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THE EFFECTS OF SHARIAH SUPERVISORY BOARD CHARACTERISTICS AND THE RISK-TAKING AMONG ISLAMIC FINANCING INSTITUTIONS IN BANGLADESH

Md. Mohidul Islam [(a)1] *Abul Bashar Bhuiyan* [(b)] *Aza Azlina Md Kassim* [(c)] *Salina Rasli* [(d)]

[(a)] *Ph.D. Fellow, Faculty of Business and Accountancy, Universiti Selangor, Malaysia; E-mail: mahid.unisel40@gmail.com*
[(b)] *Ph.D., Associate Professor, Faculty of Business and Accountancy, Universiti Selangor, Malaysia; E-mail: bashariuk@gmail.com*
[(c)] *Ph.D., Associate Professor, Faculty of Business Management and Professional Studies, Management and Science University, Malaysia; E-mail: azaazlina.mdkassim@gmail.com*
[(d)] *Ph.D., Senior Lecturer, Department of Accountancy, Finance and Mumalat, Faculty of Business and Accountancy, Universiti Selangor, Malaysia; E-mail: rsalina@unisel.edu.my*

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ABSTRACT

The study aims to examine the influences of Shariah Supervisory Board (SSB) characteristics and risk-taking among Islamic Financial Institutions (IFIs) in Bangladesh. The study conducts dynamic short panel data regarding the annual report of quoted 14 IFIs in Bangladesh from 2013 to 2018. The study has shown the first and second lag of dependent variables and applied them under the dynamic GMM model in Stata software. Risk-taking is the most prejudicial issue that needs to be justified by findings. The hypothesis result of SSB size is positive and insignificant due to its size. It means SSB is less essential to reducing the risk-taking of IFIs in Bangladesh. The study also finds that the positive result of scholars in SSB is put in the right place that supports reducing excess risk-taking. It could be a valuable source of knowledge for reducing risk-taking on the risk committee.

INTRODUCTION

The awareness of Islamic finance is raptly raised innovation seeing the emergence of Islamic finance in the 1970s, especially in the vicinity of risk and liquidity management. Generally, The IFIs consist of Islamic banks, insurance companies, mutual funds, hedge funds, and issuers of Islamic bonds (Sukuk). Islamic rules and regulations are the predominant determinants between Islamic Financial Institutions (IFIs) and non-Islamic Financial Institutions (Rammal, 2006).

Islamic finance is tremendously bromic in the conventional and non-conventional financial markets based totally on fair prices, less risk, and splendid cooperation records between contracting parties. Over the previous decade, Islamic finance has multiplied notably, posting double-digit rates, diversifying merchandise, and steadily gaining market penetration internationally. Today, Islamic finance has become much more popular due to its safe and competitive package to the uneven global market. The real assets of IFIs accelerated from USD 1.4 trillion to USD 1.5 trillion, the quantity of ṣukūk amazing expanded (USD 318.5 billion), but Islamic funds' belongings lowered (USD fifty-six billion); takāful contributions expanded slightly (USD 25 billion). However, the dynamics of the IFSI are not visible on the stage of global aggregates. Instead, the analysis focuses on the regional composition of aggregates and Islamic finance achievements and setbacks in man or woman jurisdictions (IFSB, 2014).

The study examines the Shariah Supervisory Board (SSB) characteristics and risk-taking among Islamic Finance Institutions (IFIs) in Bangladesh. Islamic Financial Institutions (IFIs) are institutions that abide by Islamic law, rules, and standards (Pathan, 2009). To maintain the IFIs needed a set of rules, regulations, and standards that denote corporate

[1]*Corresponding author: ORCID ID: 0000-0002-2301-7345*

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Governance (Abdullah, Khan, & Nazir, 2012; Alman, 2012). The shariah supervision is the essential part of incorporating Governance. The Shari'ah regulation also establishes a set of principles prohibiting interest (riba), gambling, and speculation.

Furthermore, the Shari'ah supervisory board characteristics in Islamic Financial institution (IFIs) is important to expose the external shocks. Hence, the external shocks lead to the unstable condition of fact in a broad shariah arrangement: the threat and legal responsibility between Islamic Financial institutions (IFIs) and their patron. In contrast with its counterpart, Shariah supervisory board is not solely responsible for risk cover. However, its monitoring position on Shari'ah regulation performs in the governance structure as adversarial to traditional banks (Mollah & Zaman, 2015). On the other hand, shari'ah scholars in Shariah Supervisory Board (SSB) operate a supervisory position to influence an advisory function's role in audit.

Risk is the most concerning issue for financial institutions that occurred borrowers do not repay their loans on time, unsatisfied debt and demand with depositors, and uneven liquidity distribution that underpin credit and Liquidity risk. To overcome the endogeneity problem, the empirical test of dynamic two steps system GMM and the study comprised of IFIs for the time frame between 2013 and 2018, two steps system GMM method were used in this study (Arellano & Bover, 1995). In 2016 another survey was conducted on the financial sectors in Bangladesh. There were 134 valid respondents; 87.2% of those valid respondents argued that around 86.3 % of risk occurred due to liquidity and credit limitation. Another survey analysis shows that credit risk in the short term (2 months) was mostly affected by own shocks up to 79.30% and by MTC (10.52%) in the long term (12 months) risk are the most concerning issues in a financial sector (Akbar, Kharabsheh, Poletti-Hughes, & Shah, 2017). The rest of the paper is organized as follows: After the introduction sections, the literature review and hypothesis development are presented in 2.0. Section 3.0 - discusses the research methodology. The results are reported and discussed in the 4.0 section. The final section concludes and provides a few recommendations.

RESEARCH PROBLEM

The study examines the effects of the Shariah Supervisory Board characteristics on risk-taking among Islamic financial Institutions in Bangladesh. Risk is the most alarming issue in Islamic financing systems. The risk has occurred in its respective parties and their governance mechanism. Corporate governance attributes underpin the risk-taking of IFIs in Bangladesh. However, Shariah governance is an essential part of corporate governance attribute. According to Basel accord (iii) and BD central bank: About 75% of banking failures or scandals occur due to risk and lack of governance characteristics particulars SSB characteristics (Alman, 2012).

LITERATURE REVIEW AND DEVELOPMENT HYPOTHESIS

The elements of Shariah issues include faith, worship, and economic, social, political, and cultural components of Islamic societies. The concepts are derived from three essential sources: the Holy Quran, Sunna (the practice and way of life of the Prophet Muhammad,) and Ijtihad (the reasoning of qualified scholars). Further elaboration and interpretation of the policies dictated by the Holy Quran and Sunna are provided with certified Islamic jurisprudence, which is carried out in a framework in light of the Quran and Sunna. Shari'ah supervision as a spiritual audit (especially to Western observers and regulators), its scope is comprehensive (Garas, 2012).

Shari'ah supervisor Board (SSB) characteristics take different forms: Shari'a Supervisory Board (SSB) size, Shari'ah scholars in SSB, or Shari'ah experts in SSB. They are appointed by the shareholders, similar to the BOD. Previous research emphasized the existence of SSB in IFIs; however, there is no agreement on the standard number of SSB members (Molla, 2015). The Shari'a audit was significantly associated with the SSB (Garas, 2012), whereas the Shariah Board directly related to manipulating the firm's objectives. In addition, the work of the Shari'ah board was once determined to have a negative impact on risk (Nathan, 2010). Shariah board size and SSB experts may influence risk (Alman, 2012).

The previous studies found whether the distinction governance constructions Shari'ah Supervisory Board (SSB) impact the overall performance of Islamic banks. Few studies have contributed to shariah governance and risk, particularly insolvency and portfolio risk (Alman, 2012; Mollah, Hassan, Farooque, & Mobarek, 2017). Credit and liquidity risk are economically meaningful on reciprocal contemporaneous, but it is considered the mainstream of such failures (Stojkovic, 2013; Vazquez & Federico, 2015). The previous study was conducted with secondary data with a fixed effect method of 20 private commercial banks in Bangladesh from 2015 to 2019. The risk-taking depends on a set of Corporate Governance. However, Shari'ah supervisory board is viewed as an important part of shari'ah governance (Kamali, 2008). Sharı'ah governance gives instruction and a framework for the route of corporate Governance (IFSB, 2014)

In the case of SSB, that leads to the company's objectives (Askari, Iqbal, Krichene, & Mirakhor, 2010). The size of SSB is subjected to declare their opinion to the respective authority (Lahsasna, 2014). SSB is the crucial part of Shari'ah governance that can be defined as the divine rules of Shari'ah (Grassa, 2013). The study has explained that the legal supervisory features of an SSB affect the IFIs' risk-taking behavior (Garas & Pierce, 2010). Prior literature argues that board characteristics play an important role in influencing IFI's risk-taking. In this case, the board shape of IFIs impacts risk-taking behaviors in the unique Shariah supervisory board (SSB). Under Shariah rules, IFIs are expected to have interaction in less risk-taking investments. In addition, the study finds that SSB size is positively associated with IFI's risk-taking behaviors. Coordination and freedom of board impact the risk-taking of IFIs (Alman, 2012; Pathan, 2009).

The study addresses how the compositional traits of the SSB affect the risk-taking of Islamic Financial Institutions (Farook & Farooq, 2011). Shari'ah supervisory Board (SSB) comprises a given number of independent Shari'ah scholars (Alman, 2012). Sharia-compliant governance structure supervises Shari'ah audit and significantly affects loan portfolio risk-taking. In addition, the determinants of mortgage portfolio risk-taking can be prolonged to additional characteristics of SSBs, such as desirable educational background key person as nicely as the scholars of SSB (Pathan, 2009).

Some researchers declare that cross-memberships of SSB contributors may also negatively influence the board's effectiveness (Alman, 2012). In contrast, some other researchers argue that cross-memberships expose participants in SSB to additional debate regarding the Shari'ah regulation practices in the Islamic finance industry, which thereby can guide their know-how about the implementation of Islamic regulations (Farook & Farooq, 2011). These cross-memberships of SSB are positively affected by enhancing their knowledge and experience and then improving the objective of the IFIs. The involvement of increasing SSB assists the opinion, thereby rectifying the productivity and efficiency of the IFIs (Garas, 2012; Grassa & La Manouba, 2013). The SSBs' size has to be limited by its members (Alman, 2012).

Hypothesis 1(H_1): Shariah Supervisory Board (SSB) size influence on risk-taking of IFIs in Bangladesh.

Most Islamic scholars in SSB influence its growth (Ginena & Hamid, 2015). Most Shari'ah scholars lack a journey in banking, which affects their potential to issue well-informed selections on financial products that impact risk (Ginena & Hamid, 2015). Hence, the scholars have confined know-how and publicity to the Shari'ah concepts that could no longer function. The SSB scholars with knowledge and finance experts have a massive influence on risk-taking (Garas, 2012; Ginena & Hamid, 2015). However, the mortgage risk of IBS is positively influenced by using the growing size of the SSB and when pinnacles ranked Shari'ah scholars with more than one membership. The Sharia Supervisory Board is an internal operational process of monitoring a unit of risk-taking (Alman, 2012). Sharia scholars and well-educated background key people in SSB are assets of an organization who are better conscious of illegal, invalid contracts and transactions (Pathan, 2009). Board size is related to open-riding issues and prolonged durations for decisions. Besides these insufficiencies, members create agency problems and cooperation obstacles for compromises (Cheng, 2008). Although, the relation between board size and firm-particulars measures may be misguided due to misunderstanding the arguments in the literature that a larger board might be connected to higher risk. Thus, the study expects that the supervisory effectiveness and the disciplinary power of SSBs on loan diversified risk-taking in IFIs reduce with a large number of SSB members (Alman, 2012; Fayed & Ezzat, 2017). The failure of an institutional and organizational approach led to a particular risk (Ahmed, 2009).

The scholars in SSB give the director creativity, leadership skills, and necessary experience that is possibly superb due to peer community encompassed through a colleague (Matsuda & Matsuo, 2017). Further empirical research is anticipated in this mechanism discussion; this view is in line with the RDT that considers the position of the company board as an aid to the organization. From the RDT perspective, certified board members play a crucial role in bettering the competitiveness of the corporations. With the recognition of the SSB, the high stage of SSB schooling leads to high overall performance (Musibah & Alfattani, 2014). SSB member with a doctorate is simply better-versed in Islamic finance (Farook & Farooq, 2011). Nevertheless, scholars are on SSB-related impact on risk-taking (Bakar, 2016). The proposed hypothesis:

Hypothesis 2 (H_2): Shari'ah Scholars in SSB influence on risk-taking of IFIs in Bangladesh.

METHODOLOGY

Data Sample

The study used secondary data with purposive sampling to collect data from IFIs' annual reports from 2013 to 2018. Most of the annual report was obtained from the website of IFSB, GFDR, DSE, and Bank scope. The cross-section data are given cross-sectional records (heterogeneities), and time-series data (autocorrelation) want to be addressed (Gujarati, 2004). Dynamic GMM is most important to control endogeneity (Gujarati, 2004). However, the time-invariant correlation between the error term and explanatory variables are key elements for dynamic GMM (Roodman, 2009). xtabond2 module in Stata is conducted in the time-invariant variable (Arellano & Bover, 1995; Blundell & Bond, 1998). First, OLS ignores the panel structure of the data (Gambin, 2004). Second, a time-invariant parameter cannot be estimated with fixed-effect methods. Third, the CGI does not vary much over time, so the fixed-effect estimation could be inappropriate (Wooldridge, 2002) and loosen freedom degrees (Baltagi, 2005).

Endogeneity is a common problem in studies on finance and accounting (Pindado & Requejo, 2014). In addition, one of the main objectives of this research is to control the endogeneity. To control the endogeneity, the study used the dynamic panel system-GMM for controlling all three types of endogeneity, i.e., simultaneity, unobservable heterogeneity, and dynamic endogeneity (Wintoki, Linck, & Netter, 2012). The first source stems from simultaneity. The second endogeneity source comes from unobservable heterogeneity (Hermalin & Weisbach, 2003). The third source of endogeneity may arise in specification dynamic endogeneity (Wintoki et al., 2012). The GMM estimates the lagged values of the right-hand-side variables. The lag variables eliminate the unobserved heterogeneity and omitted variable bias (Roodman, 2006).

Credit Risk

Credit Risk is the future unknown event due to the default of the creditor's reimbursement. The allotment of the credit loan system is important for choosing a suitable analysis of borrowers' goodwill. The risk assessment and analysis mechanism leads to reducing risk. To control the risk, we need a risk management committee with a financial key player. It also documented that the investment policies in compliance with regulatory requirements cover investment assessment, collateral requirements, risk grading, reporting, documentation, legal formalities and procedures, and up-to-date clean of CIB report for a client (Hemmati & Vakilalroaia, 2015). We have highlighted in a previous study that there is a significant relationship between committee and credit risk.

Liquidity Risk

The liquidity is the loan to total asset ratio or inability to quickly mobilize funds. Liquidity occurs when loans are less liquid than other assets (Ramzan & Zafar, 2014). Liquidity risk is the part of the Capital Adequacy Ratio (CAR) that impacts risk. Nevertheless, the liquidity risk also influences the company's policy (Jedidia & Hamza, 2015). Liquidity risk is the time-invariant requirement with sustainability and instability (Ghenimi, Chaibi, & Omri, 2017). Liquidity is a furnish of protracted measurement (Khan & Ahmed, 2001), and it depends on assets (Ali, 2004). The miss management of assets is a chance to manipulate the risk (Ramzan & Zafar, 2014). The manipulation process of liquidity is the access of financial windows to minimum reserve requirement (RR) and financing to deposit ratio (FDR) (Sutrisno, 2016). The advance loan, mortgage portfolio, and sound Governance have a significant relationship that leads to an organization's liquidity stability (Rao & Dula, 2017).

Control Variables

IFI's age: The maturity denotes an experienced institution that is the most important in assessing the institution's management, strategy, and risk-taking. Age and experience influence a firm's growth (Arvelo, Bell, Novak, Rose, & Venugopal, 2008; Fitch, 2009; S&P, 2007). Age is positively related to financial risk (Cull, Demirgu¨ç-Kunt, & Morduch, 2007). There is a significant and negative relationship between age and the average asset size (Olivares-Polanco, 2005). The age-related to the average firm size (Cull et al., 2007) and workers' capacity to work at a particular age that risk notification methods suited to the specific abilities of workers, including their capacity to acquire knowledge, training conducted in recognition of reduced ability to acquire knowledge and skills that protection from higher risk-taking (Gorney & Salvendy, 2011).

Empirical Model Design

The study conducts a dynamic panel regression analysis to measure the influence of SSB characteristics on the risk-taking of IFIs in Bangladesh. "The regression analysis has used the simultaneous equation of risk-taking = *f* (Shariah supervisory board, scholars and financial expert in SSB) as independent variables and IFI's age as control variable impact risk-taking. In addition, credit and liquidity risk dependent variables. The study has examined the credit and liquidity risk by presenting the test of the hypothesis model among IFIs in Bangladesh.

Risk-Taking

The risk-taking is the aggregate risk of Credit risk and liquidity risk used in the previous study (Akbar et al., 2017; Mollah, Hassan, Farooque, & Mobarek, 2017).

$$Risk\ Taking = Credit\ risk + Liquidity\ risk \quad \text{……..…..…..... (1)}$$

Credit risk is the dependent variable and is measured using total assets and total liabilities. Credit risk is total loan to total assets (Hawileh, Abu-Obeidah, Abdalla, & AdilAl-Tamimi, 2015).

Liquidity risk is the dependent variable and is measured using the introduced financial gap ratio (Saunders & Cornett, 2007). Liquidity gaps= Logarithm of (Assets-Liabilities). On the other hand, liquidity risk is the ratio between liquidity assets to total assets (Al-sharif,2018; Al-Tamimi et al., 2015).

$$Liquidity = \frac{Liquidity\ Assets}{Total\ Assets} \quad \text{…… (2)}$$

The regression models are used in the study to determine the regression effects of IFIs. Equation 1 estimates the main effects of risk: corporate Governance Characteristics Index and risk-taking Among IFIs.

$$(i)RT_{i,n} = \alpha_0 + K_1Y_{i,n-1} + K_2Y_{i,n-2} + \beta_1 SSBS_{i,n} + \beta_2 + FEXP\_SSB_{i,n} + IFIs\ age_{i,n} + \mu_{i,n} + \varepsilon_{i,n} \quad (1.1)$$

SSBS= Shariah Supervisory Board Size, Financial Expert in SSB, β_1*=are the positive or negative coefficients of the explanatory variables,*$\varepsilon_{i,n}$*=is the error term (the time-varying disturbance term is serially uncorrelated with mean zero and constant variance).* μ_i *= unobserved variable.*

$K_1Y_{it-1} + K_1Y_{it-2}$ = Lag-1 and Lag-2 is proxy of dependent Variable.

DISCUSSION AND RESULT

Table 1. Descriptive Statistics of Credit and Liquidity risk for IFIs

Name of the Institution	CR	LR	Risk-Taking	Rank
Islamic Bank Bangladesh Ltd.	0.9194	0.1217	1.0411	4
ICB Islami Bank Ltd.	1.7951	-1.0588	0.7364	8
Al Arafa Islami bank Ltd.	0.9158	0.1467	1.0624	2
Social Islami Bank Ltd (SIBL)Ltd.	0.5716	0.1211	0.6927	9
Export-Import Bank (EXIM)Ltd.	0.9086	0.1202	1.0287	5

First Security Islami Bank Ltd.	0.9618	0.1000	1.0717	1
Shahajalal Islami Bank Ltd.	0.9216	0.1299	1.0514	3
Union Islami Bank Ltd.	0.8941	0.1220	1.0162	6
Islamic Insurance Bangladesh Ltd.	0.4386	0.1407	0.5792	10
Takaful Islami Insurance Ltd.	0.2056	0.0964	0.3020	11
Fareast Islami Life insurance Ltd.	0.1230	0.0583	0.1813	13
Padma Islami Life Insurance Ltd.	0.1857	0.0719	0.2575	12
Prime Islami Life Insurance Ltd	0.0887	0.0586	0.1472	14
Islamic Finance and Investment Ltd.	0.8367	0.0093	0.8460	7

Table 1 shows the combined risk-taking (CR and LR) of overall IFIs for the period from 2013 to 2018, where First Security Islami Bank Ltd. shows the highest risk-taking (1.0514) and Prime Islami Life Insurance Company Ltd shows the lowest risk (0.1472).

Table 2. Descriptive Statistics risk-taking of IFIs

	Descriptive Statistics				
	Obs	**Mean**	**Std. Deviation**	**Min**	**Max**
SSB_ size	84	0.4881	0.5028	0	1
Scholars -in SSB	84	0.1071	0.3111	0	1
IFI's Age	84	0.2143	0.4127	0	1
Lag_1	83	0.7417	0.3651	0.1205	1.091
Lag_2	82	0.7400	0.3670	0.1205	1.091
RT	48	0.7435	0.3634	0.1205	1.091

Table 2 shows the mean, std, minimum and maximum value of risk-taking of IFIs in Bangladesh. The mean score of risk-taking is 0.7435 during Std. Min and Max. value are 0.3633, 0.1205 and 1.0910 respectively. In the same way, the mean of SSB and Scholarchs are 0.4881 and 0.5029, respectively, and std. at the same time, min and max scores are 0.5029 and 0.3111, respectively. The maximum and minimum value is 1 and 0. Although the mean and standard values are less than the previous study, minimum and maximum values are relevant.

Table 3 presents the correlation matrix among the variables of this study. The high collinearity among variables influences econometric problems in that condition, while the correlation between the variables is 0.80 or higher. Table 3 shows that none of the scores are high enough to cause any potential collinearity problems, and it is unlikely to affect results Gujarati (2004).

Table 3. Correlation Matrix

	SSB_Size	*Scholars_SSB*	*_IFIs_age*	*RT*	*lag_1*	*lag_2*
SSB_Size	1					
Scholars_SSB	0.35476	1				
IFIs_age	0.18656	0.19431	1			
RT	0.00873	0.10123	0.18938	1		
lag_1	-0.046	0.15072	0.14436	0.93601	1	
lag_2	-0.0944	0.08765	0.08826	0.87502	0.93589	1

Table 3 shows the correlation among variables. The variables Risk-taking (RT) indicate that more than 80% reveal a better relation between risk-taking and lag_1 and Lag_2 variables. The relation between SSB size and scholars in SSB is below standard, indicating the risk of intense IFIs in Bangladesh.

Table 4. Multiple regression analysis

Number of Instruments 14 & Observation (N)=56

	RT	Z test	Std.Err.
L1. rt	0.6599723***	3.62	.1822723
(0.000)			
L2. rt	-0.20901587***	.002	.0690484
(0.021)			
age_dmy	-0.0052157	-0.04	.1457951
(0.971)			
SSB_Size	0.0030961	- 0.16	.0198259
(0.876)			
Scholars_SSB	0.0227819	1.76	.012918
(0.048)			

_cons	0.4256697***	4.06	.1048568
(0.000)			
N	56		

p-values in parentheses
* p<0.05, ** p<0.01, *** p<0.001

The study examines the effect of SSB characteristics on the risk-taking of IFIs in Bangladesh. Hence, SSB characteristics consist of two items such as SSB size and scholars or financial expertise in SSB. The SSB's characteristics are calculated based on 1 or 0 figure where RMC size is more than the median of sample than 0, otherwise 1, in the same manner, the scholars in SSB are more than 0.20 then 1 or otherwise 0. The 0 or 1 figure of the study contributes to constructing the panel on SSB characteristics. Table 4 shows the mean score of SSB size and scholars in SSB is around 0.4880952 and 0.1071429, respectively, which is inconsistent with the previous study. Table 4 multiple regressions analysis shows SSB size and risk-taking is insignificantly associated with risk-taking at $p < 0.876$ ($\beta = 0.0030961$, $z = -0.16$). This finding does not support hypothesis 1. A large board bears more cost than a small board but leads to less risk (Alman, 2012), which does not advocate that SSB is an effective governance mechanism for risk-taking.

This finding is also consistent with (Brown, Steen, & Foreman, 2009; Council, 2011). The study also shows a significant positive relationship between shariah scholars and risk (Alkdai & Hanefah, 2012). In terms of hypothesis 2, the table 4 multiple regressions analysis also shows that Scholars_ SSB and risk-taking are significantly positively associated with risk-taking at $p < 0.048$ ($\beta = 0.0227819$, $z = 1.76$). This finding supports Alman (2012) that Scholars_SSB is an effective governance mechanism that is also consistent with risk-taking.

CONCLUSION AND POLICY RECOMMENDATION

This study intends to examine the effects of Shariah Supervisory Board (SSB) characteristics and risk-taking among IFIs in Bangladesh. The study was based on a sample of 14 IFIs (Islamic Financial Institutions) for six years, from 2013 to 2018. The results were obtained using six-year panel data estimations; especially dynamic two steps systems GMM model is used that includes four (includes lag 1 & 2 variables), independent variables of SSB characteristics on risk-taking as the dependent variable. The results show that the first hypothesis, which examines that the size of the SSB is positive with insignificantly related to risk-taking, reveals a need to increase SSB size to recover the insignificant relationship between SSB size and risk-taking. The study also finds that Shariah scholars in SSB have a significantly positive relationship between SSB and risk-taking, indicating that the larger proportion of Shariah scalars in SSB effectively impacts the risk-taking of IFIs in Bangladesh. Thus, further research to examine the relationship between the availability of independent directors in the SSB and risk-taking practice must be undertaken in Bangladesh.

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REFERENCES

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

Ahmed, H. (2009). Financial crisis, risks and lessons for Islamic finance. *ISRA International Journal of Islamic Finance*, *1*(1), 7-32.

Ali, S. S. (2004, February). Islamic modes of finance and associated liquidity risks. In *conference on Monetary Sector in Iran: Structure, Performance & Challenging Issues, February, Tehran, Iran*.

Alkdai, H. K. H., & Hanefah, M. M. (2012). Audit committee characteristics and earnings management in Malaysian Shariah-compliant companies. *Business and Management Review*, *2*(2), 52-61.

Alman, M. (2012). Shari'ah supervisory board composition effects on Islamic banks' risk-taking behavior. *Journal of Banking Regulation*, *14*(1), 134-163.

Arellano, M., & Bover, O. (1995). Another look at the instrumental variable estimation of error components models. *Journal of econometrics*, *68*(1), 29-51.

Arvelo, M., Bell, J.-L., Novak, C., Rose, J., & Venugopal, S. (2008). Morgan Stanley's Approach to Assessing Credit Risks in the Microfinance Industry. *Journal of Applied Corporate Finance*, *20*(1), 124-134. doi:10.1111/j.1745-6622.2008.00175.x

Abdullah, A., Khan, A. Q., & Nazir, N. (2012). A comparative study of credit risk management: a Case study of domestic and foreign banks in Pakistan. *Academic Research International*, *3*(1), 371.

Askari, H., Iqbal, Z., Krichene, N., & Mirakhor, A. (2010). The stability of Islamic finance creating resilient financial environment for a secure future. *John Wiley and Sons(Asia)the stability of Islamic finance creating resilient, page-xvii)*.

Bakar, M. D. (2016). Shariah Minds in Islamic Finance. Amanie Media: Kuala Lumpur.

Baltagi. (2005). Econometric Analysis of Panel Data. John Wiley and Sons, Chichester.

Blundell, R., & Bond, S. (1998). Initial Conditions and Moment Restrictions in Dynamic Panel Data Models, *Journal of Econometrics*, *87*, 115-143.

Brown, I., Steen, A., & Foreman, J. (2009). Risk management in corporate Governance: A review and proposal. *Corporate Governance: An International Review*, *17*(5), 546-558.

Cheng, S. (2008). Board size and the variability of corporate performance. *Journal of financial economics*, *87*(1), 157-176.

Council, F. R. (2011). Boards and Risk–A Summary of Discussions with Companies. *Investors and Advisers, London: FRC*.

Cull, R., Demirgu¨ ç-Kunt, A., & Morduch, J. (2007). Financial performance and outreach: A global analysis of leading microbanks. *The Economic Journal*, *117*(517), F107-F133.

Fayed, M., & Ezzat, A. (2017). Do principal-agent conflicts impact performance and risk-taking behavior of Islamic banks? *Proceedings of Middle East Economic Association*, *19*(2), 32-67.

Fitch. (2009). *Microfinance – Testing its resilience to the global financial crisis*. New York:

Farook, S. Z., & Farooq, M. O. (2011). Shariah governance for Islamic finance: Challenges and pragmatic solutions. *Available at SSRN 1813483*.

Gujarati, D. N. (2004). Basic Econometrics. McGraw-Hill Companies. *New York, NY, USA*.

Gabrielsson, J., & Huse, M. (2005). Outside directors in SME boards: a call for theoretical reflections. *Corporate Board: role, duties and composition*, *1*(1), 28-37.

Gambin, L. (2004). Gender differences in the effect of health on wages in Britain. Retrieved from http://www2.eur.nl/bmg/ecuity/public_papers/ECuity3wp20GambinGenderhealthonincome.pdf.

Garas, S. N. (2012). The control of the Shari'a Supervisory Board in the Islamic financial institutions. *International Journal of Islamic and Middle Eastern Finance and Management*, *5*(1), 8 - 24.

Garas, S. N., & Pierce, C. (2010). Shari'a supervision of Islamic financial institutions. *Journal of Financial Regulation and Compliance*, *18*(4), 386-407.

Ghenimi, A., Chaibi, H., & Omri, M. A. B. (2017). The effects of liquidity risk and credit risk on bank stability: Evidence from the MENA region. *Borsa Istanbul Review*, *17*(4), 238-248.

Ginena, & Hamid. (2015). The Sharī'ah Supervisory board, in Foundations of Sharī'ah Governance of Islamic Banks, John Wiley & Sons, Ltd, Chichester, UK.

Gorney, A., & Salvendy, K. (2011). The Elements of Work Environment in the Improvement Process of Quality Management System Structure *Advances in Human Factors, Ergonomics, and Safety in Manufacturing and Service Industries, 599-606*.

Grassa, R. (2013). Shariah supervisory system in Islamic financial institutions: New issues and challenges: a comparative analysis between Southeast Asia models and GCC models. *Humanomics*, *29*(4), 333-348.

Grassa, R., & La Manouba, T. (2013). Shariah supervisory system in Islamic financial institutions New issues and challenges: a comparative analysis between Southeast Asia models and GCC models. *Humanomics "Emerald Group Publishing Limited*, *29*(4), 333-348.

Harris, M., & Raviv, A. (2008). A theory of board control and size. *The Review of Financial Studies*, *21*(4), 1797-1832.

Hawileh, R. A., Abu-Obeidah, A., Abdalla, J. A., & Al-Tamimi, A. (2015). Temperature effect on the mechanical properties of carbon, glass and carbon–glass FRP laminates. *Construction and building materials*, *75*, 342-348.

Hemmati, Y., & Vakilalroaia, Y. (2015). Study of Relation between Credit Risk Management of Paid Loans to Natural Customers and Overdue Receivables of Bank Mellat(Case study: Management of branches of Bank Mellat, Semnan province). *DU Journal, Humanities and Social Sciences*, *8*(4), 739-781.

Hermalin, B. E., & Weisbach, M. S. (2003). Boards of Directors As an Endogenously Determined Institution: A Survey of the Economic Literature. *Federal Reserve Bank of New York Economic Policy Review*, *9*(1), 7-26.

IFSB. (2014). Prospects and Challenges in the Development of Islamic Finance for Bangladesh.page(i-iv).

Jedidia, K. B., & Hamza, H. (2015). Determinants of liquidity risk in Islamic banks: A panel study. *Islamic Management and Business*, *2*(2), 137-146.

Kamali, M. H. (2008). Maqasid al-Shariah Made Simple (Vol. 13): IIIT.

Khan, T., & Ahmed, H. (2001). Risk Management An Analysis of Issues in Islamic Financial Industry. *Occasional Paper No. 5, IRTI, Islamic Development Bank, Jeddah - Saudi Arabia. Retrieved from http://www.sbp.org.pk/departments/ibd/Risk_Management.pdf*

Lahsasna, A. (2014). Shariah Issues and resolution in Cotemporary Islamic Banking And Finance. *publication:IBFIM,.page-18,chapter-1*.

Matsuda, N., & Matsuo, Y. (2017). Impact of MBA on entrepreneurial success: Do entrepreneurs acquire capacity through the program or does MBA only signal gifted talent and experience. *Journal of Entrepreneurship & Organization Management*, *6*(1), 1-7.

Mollah, S., Hassan, M. K., Al Farooque, O., & Mobarek, A. (2017). The Governance, risk-taking, and performance of Islamic banks. *Journal of financial services research*, *51*(2), 195-219.

Mollah, S., & Zaman, M. (2015). Shari'ah supervision, corporate Governance and performance:Conventional vs. Islamic banks. *Journal of Banking & Finance, 58*, 418–435.

Musibah, A. S., & Alfattani, W. S. B. W. Y. (2014). The mediating effect of financial performance on the relationship between Shariah supervisory board effectiveness, intellectual capital and corporate social responsibility, of Islamic banks in Gulf Cooperation Council countries. *Asian Social Science*, *10*(17), 139.

Nathan, S. (2010). The Performance of Shari'a Supervisory Boards Within Islamic Financial Institutions in The Gulf Cooperation Council Countries. *Virtusinter Press*, *8*(1), 247-266.

Olivares-Polanco, F. (2005). Commercializing microfinance and deepening outreach? Empirical evidence from Latin America. *Journal of Microfinance/ESR Review*, *7*(2), 47-69.

Pathan, S. (2009). Strong boards, CEO power and bank risk-taking. *Journal of Banking & Finance, 33*, 1340–1350.

Pindado, J., & Requejo, I. (2014). Panel data: A methodology for model specification and testing. In K. Paudyal, & C. L. Cooper (Eds.), Wiley encyclopedia of management (pp. 1–8) (3rd ed.). Location: Publisher.

Rammal, H. G. (2006). The importance of Shari'ah supervision in Islamic financial institutions. *Corporate Ownership and Control*, *3*(3), 204-208.

Ramzan, M., & Zafar, M. I. (2014). Liquidity risk management in Islamic banks: a study of Islamic banks of Pakistan. *Interdisciplinary journal of contemporary research in business*, *5*(12), 199-215.

Roodman, D. (2006). How to do xtabond2: An introduction to difference and system GMM in Stata. Center for Global Development, Working Paper No. 103.

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

Rao, S., & Dula, T. (2017). Corporate Governance, diversification, and risk management in commercial banks of Ethiopia. *International Journal of Commerce and Management Research*, *3*(2), 85-90.

S&P. (2007). *Microfinance: Taking Root In The Global Capital Markets*. Retrieved from New York:

Saunders, A., & Cornett, M. M. (2007). Financial Markets and Institutions: An Introduction to the Risk Management Approach, 2007, McGraw-Hill, Boston.

Sutrisno. (2016). Risk, Efficiency And Performance of Islamic Banking: Empirical Study on Islamic Bank in Indonesia. *Asian Journal of Economic Modelling*, *4*(1), 47-56.

Vazquez, F., & Federico, P. (2015). Bank funding structures and risk: Evidence from the global financial crisis. *Journal of banking & finance*, *61*, 1-14.

Wintoki, M., Linck, J., & Netter, J. (2012). Endogeneity and the dynamics of corporate Governance. *J Financ Econ*, 105, 581–606.

Wooldridge. (2002). Econometric Analysis of Cross-Section and Panel Data. MIT Press, Cambridge, Massachusetts, London.

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