



# Corporate Board Attributes, Shariah Board Attributes and Credit Rating: Evidence from Islamic Banks of Pakistan

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**Abstract:** *Shariah* Governance is an essential characteristic that differentiates Islamic financial institutions from Conventional financial institutions. The study's purpose is to explore the effect of corporate governance attributes and *Shariah* board attributes on the long term and short-term credit rating of Islamic banks in Pakistan. The study develops six different models based on corporate board characteristics, *Shariah* board attributes and credit ratings, and collected data from annual reports of Pakistani Islamic banks for the period 2013- 2019. This study used Long term credit rating scale used by Grassa (2016) and, Ashbaugh-Skaife, Collins, and LaFond (2006), and developed a Short term credit rating scale. The study applied descriptive statistics, correlations and ordered logit regression. The results confirmed that corporate governance and *Shariah* governance attributes are significantly associated with the long term and short-term credit ratings of Islamic banks. The study concludes that credit rating agencies in Pakistan i.e. PACRA and JC-VIS, and other international credit rating agencies including Fitch, Moody and Standard & Poor's must consider *Shariah* governance attributes as key determinants while assigning long term and short term credit ratings to Islamic banks.

**Keywords:** Long term credit rating, Short term credit rating, *Shariah* board, Board attributes, Islamic banks

**JEL Classification:** G21, G24, G34

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## Introduction

In the Islamic financial system, the concept of distribution of profit and loss distinguishes it from conventional financial institutions which are based on interest based activities and funding structure, therefore Islamic banks are exposed to a variety of operational risks (Abdullah, Shahimi, & Ghafar Ismail, 2011; Radzi & Lonik, 2016). Corporate board responsibility reduces agency problems between the shareholders and the management, and *Shariah* rules deal with not only shareholders but all stakeholders in their activities. So, through *Shariah* governance, the conflicts can be minimized among the stakeholders (Quttainah, Song, & Wu, 2013). *Shariah* board's responsibility is to make sure *Shariah* compliance in all of Islamic bank's activities including operations, transactions and financing (Howladar, 2015). Naturally, *Shariah* compliant banks and Non-*Shariah* based banks are different because the later are based on interest whereas *Shariah* compliance banks are based on sharing of profit and loss (Buallay, 2019). Since Islamic banks have a *Shariah* governance system therefore credit rating agencies must give weightage to *Shariah* board attributes in the evaluation of credit rating. JC-VIS and PACRA are two major credit rating agencies that provide credit evaluation services in Pakistan. JC-VIS follows an identical credit evaluation procedure both for conventional and Islamic banks (Jcr-vis's, 2018b). In its credit evaluation procedure, JC-VIS considers three factors including, operating environment, external support and standalone profile with fifty percent, twenty percent and thirty percent weightage respectively (Jcr-vis's, 2018a). PACRA also has a singular credit rating procedure or policy both for conventional and Islamic banks (Pacra, 2018). Therefore, ideally, for Islamic banking credit rating evaluation purpose, credit rating evaluating institutions must consider the *Shariah* governance attributes (Grassa, 2016).

This study intends to explore the relationship between the corporate board characteristics and *Shariah* board characteristics with respect to the short term and long term credit rating of Islamic banks in Pakistan. The study suggests the policy-makers and credit rating evaluating institutions to consider *Shariah* board attributes in the credit evaluation process. Further, it concludes that if the credit rating agencies would give weightage to *Shariah* governance attributes than stakeholders would be able to easily assess the *shariah* compliance level of each Islamic bank. High *Shariah* compliance signals high transparency hence attracts both investors and funds towards a bank (Buallay, 2019).

Firstly, this study contributes to the small but growing literature on board attributes and *Shariah* board characteristics. Secondly, existing literature, for exam-

le, Grassa (2016) explores the effect of board attributes and *Shariah* board attributes on long term credit rating however this study focuses on both the long term and short term credit rating. Thirdly, the study contributes significantly to literature especially on credit rating and *Shariah* board attributes in Islamic banks in Pakistan's perspective. Previous studies including Buallay (2019) and Quttainah et al. (2013) focused on the Shareholder perspective however this study focuses on the sukuk perspective. The study aims to provide evidence that not only corporate governance attributes but *Shariah* governance attributes also affect the long term and short term credit rating of Islamic banks in Pakistan.

## Literature Review

Grassa (2016) explored the relationship between Islamic banks, corporate governance attributes and credit rating. The final sample size consisted of 43 Islamic banks and the period considered was 2005 to 2007. The study's dependent variable was Credit rating while the independent variables included CEO attributes and *Shariah* board attributes of Islamic banks. The study applied Logistic Regression and the results showed that a large number of block holders negatively affect the credit ratings. This study found that powerful CEOs and existence of Supervisory *Shariah* boards is negatively associated with credit rating. However, a higher number of independent directors and women directors on the Corporate boards and *Shariah* boards positively affect the credit scores.

Buallay (2019) investigated the association between governance attributes, *Shariah* governance attributes and firm performance in MENA countries. The study collected data for the period, 2007 to 2016 and applied GLM Model for analysis of the data. Results showed that *Shariah* governance attributes significantly affect the financial and operational performance of the Islamic banks. The study also found a significant association between Islamic banking sector performance and governance attributes. Tarigan and Fitriany (2017) analysed 168 Indonesian firms from 2009 to 2013. The study determined the corporate structure through independent commissioner's board size and number of commissioners. This study used the number of block holders and institutional ownership proxy for ownership structure. It was found that the board size is key governance attribute that enhances the credit rating. Furthermore, it was concluded that performance can be enhanced by increasing board size at a specific level. If the board size exceeds the optimum level, then it adversely affects firm performance.

Nomran, Haron, and Hassan (2018) investigated the association between the attributes of the *Shariah* supervisory board and firm performance in Indonesian and Malaysian Islamic banks. The banks take *Shariah* scholar education, experience, board interlocking, reputation and *shariah* board size as explanatory variables. The study collected data from 25 Islamic banks from 2007 through 2015. GMM statistical tests were used to analyse the data and it was found that the Supervisory *Shariah* board with *Shariah* scholar interlock enhances the performance of Islamic banks. The study also concluded that supervisory *Shariah* board size, *Shariah* scholar experience and reputed *Shariah* scholars significantly enhance the performance. Li and Chen (2018) studied the effect of firm size on b gender diversity in board and firm performance in Chinese firms. The study collects data from share listed non-financial 1201 firms of 21 different industries for the period, 2007 to 2012. The study distributed the data into two categories of small or medium, and large firms. Firm performance measured through the Tobin's Q and percentage of females on the board was used as a proxy for board gender diversity. The study applied different tests including descriptive statistics, Pooled OLS regression, Sargan test, fixed effect model and Carg-Donald Wald F statistics to analyse the data. The study results explained that in small and medium-size firms, gender diversity is positively but in large firm's is negatively related to the firm value. Mollah and Zaman (2015) investigated *Shariah* supervisor role, governance attributes and firm performance attributes. The study determined the board structure though the number of independent directors on the board (board independence) and the total number of directors present on the board (Board Size). The Study expected that the internally recruited CEO, who holds the two offices including CEO office Chairman office (CEO Duality) is more powerful than others. The performance of the firms was measured by four proxies including ROAA, ROAE, ROIAA and ROIAE. The Islamic and conventional banks were selected from the BankScope and final observations totalled to 1204. The study applied GMM and GLS for the analysis of data and concluded that the supervisory *Shariah* board can play a key role in the performance enhancement of Islamic banks. The study concluded that the Advisory *Shariah* board has a limited or negligible effect on the firm performance.

## Theory and Hypothesis Development

Stakeholder theory explains that the dominance of few stakeholders can be reduced by increasing the corporate board size. With the increase in the corporate board size, the probability of representation of other stakeholders also increases

(Ghayad, 2008). Mansoor, Ellahi, Khan, and Rahman (2017) ; Yameen, Farhan, and Tabash (2019) and Kapil and Mishra (2019) concluded that with the increase in board size the firm's value increases. Haris, Yao, Tariq, Javaid, and Malik (2018) found board size inversely linked with firm performance. Alhammadi, Archer, Padgett, and Karim (2018), Razali, Hwang, Uzairi, Hajazi, and Lunyai (2019) and Grassa (2016) concluded that board size and firm performance are not interlinked. The stewardship theory explains that managers are self-motivated and they work for an organization with full devotion so there is no need to appoint a large board to monitor the executives. So, the appointment of a large board only increases the firm's costs in the form of their remuneration and increases the communication gap which results in delays in decision making. However large *Shariah* scholar board presence might enhance the Islamic bank performance because a large board allows more scholar representation from different school (*Fiqhs*).

We therefore expect that the executives are self-motivated, and they work to create the value for the organization so the presence of large board leads to over monitoring which causes unrest in executives. From Pakistan's perspective, the corporate boards consist of close family friends or members (ineffective board) which increases the cost for the Islamic banks. Further, the presence of large boards causes delays in decision making in the dynamic competitive environment which negatively affects the Islamic bank's credit rating. The study also expects that presence of scholars from different *fiqhs* might lead to a better interpretation of products. This might help win the confidence of investors and increase Islamic bank's access to more funds hence increasing its credit rating.

**H<sub>1</sub>**: The board size negatively affects the long term and short term credit rating.

**H<sub>2</sub>**: The *Shariah* board size positively affects the long term and short term credit rating.

In the Gulf, top 10 *Shariah* scholars hold 253 *Shariah* board memberships with an average of 25.3 each (Unal & Ley, 2009). The *Shariah* scholars who provide their services to several Islamic financial institutions have more knowledge and know the current situation of the Islamic financial market. The reason is that they are monitoring *Shariah* compliance in different cultures and facing different scenarios of Islamic financial institutions therefore their skills of interpreting, innovating *Shariah* products and monitoring the management regarding *shariah* compliance is better than other scholars. The presence of reputed *Shariah* Scholars in *Shariah* board might attract the potential investors and give confidence to investors that

the financial institution strictly follows the Islamic principles in its operations. . So, the study expects that *shariah* board with reputed *Shariah* scholars enhances the efficiency and effectiveness which leads to high *shariah* compliance.

**H<sub>3</sub>:** The percentage of reputed *Shariah* Scholars (*Shariah* scholar interlock) on the *Shariah* board positively affects the long term and short term credit rating.

There is a significant association found between the business qualifications of *Shariah* scholars and the performance of Islamic banks (Nowroz, 2018). *Shariah* board is responsible to ensure the *Shariah compliance* of all operational and financial activities of Islamic banks. The *Shariah* scholars must have a business education background to monitor the Islamic bank's financial policies, financial activities and complex financial reports. The study therefore argues that the *Shariah* scholars must have accounting and finance knowledge besides their *Shariah* knowledge to understand the financial reports and develop financial products.

**H<sub>4</sub>:** The percentage of *Shariah* scholars on the board with Accounting and Finance knowledge positively and significantly affects the long term and short term credit rating.

The firms are better performers and have more diversified boards with respect to the nationality of the individuals on the board (García Martín & Herrero, 2018). The banks are required to appoint an appropriate number of foreign directors because they have diversity in skills which results in high performance (Okere et al., 2019). The resource dependence theory explains that the corporate board arranges resources for the corporation. The firms with foreign directors on the board have more foreign ownership and have been found to have a high ratio of investments in research and development. Therefore, a firm's value can be enhanced by increasing foreign directors in its *Shariah* board (Bremholm, 2015). It is therefore expected that the presence of foreign directors on the board may increase the ease to access resources at the international level hence decrease the default risk of a firm. Furthermore, nationally diversified *Shariah* board is also of competitive advantage for an Islamic bank. This is because a nationally diversified *Shariah* board enhances the firm value because *Shariah* scholars from different regions come with different skills and knowledge. So Islamic banks with the geographically diversified board can be more innovative and can better implement the *Shariah* rules.

**H<sub>5</sub>:** The percentage of foreign directors significantly and positively affects long term and short term credit rating.

**H<sub>6</sub>.** The percentage of foreign *Shariah* scholars significantly and positively affects long term and short term credit rating.

The agency theory supports board diversity as the women directors are more regular than directors hence showing stewardship behaviour more than men at the board (Adams & Ferreira, 2009). The women directors sitting on the board on average have better accounting and finance education than male directors and women prefer to work in a team while men prefer hierarchy (Nossel, 2016). The female directors are found to have more business education background as compared to male directors (Yi, July 2011). So we expect that the presence of women in the board enhances the stewardship of the board, women directors have higher business qualifications and prefer teamwork which enhances the monitoring function of the board and firm performance increase in terms of short and long term credit rating.

**H<sub>7</sub>.** The percentage of women on the corporate board significantly and positively affects an Islamic bank's long term and short term credit rating.

The agency problem can be more effectively solved through an independent corporate board rather than the corporate board. The board with a large number of executives does not effectively perform because it suffers from poor reporting in turn resulting in loss of their jobs. A board with a non-executive director defends the rights of specific stakeholders. An independent corporate board makes decisions by considering the interest of all stakeholders. The number of independent non-executive directors enhances the performance of a firm where at least half of the board members must be non-executive members (Alabede, 2016). Board independence significantly and positively affects firm performance (Gafoor, Mariappan, & Thyagarajan, 2018). We expect that agency problems can be minimized by inducting more independent directors to the board. The presence of independent non-executive directors in the board reduces the agency problems and monitoring over the management is enhanced which results in better ratings.

**H<sub>8</sub>.** The percentage of INEDs on the board positively affects an Islamic bank's long term and short term credit rating.

*Shariah's* supervisory board, *Shariah* advisory board, and *Shariah* committee are the three different levels of *Shariah* boards. The presence of *Shariah* supervisory board indicates that the *Shariah* board is stronger and can force management to carry out business activities according to *shariah* rules. Further, the presence of the advisory *shariah* board or committee describes that the *Shariah* board role is limited to advise the management (Grassa & Matoussi, 2014). So, the study expects

that high *Shariah* compliance can be achieved in the presence of the supervisory *Shariah* board and this might attract the investors and in turn result in the availability of long term and short term funds or deposits.

**H<sub>9</sub>:** The presence of the Supervisory *Shariah* board positively affects the long term and short term credit rating.

## Methodology

### Sample

The study sample size consists of all the banks providing Islamic banking services in Pakistan. There are 21 banks in Pakistan offering Islamic banking services, among which 16 are providing through Islamic windows and 5 are purely Islamic banks (SBP, 2018). The study excluded the 8 banks, 5 banks which were established after the year 2013 and 3 banks on the basis of unavailability of data. The final sample of the study therefore included 13 banks from Pakistan and collected 7 years of data for the period 2013 to 2019 from the annual reports and websites of the respective banks.

### Dependent Variables

In this research, short term credit rating and long term credit rating are dependent variables. Credit scores data was collected from credit rating agencies' reports and banks' annual reports. The study adopted an ordinal scale to measure long term credit rating from (Grassa, 2016) and (Ashbaugh-Skaife et al., 2006). The study developed a short term credit rating ordinal scale based on long term credit scale. The short term credit rating was measured in six different categories, from A1+ (Higher credit rating) to C (Lower credit rating). The data for both credit ratings were collected from the credit rating agencies' reports. Table 1 and 2 present the credit rating scales.

**Table 1**

*Credit Rating Classifications (Short Term)*

| Debt rating | Rating | Score Grade |
|-------------|--------|-------------|
| A1+         | 7      | Liquidity   |
| A1          | 6      | Liquidity   |
| A2          | 5      | Liquidity   |
| A3          | 4      | Illiquidity |
| B           | 3      | Illiquidity |
| C           | 2      | Illiquidity |

**Table 2**

*Credit Rating Classifications (Long Term)*

| Debt rating | Rating | Score Grade |
|-------------|--------|-------------|
| Aaa         | 7      | Inv         |
| Aa+         | 6      | Inv         |
| Aa          | 6      | Inv.        |
| Aa-         | 6      | Inv         |
| A+          | 5      | Inv         |
| A           | 5      | Inv         |
| A-          | 5      | Inv         |
| Baa+        | 4      | Inv         |
| Baa(BBB)    | 4      | Inv         |
| Baa-        | 4      | Inv         |
| Ba+         | 3      | Spec        |
| Ba (BB)     | 3      | Spec        |
| Ba-         | 3      | Spec        |
| B+          | 2      | Spec        |
| B           | 2      | Spec        |
| B-          | 2      | Spec        |
| Caa+        | 1      | Spec        |
| Caa(CCC)    | 1      | Spec        |
| C           | 1      | Spec        |

Inv= Investment, Spec= Speculative

## Independent Variables

Board attributes and *shariah* board attributes are the independent variables. The description of independent variables is as follow.

**Table 3**

*Board attributes and Shariah board attributes*

|                                    |                                                                                                                        |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| Board Attributes                   |                                                                                                                        |
| Board size                         | Total number of directors in corporate board                                                                           |
| Board independence                 | The percentage of independent directors in corporate board                                                             |
| Foreign directors                  | The percentage of foreign directors in the corporate board                                                             |
| Women directors                    | The percentage of women directors in the corporate board                                                               |
| Shariah Board Attributes           |                                                                                                                        |
| Shariah board size                 | Total number of the scholars in <i>Shariah</i> board                                                                   |
| Shariah board interlock            | The <i>shariah</i> scholar percentage who hold more than 5 positions on different Islamic Banks' <i>shariah</i> boards |
| Shariah board members AFK          | The <i>shariah</i> scholar percentage who have accounting/finance or business relevant degree                          |
| Shariah board supervisory/advisory | Dummy variable=1, if the <i>Shariah</i> board has a supervisory role, otherwise 0                                      |
| Shariah board foreign members      | The <i>shariah</i> scholar percentage who are foreigners and are in the board                                          |

## Methodology and Models

The Order Logit Model is the most suitable statistical test when the dependent variable measured in ordinal scale (Grilli & Rampichini, 2014).

So, the study applied the Order Logit Model in Stata. The six models' equations are as follows:

$$\text{Long term CR} = \beta_0 + \beta_1 \text{ Board Size} + \beta_2 \text{ Board Independence} + \beta_3 \text{ Foreign director} + \beta_4 \text{ Women director} + \epsilon \quad \text{Equation No.1}$$

$$\text{Long term CR} = \beta_0 + \beta_1 \text{ Shariah boardsize} + \beta_5 \text{ Shariah board interlock} + \beta_7 \text{ Shariah board AFK} + \beta_5 \text{ Shariah board supervisory} + \beta_5 \text{ Shariah board foreign member} + \epsilon \quad \text{Equation No.2}$$

$$\text{Long term CR} = \beta_0 + \beta_1 \text{ Board Size} + \beta_2 \text{ Board Independence} + \beta_3 \text{ Foreign director} + \beta_4 \text{ Women director} + \beta_5 \text{ Shariah boardsize} + \beta_6 \text{ Shariah board interlock} + \beta_7 \text{ Shariah board AFK} + \beta_8 \text{ shariah board supervisory} + \beta_9 \text{ Shariah board foreign member} + \epsilon \quad \text{Equation No.3}$$

Short term  $CR = \beta_0 + \beta_1 \text{ Board Size} + \beta_2 \text{ Board Independence} + \beta_3 \text{ Foreign director} + \beta_4 \text{ Women director} + \epsilon$  **Equation No.4**

Short term  $CR = \beta_0 + \beta_1 \text{ Shariah boardsize} + \beta_5 \text{ Shariah board interlock} + \beta_7 \text{ Shariah board AFK} + \beta_5 \text{ shariah board supervisory} + \beta_5 \text{ Shariah board foreign member} + \epsilon$  **Equation No.5**

Short term  $CR = \beta_0 + \beta_1 \text{ Board Size} + \beta_2 \text{ Board Independence} + \beta_3 \text{ Foreign director} + \beta_4 \text{ Women director} + \beta_5 \text{ Shariah boardsize} + \beta_6 \text{ Shariah board interlock} + \beta_7 \text{ Shariah board AFK} + \beta_8 \text{ shariah board supervisory} + \beta_9 \text{ Shariah board foreign member} + \epsilon$  **Equation No.6**

## Results and Discussion

Table 4 explains that the average board size is 9 (mean=8.68) and on average 32.70% of the board members are independent in the Islamic banks of Pakistan. The mean of foreign directors and female board members in the corporate boards is 17.33% and 2.98% respectively. Further, *Shariah* board size in Islamic banks of Pakistan is 3 (mean=2.56) and 43.77% of the *Shariah* board members at the same time provide services in more than 5 Islamic financial institutions on average. Only 4.30% of *Shariah* scholars on the *Shariah* board are foreigners but 52.19% of the *Shariah* scholars have business qualifications. 6.76 is the average short term credit rating score and long term average credit rating score is 6.12 for Islamic banks in Pakistan

**Table 4**

*Descriptive Statistics*

| Governance Attributes            | Observations | Mean   | Standard Deviation | Min | Max   |
|----------------------------------|--------------|--------|--------------------|-----|-------|
| Board size                       | 91           | 8.6813 | 1.53               | 6   | 12    |
| Board independence %             | 91           | 32.70  | 11.86              | 0   | 71.42 |
| Foreign board directors %        | 91           | 17.33  | 23.68              | 0   | 66.67 |
| Women in board %                 | 91           | 2.98   | 5.26               | 0   | 14.28 |
| <i>Shariah</i> board size        | 91           | 2.56   | 0.94               | 1   | 4     |
| <i>Shariah</i> board interlock % | 91           | 43.77  | 31.39              | 0   | 100   |
| <i>Shariah</i> board AFC %       | 91           | 52.19  | 36.93              | 0   | 100   |
| <i>Shariah</i> board foreign %   | 91           | 4.30   | 11.54              | 0   | 50    |
| <i>Shariah</i> board supervisory | 91           | 0.15   | 0.362              | 0   | 1     |
| Short term credit rating         | 91           | 6.76   | 0.57               | 5   | 7     |
| Long term credit rating          | 91           | 6.12   | 0.64               | 5   | 7     |

**Table 5**  
*Correlation Matrices*

|                              | Board size | Board indep | Foreign board director | Women in board | Shariah board size | Shariah board interlock | Shariah board AFC | Shariah board foreign member | Shariah board super | Short term CR | Long term CR |
|------------------------------|------------|-------------|------------------------|----------------|--------------------|-------------------------|-------------------|------------------------------|---------------------|---------------|--------------|
| Board size                   | 1          |             |                        |                |                    |                         |                   |                              |                     |               |              |
| Board indep                  | -0.145     | 1           |                        |                |                    |                         |                   |                              |                     |               |              |
| Foreign board director       | 0.063      | -0.347      | 1                      |                |                    |                         |                   |                              |                     |               |              |
| Women in board               | -0.080     | 0.073       | 0.300                  | 1              |                    |                         |                   |                              |                     |               |              |
| Shariah board size           | 0.078      | 0.114       | 0.264                  | 0.321          | 1                  |                         |                   |                              |                     |               |              |
| Shariah board interlock      | 0.327      | -0.216      | 0.210                  | 0.130          | 0.299              | 1                       |                   |                              |                     |               |              |
| Shariah board AFC            | -0.253     | 0.192       | -0.179                 | 0.282          | 0.266              | 0.099                   | 1                 |                              |                     |               |              |
| Shariah board foreign member | 0.287      | -0.183      | 0.551                  | 0.417          | 0.404              | 0.483                   | 0.002             | 1                            |                     |               |              |
| Shariah board super          | 0.228      | -0.206      | 0.436                  | 0.018          | 0.264              | 0.345                   | 0.126             | 0.547                        | 1                   |               |              |
| Short term CR                | 0.103      | -0.281      | 0.147                  | 0.228          | -0.024             | 0.195                   | 0.049             | 0.150                        | -0.199              | 1             |              |
| Long term CR                 | -0.218     | 0.044       | -0.064                 | 0.445          | 0.015              | 0.137                   | 0.112             | 0.115                        | -0.411              | 0.698         | 1            |

The correlation matrix is explained in table 5. In table 6, in the results of model 1, it is explained that corporate board size, and presence of foreign directors in the corporate board significantly and negatively, and presentation of women in the board, significantly and positively affect the long term credit rating of Islamic banks. It is also visible in model 2 that there is a significant positive association between

en the *Shariah* board with *Shariah* scholars having accounting knowledge and long term credit rating at a 5% level of significance. The model also found that foreign *Shariah* members significantly and positively, and presence of *Shariah* supervisory board significantly and negatively affect the long term credit rating at 1% significance level. Model 3 results show that there is a positive relationship between the *Shariah* board interlock, women in the board, and *Shariah* board foreign membership, and the long term credit rating. The model results also depicts that the corporate board size and presence of the supervisory *Shariah* board negatively and significantly affect the long term credit rating at 5% and 1% levels of significance.

**Table 6**

*Logistic Regression Results; Long Term Credit Rating (DV) Board Attributes and Shariah Board Attributes (IV)*

| Coefficients (Estimated) & Z score (P values) |             |         |            |         |             |         |
|-----------------------------------------------|-------------|---------|------------|---------|-------------|---------|
| Board Attributes                              | Model 1     | P value | Model 2    | P value | Model 3     | P value |
| Board size                                    | -.277166*** | 0.056   |            |         | -.5232742** | 0.011   |
| Board independence                            | -2.156022   | 0.338   |            |         | -1.131244   | 0.687   |
| Foreign board director                        | -2.34908**  | 0.027   |            |         | -1.400542   | 0.341   |
| Women in board                                | 23.11562*   | 0.00    |            |         | 18.77155*   | 0.002   |
| <i>Shariah</i> Board Attributes               |             |         |            |         |             |         |
| <i>Shariah</i> board size                     |             |         | -.2026764  | 0.467   | -.2230103   | 0.465   |
| <i>Shariah</i> board interlock                |             |         | 1.373635   | 0.111   | 2.143754**  | 0.024   |
| <i>Shariah</i> board AFC                      |             |         | 1.43634**  | 0.045   | .4408156    | 0.616   |
| <i>Shariah</i> board foreign member           |             |         | 14.50943*  | 0.003   | 13.57956*   | 0.010   |
| <i>Shariah</i> board supervisory              |             |         | -6.814153* | 0.00    | -6.205548*  | 0.001   |

\*\*\* Significant at 10%, \*\* significant at 5 % and \* significant at 1 %

In table 7, Model 4 explains that high number of women in a board significantly and positively affects the short term credit rating but the board's independence negatively affects the short term credit rating. Results of Model 5 show that the supervisory *Shariah* board has a significantly negative relationship with short term credit rating. Model 6 depicts that the number of foreign directors in the board of directors positively affects the short term credit rating. The results also reflect that the *Shariah* board size, *Shariah* board's accounting and finance knowledge, and the number of foreign scholars in the *Shariah* board are significantly and positively associated with short term credit rating. The results also depict that the supervisory board is significantly negatively associated with short term credit rating.

**Table 7**

*Logistic Regression Results; Short Term Credit Rating (DV) Board Attributes and Shariah Board Attributes (IV)*

| Coefficients (Estimated) & Z score (P values) |             |         |            |         |             |         |
|-----------------------------------------------|-------------|---------|------------|---------|-------------|---------|
| Board Attributes                              | Model 4     | P value | Model 5    | P value | Model 6     | P value |
| Board size                                    | .229759     | 0.324   |            |         | .5228024    | 0.184   |
| Board independence                            | -6.976477** | 0.031   |            |         | -9.71955*** | 0.096   |
| Foreign board director                        | -1.188822   | 0.488   |            |         | 15.88138*   | 0.006   |
| Women in board                                | 159.1712    | 0.991   |            |         | 228.4573    | 0.996   |
| Shariah Board Attributes                      |             |         |            |         |             |         |
| <i>Shariah</i> board size                     |             |         | -6971407   | 0.250   | -4.985474** | 0.025   |
| <i>Shariah</i> board interlock                |             |         | 2.882407   | 0.237   | 10.27309    | 0.158   |
| <i>Shariah</i> board AFC                      |             |         | 2.371517   | 0.107   | 15.27545**  | 0.014   |
| <i>Shariah</i> board foreign member           |             |         | 60.02237   | 0.996   | 42.33915    | 0.998   |
| <i>Shariah</i> board supervisory              |             |         | -3.858734* | 0.001   | -14.59388*  | 0.006   |

\*\*\* Significant at 10%, \*\* significant at 5 % and \* significant at 1 %

## Conclusion

The study was conducted for banks of Pakistan that provide the Islamic banking services through Islamic windows or as pure Islamic banks. The study investigated the relationship between the board attributes, Shariah board attributes, short term credit rating and long term credit rating (Grassa, 2016). The study found that board size, foreign directors, and Supervisory *Shariah* Board negatively affect the long term credit rating while *Shariah* board interlock, *Shariah* board with business background, *Shariah* board foreign members and women in the board significantly positively affect the Islamic banks' long term credit rating. The study also found that the short term credit rating is negatively associated with board independence, *Shariah* board size and *Shariah* board supervisory. The results explained that short term credit rating is significantly positively linked with women in the board, foreign board directors in the board, *Shariah* board's accounting and finance knowledge and *Shariah* board's foreign members. The conventional banks and Islamic banks are different on the base of *Shariah* rules, so it's not appropriate to evaluate to different banking systems on a singular credit criteria. Therefore, all the credit rating evaluating organizations including PACRA, JC-VIS, Fitch, Moody and S&P can

improve their methodologies by considering the *Shariah* governance attributes for Islamic banks. Further, if weightage is given to *Shariah* board attributes in the credit rating evaluation process than stakeholders can easily assess the Islamic banks' *Shariah* compliance levels. Islamic banks must consider that the presence of large shariah board that can improve the financial product interpretation and innovation. Furthermore, at the time of induction, Islamic banks need to prefer those *Shariah* scholars who have *Shariah* knowledge as well as accounting background, and the interlock of *Shariah* scholars because it might give positive signals in the market making it easy for Islamic banks to access more funds.

The study's limitation includes the fact that it addresses only one country and has a small sample size of 13 banks due to the data constraints. Further, the study is limited to few board attributes and *Shariah* board attributes. Therefore other board attributes i.e. age of directors and *Shariah* scholars, and experience of *Shariah* scholars must be focused. The future research should consider cross country data because this will increase the scope of research. Future studies may focus on the development of credit rating policies and procedures for Islamic financial institutions.

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