	Z-score - ROE	ROA	ROE
B-size	0.185*** (0.005)	0.111 (0.399)	-0.001 (0.510)	-0.017 (0.264)
B-Ind	0.896 (0.104)	-0.180 (0.907)	0.020 (0.178)	0.053 (0.628)
B-Fem	1.159** (0.014)	2.040** (0.029)	-0.026*** (0.007)	0.030 (0.714)
B-For	0.333 (0.708)	-0.292 (0.759)	0.012 (0.553)	0.005 (0.972)
B-Meet	0.002 (0.968)	-0.019 (0.780)	-0.001 (0.236)	-0.012** (0.056)
S-size	-0.373* (0.079)	-0.547*** (0.005)	-0.004 (0.177)	-0.027 (0.307)
S-Fem	0.384 (0.570)	2.780*** (0.001)	0.015 (0.263)	0.073 (0.145)
S-For	-1.460 (0.361)	-2.925 (0.253)	0.039 (0.188)	0.173 (0.262)
S-PhD	-1.497** (0.027)	-2.584*** (0.002)	-0.015 (0.230)	-0.304*** (0.000)
S-Meet	-0.007 (0.886)	-0.031 (0.641)	-0.001 (0.324)	-0.012* (0.070)

Lev	-1.123 (0.351)	-6.694*** (0.004)	0.041*** (0.003)	-0.191** (0.045)
Asset	-0.167 (0.128)	0.444*** (0.009)	0.013*** (0.001)	0.088*** (0.000)
Constant	8.535*** (0.005)	2.339 (0.611)	-0.243*** (0.000)	-0.905*** (0.015)
Year effect	Yes	Yes	Yes	Yes
Obs.	84	81	106	106
R-squared				
Within	0.286	0.248	0.363	0.104
Between	0.083	0.759	0.479	0.806
Overall	0.178	0.451	0.516	0.591

Note: TABLE 4 presents estimated coefficients and *p-values* in parenthesis.
Significant at: *10, **5 and ***1 per cent levels

ROBUSTNESS ANALYSIS

For robustness, we employ a two-step of Generalised Method of Moments (GMM) approach following Arellano and Bover (1995) to address endogeneity concerns. In this process, we create two new variables: BOD strengths (BOD-Strg) and SB-Strength (SB-Strg). These variables are constructed by aggregating all BOD and SB characteristics into equally weighted indexes. To test the overall effectiveness of BOD and SB, we code each factor as either “0” or “1”. A higher score indicates stronger BOD. Specifically, if a factor’s score exceeds the median value, it is coded as “1”, otherwise, it receives a “0”. By combining these factors, we gain a comprehensive view of CG (Abdullah et al. 2015; Eldaia et al. 2023). Our approach allows for more precise assessment of how CG and SG influence risk-taking behaviour and performance.

TABLE 5 displays the estimated coefficient from the following regressions.

$$Risk - taking_{i,t} = \beta_0 + \beta_1 BOD - Strg_{i,t} + \beta_2 SB - Strg_{i,t} + \beta_3 Size_{i,t} + \beta_4 Lev_{i,t} + \varepsilon_{i,t} \quad (5)$$

$$Performance_{i,t} = \beta_0 + \beta_1 BOD - Strg_{i,t} + \beta_2 SB - Strg_{i,t} + \beta_3 Size_{i,t} + \beta_4 Lev_{i,t} + \varepsilon_{i,t} \quad (6)$$

where, *risk-taking_{i,t}* are the risk-taking proxies (Log Z-score calculated using ROA and ROE), *performance_{i,t}* are the financial performance proxies (ROA and ROE), *BOD-Strg_{i,t}* is BOD strengths, *SB-Strg_{i,t}* is SB strengths, *Size_{i,t}* and *Lev_{i,t}* are the control variables.

The mean and standard deviation for BOD-Strg are 3.185 and 3.694, while for SB-Strg are 1.023 and 0.823, respectively. This implies that the average score for SB is higher than BOD, but the variation in BOD strength is higher than the SB strength. TABLE 5 shows the two-step GMM results. Notably, we find that both BOD and SB strengths encourage risk-taking. Surprisingly, while CG strength induces risk-taking, it does not adversely impact performance. However, SG strengths not only promote risk-taking, but also lead to reduction in overall performance for the firm. These findings align with the main results presented in TABLE 4.

TABLE 5. BOD and SB Strengths to TOs risk-taking and performance

	Z-Score-ROA	Z-Score-ROE	ROA	ROE
Lagged Z-Score-ROA	-0.009 (0.931)			
Lagged Z-Score-ROE		0.332 (0.151)		
Lagged ROA			0.388*** (0.000)	
Lagged ROE				0.416*** (0.000)
B-Strg	-0.006 (0.924)	-0.118*** (0.003)	-0.003*** (0.000)	-0.031*** (0.000)
S-Strg	-0.086 (0.224)	-0.129 (0.460)	-0.001 (0.457)	-0.011 (0.177)
Lev	-13.967 (0.100)	-12.079** (0.066)	0.023*** (0.009)	-0.057 (0.471)
Size	-0.156 (0.716)	0.370 (0.475)	0.001 (0.793)	0.013 (0.782)
Constant	17.927*** (0.017)	4.343 (0.721)	-0.023 (0.782)	-0.037 (0.967)
Obs.	59	49	84	84
Sargan p-value	0.994	0.992	1.000	1.000
AR (1)-p-value	0.791	0.219	0.222	0.094
AR (2)-p-value	0.902	0.169	0.634	0.107

Note: TABLE 5. presents estimated coefficients and *p-values* in parenthesis.
Significant at: *10, **5 and ***1 per cent levels

CONCLUSION

In this research, we delve into the internal governance mechanism – specifically the attributes of CG and SG – and their impact on corporate risk-taking and financial performance. These operators face unique challenges when balancing financial growth with strict adherence to Shariah principles. Our sample focuses on unbalanced data of 124 firm-year observations of 15 Malaysian TOs spanning the period from 2012 to 2021. Our key conclusions emerge from our investigation are as follows: 1. The presence of female directors in both BOD and SB tends to reduce risk-taking, although having females on the BOD might adversely affect performance; 2. Foreign SB members tend to induce risk-taking; 3. SB members holding PhD qualifications exhibits a tendency to increase risk-taking while reducing performance; 4. frequent meetings of the BOD and SB are associated with a reduction in TO performance; 5. leverage encourages risk-taking behaviour and enhances performance; 6. larger TOs exhibit increased risk-taking and better performance. To validate the robustness of our results, we apply alternative metrics using GMM estimation and find that at aggregate level, BOD strengths induce risk-taking and reduce performance.

These findings offer crucial insights for investors, managers, and regulators, within the financial service sector. Specifically, they shed light on the attributes of board members (BOD and SB) that can minimise risk-taking behaviour and boost financial performance. Investors should consider the risk-return trade-off when evaluating TOs based on BOD and SB composition while managers need to balance risk management with Shariah compliance by building diverse BOD and optimising SB structure. Industry regulators should promote sound governance practices and collaboration between BOD and SB. Overall, the study contributes to the corporate and Shariah governance literature, shedding light on the complex interplay between BOD composition, SB expertise, risk-taking and performance in a complex industry. Limitations of the study are it relies on hand-collected data from annual and governance reports and is a one country study. We recommend future studies explore mixed methods for data collection and use cross-national comparisons to achieve a more comprehensive and definitive understanding.

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APPENDIX A

Bil	List of TOs
1.	AIA Public Takaful Berhad
2.	AmMetLife Takaful Berhad
3.	Etiqa Family Takaful Berhad
4.	Etiqa General Takaful Berhad
5.	FWD Takaful Berhad
6.	Great Eastern Takaful Berhad
7.	Hong Leong MSIG Takaful Berhad
8.	Zurich General Takaful Malaysia Berhad
9.	Zurich Takaful Malaysia Berhad
10.	Prudential BSN Takaful Berhad
11.	Sun Life Malaysia Takaful Berhad
12.	Takaful Ikhlas Family Berhad
13.	Takaful Ikhlas General Berhad
14.	Syarikat Takaful Malaysia Keluarga Berhad
15.	Syarikat Takaful Malaysia Am Berhad