Paradigms
Print ISSN 1996-2800, Online ISSN 2410-0854
2020, Vol. 14, No. 2 Page 180-188
DOI: 10.24312/20201402024

Does Shariah Governance eliminate default risk: A Shariah Governance index for Banking Sector

Zubair Arshad[1], Talat Hussain[2], M. Mahmood Shah Khan[3]
University of Management & Technology, Pakistan[1,2,3]
Corresponding author: zubair.arshad6@hotmail.com

Cite this paper: Arshad, Z., Hussain, T., & Khan, M. M. S., (2020). Does Shariah Governance eliminate default risk: A Shariah Governance index for Banking Sector. *Paradigms*, *14*(2), 180-188.

The study aims to evaluate the role of Shariah governance (SG) in dealing with the default risk of Islamic banks based on the shariah governance index. The study utilized a quantitative research design considering the sample of Islamic banks operating in Pakistan from 2008 to 2017. However, the panel was unbalanced due to the operational years of some banks. Considering the shariah board size, qualification, cross membership, reputation, expertise SG index was built, and data were analyzed using panel quantile regression. The results obtained from the SG index were used in quantile regression indicate a significant and negative on the default risk, meaning that the SG's competency can reduce the default risk of the Pakistani Islamic banks. The research was limited to the geographical bounds of Pakistan. In furtherance, this study used a quantitative method of assessment only. This study has provided a Shariah Governance Index in the context of Islamic banks operating in Pakistan. Therefore, the results can be utilized by Islamic banks' management to improve the members recruited in the SG board.

Keywords: Shariah Governance Index, default risk, Islamic banks, Banking Sector.

INTRODUCTION

The repercussions of the global financial crisis in 2007 shifted the focus from conventional banking to Islamic banking as the former was less resilient during the crisis (Ahmed, 2013). However, a study conducted by IMF (2010) did a comparative analysis. It revealed that, in real terms, the losses experienced by the Islamic banks were much more substantial than their conventional peers. Yet, due to stability, it started becoming popular, especially in the Middle East. Alexakis et al. (2019) have explained that the Islamic banking system fares distinctively from the conventional one where the former is based on profit ratios. The latter focuses on the cost. The study further stressed that the risk management practices prevailing in Islamic banks are some of the significant drawbacks hurting the aggregate profitability, and this phenomenon became more pristine during the crisis. The banks, irrespective of their system, experienced various supervisory and regulatory challenges. Since Islamic finance is at an emerging stage, the academicians and researchers focus on finding evidence from multiple countries.

Another differing aspect of Islamic finance is the governance body and the underlying rules (Safiullah, & Shamsuddin, 2018). The study of Buallay (2019) professed that Islamic finance is fuelled by the Shariah-based rules that are devised in the light of the Quran and Hadith. Therefore, for an Islamic organization, it is a mandatory requirement to abide by the rules and declare itself a Shariah-compliant organization. Contrarily, in conventional finance or banking system, the authority to all stakeholders is limited, whereas, in Islamic banking, the preference is given to all stakeholders irrespective of the fact that those are shareholders or not. Various studies have stated that this phenomenon resolved many conflicts amongst the stakeholders and the company. Therefore, conventional banks have corporate governance bodies, whereas Islamic banking relies on Shariah Governance.

Concerning another distinctive feature, in Islamic finance or particularly banking, interest amount, referred to as 'Riba,' is strictly prohibited (Nomran, Haron, & Hassan, 2017). Instead, Islamic banking is regarded as securer than conventional banking as it relies on asset-backed banking (Kayed and Hassan, 2011). In furtherance, the idea of risk-sharing is promoted in Islamic banking, and as a rule of thumb, the loss is divided based on the percentage of investment while profit is shared based on the agreed ratio (Ginena & Hamid, 2015). Here, the Shariah governance role comes to play where it is obliged to investigate the Islamic Banking Institutions (IBIs) for the extent of Shariah-compliance and to ensure smooth functioning of IBIs under the Shariah-compliant rules. In this concern, Mizushima (2014) has indicated that little evidence supports the claim that Shariah governance significantly affects its performance.

The gap highlighted above widens when it comes to a developing state like Pakistan. It has been reported by Iqbal (2019) that the market share of IBIs in Pakistan grew to 14.4% in June 2019 from 12.9% in June 2018, and it is anticipated to produce more. Besides, in Pakistan, the Shariah Governance Framework (SGF) is devised and introduced by the central bank, which is the State Bank of Pakistan (SBP) (Ayub, 2019). Therefore, the prime purpose of SGF is to ensure IBIs operating in Pakistan abide by Islamic rules. However, Ayub (2019) has also reflected on the weaknesses of the SGF revised in 2015 to improve the banks' performance. In this concern, there is a lack of empirical evidence regarding the effect of SGF and its related indicators on the banks' performance. Nonetheless, it has been highlighted already in the above statements that risk management of IBIs is questionable. Therefore, instead of performance, this research intends to undertake another dimension, which is default risk.

However, another gap identified in the literature is the absence of the Shariah governance index. The study carried out by Tarchouna, Jarraya, and Bouri (2017) formulated a Corporate Governance Index (CGI) using various US commercial banks' indicators. Therefore, this research also intends to develop an index for Shariah governance. However, to further broaden this study's scope, the authors have considered firm-specific and macro-economic variables to determine their effect on Islamic banks' default risk operating in Pakistan. The research conducted by Castro (2013) and Koju, Koju, and Wang (2019) presented evidence where macro-economic variables and some bank-specific constructs were significant in banks' performance. Highlighting all the problems, the following study aims to address and fill all the mentioned gaps in Pakistan's context. Hence, the study seeks to evaluate Shariah governance's role in managing Islamic banks' default risk, particularly in Pakistan. Following are the set of objectives designed for this study:

- To construct a Shariah Governance Index (SGI).
- To explore the possible Shariah Governance (SG) indicators related to default risk in Islamic Banks.
- To investigate the role of bank-specific variables on default risk in Islamic banks.
- To study the role of macroeconomic determinants on default risk in Islamic banks.

The underpinning objective of current study is to assess the role of shariah governance towards the elimination of default risk. The current study intent to develop a shariah governance index using secondary data collected from the annual reports of banks operating in Pakistan. The current study employed the structural equation modelling technique for the computation of corporate governance index.

LITERATURE REVIEW

Corporate Governance

The notion of corporate governance has been extensively discussed in previous research (Choudhury and Hoque, 2019; Dimopoulos and Wagner, 2016). However, there is no consensus on corporate governance, which means different organizations' views are modified per their main goals and objectives. According to Buallay, Hamdan, and Zureigat (2017), corporate governance can be regarded as a model that identifies how investors control managers' actions and how roles and responsibilities are divided among managers and owners. As per the study of Aguilera and Crespi-Cladera (2016), for corporations to enlarge the flows of investment and increase profitability, they need to gain managers, investors, and owners' interests and find the right ways to maintain the proper balance among them. This is closely associated with an effective corporate governance system, in which investors are assured of receiving sufficient returns on their investments. According to the study of Aguilera, Judge, and Terjesen (2018), corporate governance is commonly viewed as a complicated process that involves social, motivational, economic, legal, and organizational tools. Combining all these tools offers a unique working environment, enabling the corporations to minimize costs by decreasing the gap between owners' and managers' interests.

Shariah Governance

According to Salim, Kunhibava, and Lim (2014), effective corporate governance is a crucial component of Islamic banking corporations' supremacy. The same study argues that forming the most suitable organizational governance framework is highly important for differentiating Islamic financial institutions from well-known organizations. In this context, Islamic banking organizations are needed to follow and ensure their practices with Shariah principles. Hence, Shariah governance's presence plays a decisive role in ensuring that all the organizations' activities are carried out effectively by aligning them with Shariah principles. Similarly, as per the study of Chowdhury and Shaker (2015), Shariah governance is considered an essential CG element, and it is uncharacteristic to the Islamic finance and banking system. Thus, the Islamic financing and banking system holds the responsibility to ensure Shariah's principles with banking management, practices, operations, instruments, and products. Under the study of Grassa (2016), Shariah governance's framework is recognized as the set of organizational measures, enabling the Islamic financial institutions to ensure the effective accountability and responsibility of all the directors within the board of governance Shariah and management committee.

Significance of SG

The significance of Shariah governance has been widely accepted and well recognized in previous studies. As mentioned in the review of Mohamad, Muhamad Sori, and Shah (2015), Shariah governance is often regarded as the central pillar of Islamic financing and banking, providing legitimacy to the Islamic banking and financing practices. The presence of Shariah governance also plays a pivotal role in increasing the shareholder's and public's confidence by ensuring that each practice and operation of the bank are aligned with Shariah (Alam et al., 2019). As per the same study, the non-existence of Shariah compliance negatively influences public confidence towards Islamic banking and finance, but it can also uncover Islamic financial institutions to different risks like reputational risks and fiduciary risks. This is also consistent with the study of Muhamad and Sulong (2019), according to which Shariah governance's inability to make sure amenability with Shariah principles. It can negatively influence Islamic financial institutions' reputation, which can eventually weaken the stakeholders, customers, investors, and depositors in the long-term.

Sharia governance's proper framework is considered the only way for Islamic institutions to ensure compliance with Shariah Principles. According to Sori, Mohamad, and Rasid (2017), financial institutions have shown significant progress and growth over the years, increasing the governance system's importance. It depicts the overall performance of institutions. The incorporation of Shariah governance in the Islamic financial institutions serves the primary purpose of offering Islamic practices as religious obligations. In this regard, Shariah governance's framework should be comprised of proper Shariah regulation, which is conducted by the Shariah committee members, who are made responsible for carrying out different duties. Like conducting the Shariah review and audit, advising the board, and enabling the implementation of all the Shariah principles in various operations of IFIs (Zain & Shafii, 2018).

Theories Supporting SG

Various theories are extensively discussed in the existing literature to support the concept of corporate governance, including legitimacy theory, agency theory, resource dependence theory, and stakeholder theory. However, the notion of Shariah governance is mainly supported by stakeholder and social contract theory (Buallay, 2019). The stakeholder theory is commonly viewed in the context of a firm's responsibilities towards the community. According to Albasu and Nyameh (2017), stakeholder theory holds that organizations must focus on creating value for their shareholders and fulfill all the stakeholders' interests and be the main priority of the organizations. The same study recognizes stakeholders as groups of people who can be affected or affect the business operations to accomplish the primary business objectives. The survey conducted by Mohammed and Muhammed (2017) argues that associating the stakeholder theory with the fundamental aspect for the performance-governance association, there is a need to form allowance in the framework for the Shariah governance, which should be associated with the core principles of supervision and accountability in Islamic law. In this regard, its primary purpose is to forbid the religious board members to comply with their decisions to suit shareholders' and managers' interests better. Instead, the role of board members must be aligned with the Shariah principle. Hence, to Shariah governance, some issues are linked with an agent-based view, whereas stakeholder theory offers a better understanding board's position in Shariah governance.

On the other hand, the social contract theory views social responsibility as the most critical responsibility that corporations must fulfill for the society and community (Jusoh, 2020). The study conducted by Bouteraa, bin Raja Hisham and Zainol (2020) explains the theory of social contract as the most appropriate way for managers and directors to make ethical decisions by fulfilling all the obligations concerning supporting local communities. According to Hussain (2013), social contract theory can be applied to Shariah governance. People surrender or give up some of their freedom to provide Shariah governance authority to impose Islamic principles on them.

SG Index and Default Risk

Islamic banking operations are exposed to several operational risks, including regulatory and compliance risks, third party risk, and credit risk (Radzi and Lonik, 2017). However, according to the study of Grassa (2016), IFIs usually are faced with several types of risk, but default risk is considered one of the significant risks. The same study explains default risk as a risk that a lender bears on the probability that a debtor might be unable to fulfill its debt obligations by making the required payments. As per the study of Saad, Haniff, and Ali (2019), IFIs are commonly not allowed to charge any fines, as this type of practice is frequently viewed as non-compliant with Shariah principles. In this regard, the default risk tends to be quite different from IFIs. Some of the most common solutions for eliminating such risks include additional personal and collateral assurances. However, incapability to enforce fines often leads to creating repayment delays. Thus, it increases the loss of opportunity costs for IFIs. In this regard, the concept of credit ratings is considered the most useful default risk indicator. It analyses the chances that the issuer or borrower will meet all its obligations.

The SG index is considered highly important for IFIs to ensure compliance with Shariah principles and promote transparency, accountability, and equality, which ultimately affect the banks' default risk. In this concern, specific characteristics associated with the SG board are considered relevant (Nomran, Haron, and Hassan, 2017). According to Shafii, Mohammed, and Salleh (n.d), education is critical for SG variable variables. Most Islamic banks require Shariah board members to be experienced and qualified in Islamic banking Fiqh Muamalat. Another study conducted by Safiullah and Shamsuddin (2018) identifies board size as one of the most important SG board components. It determines the board's ability to advise and monitor management. The same study recognizes the effectiveness of large board size for complex and large firms, which also promises to influence the board's capability in enhancing Shariah screening of loan strategies, policies, and quality.

On the other hand, board members' educational qualifications and SG board expertise are also considered essential for the Shariah Governance board. As mentioned in the study of Nomran, Haron, and Hassan (2017), well-educated board members tend to enhance the board's quality. It enhances its capability to deal with different challenges. Following the same study, besides education and experience, the reputation of members also holds enormous significance. It is viewed as human capital, which contains the potential to improve firm performance.

Discussion on variables done above and their association with the default risk, the following hypothesis has been constructed:

***H1**: Shariah governance has a significant effect on the default risk in Islamic Banks.*

Bank Financial

Profitability and Default Risk

The association between default risk and banks' profitability is well recognized in the existing literature. According to Saeed and Izzeldin (2016), default risk is also often regarded as credit risk, which is explained as the type of risk linked with the financial loss due to the counterparty's failure to meet all the obligations in the contract. The study conducted by Boahene, Dasah, and Agyei (2012) found that low loan processing, a growing level of non-performing loan rates, absence, or inadequate loan collaterals, among other things. Undue interfering in loan granting is one factor that can negatively impact default risk management, which eventually causes a negative influence on banks' profitability. Similarly, as per Sun and Cang (2018) study, non-performing loans are among the most crucial variables for default risk. As in a situation where non-performing loans go high, the provision of assets tends to be not higher enough to safeguard the financial institution against the default risk. Apart from that, there is enough evidence presented in the existing literature that confirms the significant association between a bank's profitability and default risk. Concerning the discussion on profitability and default risk, the following hypothesis has been constructed:

***H2**: Profitability has a significant effect on the default risk in Islamic Banks.*

Leverage and Default Risk

The notion of leverage in financial terms is commonly referred to as the use of debt that companies made to finance the borrowed assets with the expectation that capital gain or income from new assets will surpass borrowing costs (Davis, Karim, & Noel, 2019). Some of the studies have identified a level of leverage as one of the most critical default risk indicators. As mentioned in the study of Hood (2016), there is a significant association between leverage and default risk; banks with more leverage are exposed to higher probabilities towards dropping the bank's value at its default point. Similarly, the study conducted by Cathcart et al. (2020) recognizes the significant and negative association between leverage and default risk. As per the same study, it is evident that higher leverage always leads to higher default risk; however, this impact of leverage on default risk can vary among different banks based on some other components. In this concern, the following hypothesis has been developed:

***H3**: Leverage has a significant effect on the default risk in Islamic Banks.*

Bank Characteristics

Bank Age and Default Risk

There is a lack of evidence in the existing studies about the association between bank age and default risk. As per the general view, bank age is viewed as several years from which the bank has carried out its operations in the market (Kagecha, 2016). Several studies have recognized the significant relationship between bank age and bank performance (Ahmadyan, 2018; Al-Baidhani, 2013); however, there is no proof regarding bank age's influence on default risk. Thus, it is imperative to find the association between bank age and default risk to make a valuable contribution to the existing body of literature (Imtiaz, et al., 2019). Age is commonly recognized as an essential aspect of a bank that can positively influence the operational effectiveness; however, the study carried out by Nomran, Haron, and Hassan (2020) argued that operational efficiency and upward trends in the business are not subjected to the size of that organization. By provided description, the following hypothesis has been made:

***H4**: The Age has a significant effect on the default risk in Islamic Banks.*

Size and Default Risk

According to Irawati and Maksum (2018), restricting bank size to ensure stability in the financial system has been a significant concern for bank regulations and supervision. Bank size has often been regarded as one of the essential components of a bank that can affect its different operational activities. The study conducted by Varotto and Zhao (2018) identifies a significant association between bank size and default risk, as bank size plays a vital role in bringing stability in the business. The same study identifies the increase in bank size to positively influence liquidity risk, credit risk, financial structures, and profitability. Similarly, as per the survey of Adusei (2015), when there is an increase in bank size, it ultimately positively impacts return volatility. This also depicts the positive and significant association among default risk and bank size. In this essence, the following hypothesis has been constructed:

***H5**: Size has a direct and significant effect on the default risk in Islamic Banks.*

Macroeconomic Determination

Interest Rate and Default Risk

When it comes to the macroeconomic determinants, the interest rate is regarded as one of the most critical factors influencing different banking operations. As mentioned in the study of González-Aguado and Suarez (2015), the increase in interest rates can increase the default risk and leverage for the firms that are highly in debt. According to Ahmad (2020), the short term's low-interest-rate can motivate bank risk-taking and diminishes the default risk of outstanding loans. In contrast, default risk can go high when interest rates return or increase above the average level after being significantly low for the long-term. Hence, there is a clear association among interest rate and default risk, and this leads to the formation of the following hypothesis:

***H6:** Interest Rate has a significant effect on the default risk in Islamic Banks.*

RESEARCH METHODOLOGY

Study Population, Sample

Since this study's scope has been restricted to Pakistan, the researcher has selected 5 Islamic banks over which the research investigation was conducted. The banks that have been undertaken for this study include Meezan bank, Albarakah Islamic Bank, Bank Islami, Dubai Islamic Bank, and Muslim Islamic Bank. The data collected from all these banks have allowed the researcher to identify all the trends and better interpret research findings. The researcher in this study has utilized the bank's last ten years of data from 2008 to 2017. However, some of the selected banks had less than ten years of bank age. Thus, only the available data of those banks have been gathered.

Moreover, this sample has been chosen based on specific criteria, including confirming that all the essential information is available of all the selected banks in each period. There must be no contradictions in the data from different sources, and it must be available in the most authentic sources. This has allowed the researcher to ensure the authenticity of the research outcomes, one of the major concerns for researchers in collecting secondary sources' information.

DATA COLLECTION METHOD

The appropriate selection of method for collecting research data is highly dependent on the study's nature and the type of questions that are needed to be answered. Therefore, considering the study's nature, the researcher has opted for gathering data from secondary sources, as all the required information related to all the main variables of the survey was available in the secondary literature. In this regard, the data pertaining to all the selected Islamic banks was gathered from the banks' annual reports and websites to gather the most reliable and authentic data (Sajid & Saleem, 2019). The researcher in this study has also made use of different secondary sources like journals, articles, online articles, books, and websites. The incorporation of all these sources has allowed the researcher to gather comprehensive information about the research topic. This also helps validate research findings, as it allowed the researcher to compare the results of all selected banks with the outcomes of previous studies to find consistencies and contradictions in the results. Moreover, as mentioned in the previous section, the 10 years of data have been collected which was enough to analyse trends and gain the required information about all the selected banks.

Measurement of dependent and independent variable

To accomplish the study's main purpose, the researcher has ensured to take the right measurements to analyse both the study's independent and dependent variables. The dependent variable of this study was default risk. In contrast, independent variables involve Shariah board qualification of Islamic study, Shariah board size, Shariah board qualification of fiqh, Shariah board cross membership, Shariah board reputation, Shariah supervisory board expertise, leverage, profitability, age, interest rates, and size. The table presented below highlights the definitions and measurement of all the variables.

Table 1: *Measurement of Variable*

Variable	Definition	Measurement	References
Dependent Variable			
Default Risk (DR)	The risk that the debtor would fail to pay off the debt is regarded as default risk	NPF ratio as a proxy for default risk in the banking The NPL ratio measures it by dividing the total number of impaired loans bank detained by the loans net amount.	(Balasubramnian, Palvia and Patro, 2019; Al-Rahahleh, Ishaq-Bhatti and Najuna-Misman, 2019)
Independent Variables			
Shariah Board Size (SSBSize)	Number of members in Shariah Board	Number of members	(Safiullah, and Shamsuddin; Nomran and Haron, 2020)
Shariah Board Qualification of Islamic study (SSBQ1)	Shariah Board qualification if any Shariah board have Islamic study and Bs Shariah in Law we consider Q1	SSB academic qualifications are the total SSB members with BS Shariah in Law, as a proportion of the total SSB members	(Nomran, Haron and Hassan, 2017; Kasi and Muhammad, 2018)
Shariah Board Qualification Of Fiqh (SSBQ2)	Shariah Board Qualification means is that if any Shariah Board have Education of Fiqh and LLM we consider by Q2	SSB academic qualifications are the total SSB members have Education of Fiqh and LLM, as a proportion of the overall SSB members	(Saeed and Saeed, 2018; Mollah and Zaman, 2015)
Shariah Board cross Member Ship (SSBCM)	Shariah Board have cross membership like set in other banks etc as a Shariah member	Dummy Variable	(Rahman and Haron, 2019; Nomran, Haron and Hassan, 2017)
Shariah Board Reputation (SSBR)	Shariah Board Scholars who sit on board AAOIFI or have a membership of other IFIs, IFSB, Arty	Percentage of the total internationally known Shariah scholars on the SSB, as a proportion of the total SSB members of a bank.	(Hassan et al., 2018; Nomran, Haron and Hassan, 2017)
Shariah Supervisory Board expertise (SSBEx)	Shariah Board Scholar Have Education about Finance and accounting etc. we consider SSB Expertise	SSB members have Education Finance and accounting, as a proportion of the total SSB members	(Muda, 2017; Mollah and Zaman, 2015; Nomran, Haron and Hassan, 2017)
Profitability (ROA)	Return on assets expresses the net income earned by a company as a percentage of the total assets available for use by that company	Net income/ average total assets	(Trad, Trabelsi and Goux, 2017; Nomran, Haron and Hassan, 2017)
Leverage (LEV)	Amount of debt held by the company	Debt/equity	(Oketch, Namusonge and Sakwa, 2018; Saeed and Saeed, 2018)
Age (A)	Operational years	Number of operational years	(Kagecha, 2016; Nomran, Haron and Hassan, 2017)
Size (S)	Total assets owned by the company	Total assets as a proxy of size	(Daly and Frikha, 2017; Nomran, Haron and Hassan, 2017)
Interest Rate	For utilising the asset, a lender charges an amount which is determined in percentage	A defined percentage of the principal amount to be taken from the debtor.	(González-Aguado and Suarez, 2015)

Data Analysis Technique

As the research aims to devise an index for Shariah governance, therefore, it uses Principal Component Analysis (PCA) primarily where the Shariah governance indicators have been used. Secondly, the effect of the constructed indicator has been tested using a dynamic panel data analysis approach. The researcher's specific approach to determine the effect of SG index and other control variables is quantile regression for dynamic panel data. The research conducted by Lê Cook and Manning (2013) explained that one of the major merits of using quantile regression is that it does not assume the data to be normally distributed and it can be implemented when the data violates the basic assumptions of parametric tests. Hence, it can be deemed as an important and effective non-parametric approach to evaluate the associations and effect of one or more variables on others. Underpinning the arguments associated with quantile regression, this study's researcher has utilised to determine the effect of SG index, its variables and control variable on the default risk of Islamic banks operating in Pakistan. Besides quantile regression, the researcher has also used descriptive statistics for general comprehension of the variables based on the five Pakistani Islamic banks' overall data.

Results and Findings

This section presents the results following the analysis conducted on the data described in the previous section. Therefore, this section particularly includes the estimation results from the panel quantile regression and descriptive statistics. In addition, it also includes a summary of the proposed hypotheses in relation to the obtained results.

Descriptive Statistics

This section includes discussion on the variables' descriptive statistics, including mean and standard deviation as central tendency and dispersion measures respectively. In accordance with the results presented in Table , it can be asserted that the average default risk concerning Islamic banks operating in Pakistan is 5.8% with a deviation of 5.4%. In terms of members in Shariah board, an average of 3 members is computed with a deviation of 1.5. Concerning the qualification in Islamic study, 12.5% of members are qualified with a deviation of 16.3%, which depicts a high deviation. In the context of qualification of the members related to Fiqh, the case is similar to Islamic study, which means 12.5% and a standard deviation of 16.3%. In terms of reputation, the average is computed to be high and it is calculated to be 56.4% with a deviation value of 27.3%. However, concerning the expertise, 16.6% are found to be expert in Pakistani Islamic banks while deviation is computed to be 17.2%. Moreover, the average ROA is 0.6% depicting weak profitability which is dispersed by 0.6% as well. The average leverage is computed to be 0.094 with a deviation value of 0.080. In the context of size, the average total assets are computed to be PKR 126 million with a deviation of PKR 164 million. The mean age is calculated to be 10.7 years having a deviation value of 7.7 years. This shows the inconsistency in the operational years of Islamic banks in Pakistan. Lastly, the macroeconomic determinant considered in this study is the interest rate and its average value over the last 10 years is computed to be 9.56% and the deviation is 2.5%.

Table 2: Descriptive Statistics

Variables	Mean	Std. Dev.
NPL/ Gross Advances	0.058	0.054
Shariah Board Size	3.100	1.502
Shariah Board Qualification of Islamic study	0.125	0.163
Shariah Qualification of Fiqh	0.125	0.163
Shariah Board Cross Member Ship	0.179	0.231
Shariah Board Reputation	0.564	0.273
Shariah Supervisory Board Expertise	0.166	0.172
ROA	0.006	0.006
Leverage	0.094	0.080
Total Assets (Size in PKR)	126,000,000	164,000,000

Age	10.720	7.704
Interest Rate	9.560	2.521

Panel Quantile Regression Estimation Results

Firstly, the researcher of the study developed a Shariah Governance (SG) Index using PCA technique. The SG index was developed using all the SG indicators into account. Following the formation of the SG index, the researcher used this to determine the effect of Shariah governance on the default risk of Islamic banks in Pakistan cumulatively. Therefore, in this concern, the Model 1 presented in *Table 1* sows the effect of SG index on the default risk. The effect is computed to be negative [B= -0.003; p-value< 0.01]. The effect is also statistically significant, and this has been inferred because the p-value is below the significance threshold of 1%. The negative coefficient indicates that the more prudent the SG governance is, the lower the default risk would be. In addition, Model 1 also includes the effect of profitability which is negative, however, it is statistically insignificant. Besides, the impact of leverage [B= -0.085; p-value< 0.01] and size [B= -0.020; p-value< 0.01] is calculated to be negative and significant which means that the more the bank is geared and large, the lesser would be the chances of default risk. Concerning interest rate [B= 0.005; p-value< 0.01] and age [B= 0.005; p-value< 0.01], the effect is positive and significant indicating that more interest rate and operational years would lead to more default risk.

In Model 2, the variables used to construct SG index have been tested separately. However, SSBQ2 has been dropped and considered later due to multicollinearity. The results in *Table 1* indicate that the effects of SSBSize [B= 0.024; p-value< 0.01], SSBCM [B= 0.196; p-value< 0.01], interest rate [B= 0.008; p-value< 0.01] and age [B= 0.002; p-value< 0.05] are statistically significant and positive on the default risk. Besides, the effects of SSBQ1 [B= -0.171; p-value< 0.01], SSBEx [B= -0.098; p-value< 0.01] and leverage [B= 0.351; p-value< 0.01] is computed to be statistically negative and significant. The negative sign indicates that the default risk can be lowered if these metrics are improved whereas, positive sign is indicating that those metrics should not be increased to curb the default risk.

In Model 3, SSBQ2 is used instead of SSBQ1 and the results indicate that all the variables are statistically significant. The effect of SSBSize [B= 0.039; p-value< 0.01], SSBCM [B= 0.192; p-value< 0.01], interest rate [B= 0.012; p-value< 0.01] and age [B= 0.001; p-value< 0.05] are statistically significant and positive on the default risk. On the other hand, the impact of SSBQ2 [B= -0.138; p-value< 0.01], SSBR [B= -0.059; p-value< 0.01], SSBEx [B= -0.045; p-value< 0.01], ROA [B= -0.561; p-value< 0.01], leverage [B= -0.497; p-value< 0.01] and size [B= -0.008; p-value< 0.01] is computed to be negative yet statistically significant. The results have been presented in *Table 1*.

Table 1: Panel Quantile Regression Models

Dependent Variable: NPL/ Gross Advances			
Variables	**Model 1**	**Model 2**	**Model 3**
SG Index	-0.003***		
Shariah Board Size		0.024***	0.039***
Shariah Board Qualification of Islamic study		-0.171***	
Shariah Qualification of Fiqh			-0.138***
Shariah Board Cross Member Ship		0.196***	0.192***
Shariah Board Reputation		0.023	-0.059***
Shariah Supervisory Board Expertise		-0.098***	-0.045***
ROA	-0.021	-0.257	-0.561***
Leverage	-0.085***	-0.351***	-0.497***
Size	-0.020***	-0.019	-0.008***
Interest Rate	0.005***	0.008***	0.012***
Age	0.005***	0.002**	0.001***

***: indicating significance at 1%; **: at 5%;

Summary of Hypotheses

In light of the analysis conducted using quantile panel regression, the hypotheses proposed earlier have been summarised in *Table 2*. This shows that all the hypotheses have been accepted except for H5 underpinning bank size's impact on the default risk of Islamic banks operating in Pakistan.

Table 2: *Hypotheses Assessment Summary*

Propositions	Accepted
H1: Shariah governance has a significant effect on the default risk in Islamic Banks.	Accepted
H2: Profitability has a significant effect on the default risk in Islamic Banks.	Accepted
H3: Leverage has a significant effect on the default risk in Islamic Banks.	Accepted
H4: Age has a significant effect on the default risk in Islamic Banks.	Accepted
H5: Size has a direct and significant effect on the default risk in Islamic Banks.	Rejected
H6: Interest Rate has a significant effect on the default risk in Islamic Banks.	Accepted

Discussion and Conclusion

The results inferred that SG governance is an integral part of all the Islamic banks operating in Pakistan. The indirect association indicated that if the banks start working on the enhancement in the characteristics of the Shariah board, the likelihood of the default risk will drop. This becomes more crucial with the size of the SG board and SG cross-membership. The board's size should not be increased whereas the percentage of cross-member should also be maintained properly. The results in this context of significance are consistent with the studies of Safiullah, and Shamsuddin; Nomran and Haron (2020); Rahman and Haron (2019); Nomran, Haron and Hassan (2017). On the other hand, the board members associated with SG of Islamic banks in Pakistan should be qualified in Shariah Law and Fiqh while having finance and accounting expertise would further help mitigate the default risk linked with the Islamic banks. In this aspect, the results are congruent with various studies. For instance, the research of Muda (2017); Mollah and Zaman (2015); Nomran, Haron and Hassan (2017); Kasi and Muhammad (2018); Saeed and Saeed (2018). This implies that the management of the bank should recruit expert and qualified professionals in the SG board and should work on enhancing their skills more which can ultimately benefit the banks to mitigate the default risk. In addition, the control variables were also found to be significant, however, the banks cannot control some of them, for instance, interest rate. Nonetheless, the strategy can be framed to alleviate such unsystematic risk. In furtherance, managing profitability can also advantageous for the Islamic banks of Pakistan in the long run. Conclusively, the results have proved that the SG board's significance in managing default risk in Islamic banks of Pakistan is inevitable.

Limitations and Future Research Directions

Despite the wide scope of this study, it has certain limitations that can be addressed in the future. Firstly, it is limited to the geographical bounds of Pakistan, therefore, in future, other countries can be targeted, for instance, Malaysia, Turkey etc. Secondly, it has undertaken Islamic banks only, therefore, for the future researchers, it has an implication where they can conduct a comparative analysis between corporate governance and Shariah governance. Thirdly, the research underpinned quantitative assessment only, thus, the underlying causes could not be explored regarding the variables' behavior. This opens the doors to study the phenomenon qualitatively as well in future.

Policy Implication

The findings of current study provide the policy implications to banks, regulatory authorities (state bank of Pakistan), and policy makers to consider the findings of current study provides that evidence that shariah governance indicators significantly eliminate the default risk. Hence, policy makers, regulatory authority, and banks at individual level need to consider the role of Shariah and corporate governance indicators towards the elimination of default risk.

REFERENCES

Adusei, M., 2015. The impact of bank size and funding risk on bank stability. *Cogent Economics & Finance*, *3*(1), 1111489.

Aguilera, R.V. and Crespi-Cladera, R., 2016. Global corporate governance: On the relevance of firms' ownership structure. *Journal of World Business*, *51*(1), 50-57.

Aguilera, R.V., Judge, WQ and Terjesen, S.A., 2018. Corporate governance deviance. *Academy of Management Review*, *43*(1), 87-109.

Ahmad, N.H., 2020. Multi-country study of bank credit risk determinants. *International Journal of banking and Finance*, *5*(1), 135-152.

Ahmadyan, A., 2018. Measuring credit risk management and its impact on bank performance in Iran. *Marketing and Branding Research*, *5*(1), 168-183.

Ahmed, H. ed., 2013. *Islamic banking and financial crisis: Reputation, stability and risks*. Edinburgh University Press.

Alam, M.K., Ab Rahman, S., Mustafa, H., Shah, S.M. and Hossain, M.S., 2019. Shariah governance framework of Islamic banks in Bangladesh: Practices, problems and recommendations. *Asian Economic and Financial Review*, *9*(1), 118.

Al-Baidhani, A.M., 2013. The effects of corporate governance on bank performance: Evidence from the Arabian Peninsula. *SSRN Electronic Journal*, *2013*(1), 1-31.

Albasu, J. and Nyameh, J., 2017. Relevance of stakeholders' theory, organizational identity theory and social exchange theory to corporate social responsibility and employee's performance in the commercial banks in Nigeria. *International Journal of Business, Economics and Management*, *4*(5), 95-105.

Alexakis, C., Izzeldin, M., Johnes, J. and Pappas, V., 2019. Performance and productivity in Islamic and conventional banks: Evidence from the global financial crisis. *Economic Modelling*, *79*, 1-14.

Al-Rahahleh, N., Ishaq-Bhatti, M. and Najuna-Misman, F., 2019. Developments in risk management in Islamic finance: A review. *Journal of Risk and Financial Management*, *12*(1), 37.

Ayub, M., 2019. Strengths, gaps and issues in Shari'ah governance framework 2015 for IBIs in Pakistan. In *research in corporate and Shari'ah governance in the Muslim world: Theory and practice*. Emerald Publishing Limited.

Basiruddin, R. and Ahmed, H., 2019. Corporate governance and Shariah non-compliant risk in Islamic banks: evidence from Southeast Asia. *Corporate Governance: The International Journal of Business in Society*, *20*(2), 240-262.

Boahene, S.H., Dasah, J. and Agyei, S.K., 2012. Credit risk and profitability of selected banks in Ghana. *Research Journal of finance and accounting*, *3*(7), 6-14.

Bouteraa, M., bin Raja Hisham, RRI and Zainol, Z., 2020. Green Banking Practices from Islamic and Western Perspectives. *International Journal of Business, Economics and Law*, *21*(5), 1-11.

Buallay, A., 2019. Corporate governance, Sharia'ah governance and performance. *International Journal of Islamic and Middle Eastern Finance and Management*, *12*(2), 216-235.

Buallay, A., Hamdan, A. and Zureigat, Q., 2017. Corporate governance and firm performance: Evidence from Saudi Arabia. *Australasian Accounting, Business and Finance Journal*, *11*(1), 78-98.

Castro, V., 2013. Macroeconomic determinants of the credit risk in the banking system: The case of the GIPSI. *Economic Modelling*, *31*, 672-683.

Cathcart, L., Dufour, A., Rossi, L. and Varotto, S., 2020. The differential impact of leverage on the default risk of small and large firms. *Journal of Corporate Finance*, *60*, 101541.

Choudhury, M. A. and Hoque, M. Z., 2019. Corporate Governance in Comparative Islamic Perspective. In *Research in Corporate and Shari'ah Governance in the Muslim World: Theory and Practice*. Emerald Publishing Limited.

Chowdhury, N. and Shaker, F., 2015. Shariah governance framework of the Islamic banks in Malaysia. *International Journal of Management Sciences and Business Research*, *4*(10), 1-10.

Daly, S. and Frikha, M., 2017. Determinants of bank performance: comparative study between conventional and Islamic banking in Bahrain. *Journal of the Knowledge Economy*, *8*(2), 471-488.

Davis, E. P., Karim, D., & Noel, D. (2019). Bank Leverage Ratios, Risk And Competition–An Investigation Using Individual Bank Data. London: Department of Economics and Finance: Brunel University.

Dimopoulos, T. and Wagner, H.F., 2016. Corporate governance and CEO turnover decisions. *Swiss Finance Institute Research Paper*, (12-16).

Ginena, K. and Hamid, A., 2015. *Foundations of Shari'ah governance of Islamic banks*. John Wiley & Sons.

González-Aguado, C. and Suarez, J., 2015. Interest rates and credit risk. *Journal of Money, Credit and Banking*, *47*(2-3), 445-480.

Grassa, R., 2016. Corporate governance and credit rating in Islamic banks: Does Shariah governance matters? *Journal of Management & Governance*, *20*(4), 875-906.

Hassan, M.K., Miglietta, F., Paltrinieri, A. and Floreani, J., 2018. The effects of Shariah board composition on Islamic equity indices' performance. *Business Ethics: A European Review*, *27*(3), 248-259.

Hood III, FM, 2016. Leverage, Default risk, and the cross-section of equity and firm returns. *Modern Economy*, *7*(14), 1610-1639.

Hussain, T., 2013. Social contract and the divine covenant in the light of the Quran. Available at <https://quranicteachings.org/social-contract-and-the-divine-covenant/> Accessed on [6th July 2020].

IMF, 2010. More Resilient to Crisis. *IMF Survey Magazine: IMF Research*.

Iqbal, S. 2019. *Islamic banks' market share rises to 14.4pc*, *DAWN.COM*. Available at: https://www.dawn.com/news/1505297 (Accessed: 3 July 2020).

Irawati, N. and Maksum, A., 2018, January. The impact of risk management and bank size on profitability of commercial banking in Indonesia. In *1st Economics and Business International Conference 2017 (EBIC 2017)*. Atlantis Press.

Jusoh, WNHW, 2020. Corporate Social Responsibility: Conventional and Islamic Perspectives. In *Handbook of Research on Theory and Practice of Global Islamic Finance* (129-149). IGI Global.

Kagecha, P., 2016. *Bank Performance: Does Bank Size Matter?* (Doctoral dissertation, University of Nairobi).

Kasi, U. and Muhammad, J., 2018. Design, qualification and Shariah governance of stock screening methodologies in selected Gulf Cooperation Council (GCC) countries in comparison with the United States. *Qualitative Research in Financial Markets*.

Kayed, R.N. and Hassan, M.K., 2011. The global financial crisis and Islamic finance. *Thunderbird International Business Review*, *53*(5), 551-564.

Koju, L., Koju, R. and Wang, S., 2019. Macroeconomic determinants of credit risks: Evidence from high-income countries. *European Journal of Management and Business Economics*, *29*(1), 41-53.

Lê Cook, B. and Manning, W.G., 2013. Thinking beyond the mean: A practical guide for using quantile regression methods for health services research. *Shanghai Archives of Psychiatry*, *25*(1), 55.

Imtiaz, M., Ahmad, K. M. & Karim, A., 2019. Ownership structure and stock price crash risk: Evidence from Karachi stock exchange. *The Journal of Educational Paradigms,* 01(02), 72-75.

Mizushima, T., 2014. Corporate governance and Shariah governance at Islamic financial institutions: assessing from current practice in Malaysia. *Reitaku Journal of Interdisciplinary Studies*, *22*(1), 59-84.

Mohamad, S., Muhamad Sori, Z. and Shah, M., 2015. Shariah Governance: Effectiveness of Shariah Committees in Islamic Banks in Malaysia. *Available at SSRN 2555373*.

Mohammed, SASAN and Muhammed, J., 2017. The relationship between agency theory, stakeholder theory and Shariah supervisory board in Islamic banking. *Humanomics*, *33*(1), 75-83.

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

Muda, I. (2017). The effect of supervisory board cross-membership and supervisory board members' expertise to the disclosure of supervisory board's report: empirical evidence from Indonesia. *European Research Studies Journal*, *20*(3A), 691-705.

Muhamad, S. F., & Sulong, Z. (2019). Corporate and Shariah Governance Mechanisms and Earnings Quality in Islamic Banks: A Review and Evaluation of Patterns. In *Islamic Development Management* (pp. 19-31). Springer, Singapore.

Nomran, N.M. and Haron, R., 2020. Shari'ah supervisory board's size impact on performance in the Islamic banking industry. *Journal of Islamic Accounting and Business Research*, *11*(1), 110-129.

Oketch, J., Namusonge, G. and Sakwa, M., 2018. Effect of financial leverage on performance of listed commercial banks in Kenya. *International Journal of Social Sciences and Information Technology*, *4*(2), 2760-2766.

Radzi, R., M., and Lonik, K., A., T., 2017. Conventional and Islamic banks' risks: rating assessment from credit rating agencies. *International Journal of Research in Business Management.*

Rahman, A.S.A. and Haron, R., 2019. The effect of corporate governance on Islamic banking performance: A Maqasid Shari'ah index approach on Indonesian Islamic banks. *Journal of Islamic Finance*, *8*, 001-018.

Saad, N.M., Haniff, M.N. and Ali, N., 2019. The encumbrance of institutional investor and board of directors in reducing risk of default for conventional bonds and sukuk in Malaysia. *Journal Pengurusan (UKM Journal of Management)*, *55*(2019), 85-96.

Saeed, B. M. and Saeed, K. S., 2018. Characteristics of Shar¯ı'ah Supervisory Board, Corporate Governance Mechanisms and Efficiency of Islamic Banks: Evidence from Listed Banks in Asia. *Journal of Islamic Business and Management*, *8*(1), 116-138.

Saeed, M. and Izzeldin, M., 2016. Examining the relationship between default risk and efficiency in Islamic and conventional banks. *Journal of Economic Behavior & Organization*, *132*, 127-154.

Saeed, M.B. and Saeed, S.K., 2018. Characteristics of Sharı'ah supervisory board, corporate governance mechanisms and efficiency of Islamic banks: Evidence from listed banks in Asia. *Journal of Islamic Business and Management*, *8*(1), 116-138.

Safiullah, M. and Shamsuddin, A., 2018. Risk in Islamic banking and corporate governance. *Pacific-Basin Finance Journal*, *47*, 129-149.

Salim, M.R., Kunhibava, S. and Lim, S.H.A., 2014. The parallels of shariah governance and corporate governance: A Malaysian case study. The. *Law Review*, *1*, 41-56.

Sajid, M. R. & Saleem, H. M. N., 2019. Implementation of basel ii and profitability of banks in Pakistan. *The Journal of Educational Paradigms*, 01(01), 24-34.

Shafii, Z., Mohammed, A.A. and Salleh, S., shariah governance and assurance index in Islamic banks in GCC countries. *Journal of Islamic Banking and Finance, 37*(3), 56-74.

Sori, Z.M., Mohamad, S. and Rasid, M.E.S., 2017. Governance framework in Islamic financial institutions. In *Islamic Wealth Management*. Edward Elgar Publishing.

Tarchouna, A., Jarraya, B. and Bouri, A., 2017. How to explain non-performing loans by many corporate governance variables simultaneously? A corporate governance index is built to US commercial banks. *Research in International Business and Finance*, *42*, 645-657.

Trad, N., Trabelsi, M.A. and Goux, J.F., 2017. Risk and profitability of Islamic banks: A religious deception or an alternative solution? *European Research on Management and Business Economics*, *23*(1), 40-45.

Varotto, S. and Zhao, L., 2018. Systemic risk and bank size. *Journal of International Money and Finance*, *82*, 45-70.

Zain, SNM and Shafii, Z., 2018. The impact of Shariah governance to financial and non-financial performance in Islamic financial institutions (ifis): A literature survey. *International Journal*, *3*(2), 27-40.