BANK COMPETITION–STABILITY RELATIONS IN PAKISTAN: A COMPARISON BETWEEN ISLAMIC AND CONVENTIONAL BANKS

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ABSTRACT

This study comparatively analyses the financial stability of Islamic and conventional banks in Pakistan. Using data of 29 conventional and 9 Islamic banks over 18 years, the study first estimates bank competition and stability using Lerner index and Z-Score, respectively. Generalized least squares regression is used and the coefficients are estimated by using random-effects estimator. Results of the mean comparison show that Islamic banks carry more market power (less competition) and are more stable compared to their conventional counterparts. Results of a panel regression show that competition positively affects the stability of the banking sector and this effect is higher for Islamic banks due to their market power. Results also show that bank stability in Pakistan was reduced during global crisis period; however, presence of Islamic banks contributes to the stability even during crisis. Finally, this study supports the competition-stability hypothesis for Islamic banking in Pakistan. Recommendations are given at the end.

Keywords: Stability, Bank Competition, Islamic Banking, Z-Score, Lerner Index.

1. INTRODUCTION

The association between competition and bank stability remains an extensively debated issue, both among academics and policy-makers (Beck et al., 2013; Clark et al., 2018; Ijaz et al., 2020; Kasman & Kasman, 2015, among others). Interestingly, recent years have seen renewal of interest in competition and bank stability and researchers have explored this association in dual banking system where Islamic and conventional banks operate alongside each other. In this regard, Abedifar et al. (2016) have theoretically discussed that how the presence of both Islamic and conventional banks shapes competitive environment in dual banking system. Particularly, the competition
pressure might be even stronger on conventional than Islamic banks, because Muslims with religious concerns would prefer Islamic to conventional finance, however, other Muslims are expected to be indifferent between the two systems (Abedifar et al., 2016). Recently, subsequent studies have empirically investigated the association between competition and stability in dual banking system, for instance, a study by Albaity et al. (2019) focus on MENA countries while Kabir and Worthington (2017) on number of Muslim countries. Likewise, Ibrahim et al. (2019) study this issue for the Malaysian banking industry.

Based on aforementioned work on competition-stability nexus in dual banking system, this study aims to investigate this association for unexplored area of Pakistani market. Literature is scarce on the association of competition-stability from the perspective of Islamic banks in the Pakistani context. Specifically, the extant literature focused mainly on the comparative performance of Islamic banks in relation to conventional counterparts. This study argues that existence of the dual banking system makes Pakistani market as an exceptional setting to study whether the competition between Islamic and conventional banking industry affects bank stability. In Pakistan, the inception of Islamic banking and substantial growth in the number of Islamic banks has shaped the competitive environment for conventional banking system. As of September 2020, the State Bank of Pakistan reported¹ that Islamic banking industry has 22 Islamic banking institutions with 5 full-fledged Islamic banks and 17 conventional banks having standalone Islamic banking branches. Moreover, in total 3,303 branches are operating all over the Pakistan. Banking sector in Pakistan has developed in three stages including conventional banking (1948–1980), profit and loss sharing (PLS) banking (1980s and 1990s) to the current mix of PLS and Shariah-compliant banking. The Islamic banking was incepted in Pakistan in February 1979 with the intention to make interest free economy (Rashid et al., 2017). However, in 2002 a swift progress has been observed in Islamic banking sector when it declared as a parallel mode of banking alongside conventional banking.

This study contributes to conventional and Islamic banking literature in the following ways. First, a recent study by the State Bank of Pakistan estimates the degree of competition in Pakistani banks; however, its connection with the stability of the sector remains unexplored (Hanif, 2017). In this regard, our study is the first to the best of authors’ knowledge in the Pakistani context that considers the influence of bank competition on bank stability in dual banking system. Hence, this study contributes to the emerging literature on Islamic banking. As most of the Islamic countries are trying to develop an Islamic financial system, our results provide important insights whether competition between conventional and Islamic banks is linked with the stability to the financial system.

Second, a comparative analysis of competition and stability relationship is presented for Islamic and conventional banks operating alongside each other in dual banking system. Hence, this study we complement the works of Abedifar et al. (2013), Abedifar et al. (2017), Beck et al. (2013), Hasan and Dridi (2011), Khan et al. (2020) and Mollah and Zaman (2015). These studies provide comparative analyses of financial stability, risk management, performance, and efficiency between these two types of banks.

Third, competition is measured using a direct measure of market power instead of concentration measures (CR3 and CR5 that measures the share of total assets in 3 and 5 largest banks of the

¹ Islamic Banking Bulletin, September 2020. https://www.sbp.org.pk/ibd/Bulletin/2020/Sep.pdf
country) under the industrial organization approach. These concentration ratios are considered a weaker measure of competition in banking. Fourth, the difference in bank stability and competition is separately compared across dual banking (Islamic as well as conventional banks) in Pakistan.

2. LITERATURE REVIEW

Theoretically, there are two key alternative hypotheses that suggest whether competition impedes or improves the bank stability: competition-fragility hypothesis and competition-stability hypothesis. On the one hand, competition fragility hypothesis (Keeley, 1990) assumes that competition erodes stability. This is because, in the banking sector, fierce competition has forced banks to take excessive risks in the search for returns, resulting in higher fragility. Moreover, in an environment of fierce competition, banks earn fewer informational rents from their relationship with borrowers, reducing their incentives to properly screen borrowers, again increasing the risk of fragility (Allen & Gale, 2004; Boot & Thakor, 1993). On the other hand, the competition-stability hypothesis posits that more competitive banking environment leads to higher stability rather than less stability. Moreover, intensified competition makes the financial system more flexible (Boyd & De Nicoló, 2005), thereby highly competitive banking sectors lead to declines in lending rates and support for the profitability of enterprises, resulting in lower bank credit defaults. Besides, contrary to the competitive banking environment, in a monopolistic environment, banks are more likely to engage in moral hazard based on their own too-big to fail positions (Mishkin, 1999).

In conventional banking literature, numerous of studies have investigated the impact of competition on bank stability in general and findings are inconclusive. For instance, on the one hand studies report the positive impact of competition on bank stability (Clark et al., 2018; Goetz, 2018; Islam et al., 2020; Kasman and Kasman, 2015; Saif-Alyousfi et al., 2020). On the other hand, studies show a negative impact of competition on bank stability (Beck et al., 2013; Ijaz et al., 2020).

In case of the dual banking system, recent studies investigated the competition-stability nexus in dual banking exacerbated by the presence of both Islamic and conventional banks. For instance, Kabir and Worthington (2017) explored the association of competition and stability for Islamic and conventional counterparts using the data for sixteen developing economies over the period of 2000 through 2012. They found that competition in terms of market power have significantly greater impact on conventional banks. Likewise, Ibrahim et al. (2019) investigated the competition-stability relationship using the sample of conventional and Islamic banks from Malaysian market. Their results also support the competition-stability view for conventional banks.

Moreover, Albaity et al. (2019) examined the competition-stability relationship using the dataset of 276 banks from eighteen MENA countries for the period of 2006 to 2015. They noted a strong competition-fragility effect for Islamic banks compared to their conventional counterparts. Alternatively speaking, Islamic banks in less competitive environment face lower insolvency risk and become more stable. Azmi et al. (2019) studied the relationship between competition and bank stability for both Islamic and conventional banks for fourteen dual banking economies over the period of 2005 to 2016. However, they noted no significant difference in the relationship between competition and stability for both type of banks.
In the similar stream of research, Alam et al. (2019) investigated the impact of competition on bank stability using a sample of 59 Islamic banks and 149 conventional banks from ten Muslim countries for the period of 2006 to 2016. Overall, in the case of Islamic banks, their results provide evidence in support of competition stability hypothesis. Recently, Risfandy et al. (2020) examined the competition-stability relationship for banks operating in dual banking system from 29 countries for the period of 2010 to 2018. They found that competition impedes the stability of conventional banks.

3. VARIABLE CONSTRUCTION AND METHODOLOGY

3.1 Bank Competition

An important step is the measurement of competition. Cetorelli and Strahan (2006) use concentration to measure bank competition by following the earlier tradition of industrial organization. However, it is a widely held belief that concentration measures may reveal important industry structural characteristics, but it is not a good indicator of competition (Beck et al., 2006; Claessens & Laeven, 2004). In contrast, the use of Lerner indices (Lerner, 1934) or price-cost based margin as a measure of competition has been advocated by recent literature.

Calculation of Lerner index requires knowing the marginal cost. Since marginal cost data is often not available, the first significant step in constructing a competition index is to use econometric methods to estimate marginal costs. The measurement of competition has used in industrial organizations for a number of years, dating back to Lerner (1934). Lerner is defined as a “monopoly power index or degree of monopoly as pi minus mci divided by pi, where pi represents firm’s price and mci represents firm’s marginal cost respectively” (Lerner, 1934). This index ranged a value between 0 and 1. Zero reflects perfect competition and increasing values indicates higher market power. Specifically, the Lerner index is constructed as the price (P) and marginal cost (MC) of a firm. The higher the number index scored implies greater market power. The range varies from 1 (being high) to 0 (being low). Many research studies of banking have frequently employed Lerner index as it is constructed on markups in banking. This measure compares the output prices (revenues) and marginal costs (costs) differences. The total revenue over total assets is a formula used to obtain output prices, and trans-log cost function is estimated with respect to output to obtain the marginal costs. The higher values, inclining to 1, show lower bank competition and lower values, inclining to 0, show high bank competition. Hence, values are closer to 0 in cases of perfect competition and 1 for pure monopoly. The detail computation of the Lerner index can be found in appendix A.1.

3.2 Bank Stability and Control Variable

This study used the Z-score ratio as measure of bank stability, as taken in prior studies (see, e.g., Abedifar et al., 2013; Ibrahim and Rizvi, 2017; Mollah et al., 2017, among others). Using accounting information on asset returns, its volatility and leverage, the Z-score is calculated as follows:
$Z_{\text{score}} = \frac{\text{ROA} + (\text{ETA})}{\sigma(\text{ROA})}$ (1)

Where, ROA is the return on assets, ETA is the equity divided by total assets and $\sigma(\text{ROA})$ is the standard deviation of return on assets. This can be interpreted as the number of standard deviations by which returns would have to fall to wipe out all equity of the bank (Roy, 1952), therefore, $Z$-score can be viewed as the inverse of the probability of bank insolvency. A higher value denotes a higher level of the soundness of the bank, or alternatively speaking, a lower value denotes the bank’s higher exposure to insolvency risks.

Based on existing studies, this study included following variables from banking and finance literature. Particularly, this study control for bank size, because the business model and clients of larger banks are different from smaller banks (De la Torre et al., 2008). The prior literature also shows the relationship between Non-interest income and bank soundness and risk taking. For example, Köhler (2014) find that non-interest income is positively correlated with systemic risk and impact bank soundness. Similarly, Bostandzic and Weiss (2018) find that European banks contribute more to systemic risk than U.S. banks do, and this increase in systemic risk is higher when banks have more non-interest income.

In addition, this study uses four board level variables, Board Size, Auditing Committee Independence, Risk Management Committee and Female Board Representation in order to control for board characteristics. This study control for Board Size, because previous studies (Faley & Krishnan, 2017; Fernandes & Fich, 2016) find that Board Size is significantly related to bank performance and bank soundness. The extant literature also shows that bank boards with an independent auditing committee and a separate risk management committee are more effective in monitoring managers and their bank stability (see, Carter et al., 2010; Green & Homroy, 2018, among others). Therefore, two dummy variables—Auditing Committee Independence and Risk Management Committee— are included in our model. They take the value one if the Auditing Committee is independent and there is a separate Risk Management Committee in the organization structure of the board, respectively. Finally, Female Board Representation is used for control variable because there is an ongoing debate in academia regarding female board representation and bank risk-taking and stability, and empirical findings are inconclusive. Some studies find a positive (Campbell & Minguez-Vera, 2008; Liu et al., 2014; Post & Byron, 2015; Terjesen et al., 2016), whereas others report a negative (Adams & Ferreira, 2009; Ahern & Dittmar, 2012) or even non-existent (Carter et al., 2010; Chapple & Humphrey, 2014) relationship between female board representation and bank soundness. Female Ratio represents the share of female directors in the board (see Levi et al., 2014; Sila et al., 2016).

### 3.3 Econometric Specifications

The objective of this study is to examine whether the relationship between competition and bank stability is significantly different for Islamic banks vis-a-vis conventional banks. Existing studies, for example Mollah and Zaman (2015) and Bitar and Tarazi (2019) provide comparative analyses of financial stability, risk management, and performance between these two types of banks by introducing dummy variable approach. These studies have used Generalized Least Squares (GLS) regressions and the coefficients are estimated by using random-effects estimator. We use the
Hausman test\(^2\) for the choice of our model and result shows that random-effects estimator is preferable to the fixed-effects estimator. The use of GLS technique is more appropriate for two reasons. First, regression models such as OLS ignore the panel structure of our data. Second, the fixed-effects estimator could lead to imprecise estimates when the key regressors do not vary much over time (Semykina & Wooldridge, 2010, pp 326), which corresponds to the Islamic bank dummy variable in our case. We employ the following regression model:

\[
Z - Score_{it} = \phi_0 + \phi_1 IB_{Dummy_{it}} + \phi_2 LER_{it} + \phi_3 IB_{Dummy_{it}} \times LER_{it} + \\
\theta_1 Bank\_Size_{it} + \theta_2 Ownership\_Structure_{it} + \theta_3 Board\_Size_{it} + \theta_4 Audit\_Committee_{it} + \\
\theta_5 Risk\_Management_{it} + \theta_6 Female\_Ratio_{it} + \mu_{it}
\] (2)

In equation 2, the dependent variable is a bank’s Z-Score estimated as capital asset ratio plus return on assets divided by sigma of return on assets. LER is the Lerner index score estimated from trans-log cost function using quantity of output, input prices and time trend.

IB_Dummy\(_{it}\) is a dummy variable that takes the value one if bank type is Islamic bank and zero otherwise. It controls for the difference in the stability between Islamic and conventional banks. LER\(_{it}\) \(\times\) IB_Dummy\(_{it}\) is the interaction term and our variable of interest. The coefficient \(\phi_3\) shows whether the relationship between the competition and stability is significantly different for Islamic banks compared to their conventional counterparts.

3.4 Sample and Data Source

The population of the study is financial sector. The sample consists of Islamic and conventional banks working in Pakistan. This study has taken the data from BankScope database from 1996 to 2013. Appendix A.2 shows the list of Islamic and conventional banks which are incorporated in the sample. Moreover, all bank level variables are winsorized at a 1% tail to mitigate the problem of outliers.

4. RESULTS

4.1 Competition and bank stability: Baseline results

Table 1 presents the baseline results regarding competition and bank stability relationship. The relationship between competition and stability is estimated using random effects model. The stability is proxied by the Z-score while competition is measured by Lerner index. For the computation of results in table 1, Z-score is regressed on our IB_Dummy (Islamic bank dummy variable), Lerner index and control variables.

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\(^2\) Our selection of model is based on Hausman Test (Fixed versus Random Effects). Following are the null and alternate hypotheses are tested for the choice of model; H0, random effect is more appropriate, H1: fixed effect is more appropriate. Our results show that null hypothesis is not rejected; hence random effects model is used.
Table 1: Baseline results for competition and bank stability

| Variable                  | Coefficient | t-Statistic | Prob. |
|---------------------------|-------------|-------------|-------|
| LER                       | 6.456***    | 3.05        | 0.000 |
|                           | -2.117      |             |       |
| IB_Dummy                  | 3.665***    | 2.884       | 0.002 |
|                           | -1.271      |             |       |
| GFC                       | -1.177**    | -1.998      | 0.050 |
|                           | -0.589      |             |       |
| Bank Size                 | 3.223***    | 2.783       | 0.004 |
|                           | -1.158      |             |       |
| Non-interest income       | 0.426***    | 3.065       | 0.000 |
|                           | -0.139      |             |       |
| Board Size                | 0.345***    | 7.841       | 0.000 |
|                           | -0.044      |             |       |
| Female Ratio              | 0.143***    | 2.979       | 0.001 |
|                           | -0.048      |             |       |
| Auditing Committee        | 0.273***    | 2.395       | 0.019 |
|                           | -0.114      |             |       |
| Risk Management           | 2.92***     | 2.802       | 0.004 |
|                           | -1.042      |             |       |
| Const.                    | 1.679       | 0.951       | 0.250 |
|                           | -1.765      |             |       |
| Number of Bank            | 38          |             |       |
| p-value (F-statistic)     | 0.000       |             |       |
| Adjusted R-squared        | 0.556       |             |       |

This table shows the results of Generalized Least Squares (GLS) regressions and the coefficients are estimated by using random-effects estimator. A panel of 38 cross-sections is estimated in e-views over the fifteen years period from 1996 to 2013. In the estimated equation, the dependent variable is a bank’s Z-Score measured as capital asset ratio plus return on assets divided by sigma of return on assets. LER is the Lerner index score estimated from trans-log cost function using quantity of output, input prices and time trend. IB_Dummy is a dummy variable that takes the value one if bank type is Islamic bank and zero otherwise. Moreover, GFC represents the global financial crisis. Robust standard-errors are reported in parentheses***, **, and * indicate significance at 1%, 5%, and 10%, respectively.

The slope parameter $\varphi_1$ assumes that Islamic and conventional banks are different in terms of stability. The result shows that the coefficient of IB_Dummy ($\varphi_1$) is significant means that stability of Islamic banks is significantly different from their conventional counterparts.

The slope parameter $\varphi_2$ captures the relationship between the competition and stability for conventional banks. The coefficient of Lerner index ($\varphi_2$) is significant and positively associated with Z_Score implying that overall rise in competition results in the stability of conventional banks. This finding supports the competition stability view and consistent with existing literature (Clark et al., 2018; Goetz, 2018; Islam et al., 2020; Saif-Alyousfi et al., 2020, among others).

Moreover, the negative and significant coefficient of global financial crisis and bank stability suggest that banking crisis adversely impacted the conventional banks in Pakistan. Further, the control variables have expected signs. For instance, banks size is significant and positive suggest that larger bank are more stable that is in-line with the economies of scales effect for big banks. Likewise, the coefficients of female ratio and risk management committee are significant and positive implies that presence of female on the board and having a risk management committee improves bank stability. These results are consistent with previous studies, which argue that banks
having female board representation and strong risk management committee face lower risk taking (Faccio et al., 2016; Green & Homroy, 2018; Khan et al., 2020; Perryman et al., 2016).

### 4.2 Competition and bank stability: Islamic vs conventional banks

So far, our results indicate that the competition is significantly associated with stability of both Islamic and conventional banks. In this sub-section, our objective is to explore whether the relationship between competition and stability is different for Islamic banks compared to conventional banks. To achieve this objective, an interaction term of Islamic banks dummy with Lerner index is introduced into the model. The slope parameter $\varphi_3$ captures whether the relationship between the competition and bank stability is significantly different for Islamic banks compared to their conventional counterparts.

Table 2 presents the results for the difference in the relationship between competition and stability of Islamic and conventional banks. The coefficient of the interaction term of Islamic banks dummy with Lerner index is positive and significant showing that in competitive environment Islamic bank are found to be more stable than their conventional counterparts in Pakistan. Alternatively speaking, conventional banks are found to be less stable than Islamic banks in competitive environment.

Our results are consistent with findings of existing studies on the association between competition and stability in dual banking system. For instance, Alam et al. (2019) investigated the competition-stability relationship in dual banking system. Their results support the competition-stability view for Islamic banks. In this research stream, Risfandy et al. (2020) examined the competition-stability relationship for banks operating in dual banking system and reported that competition impedes the stability of conventional banks as compared to their Islamic counterparts. Overall, our results support the competition stability view for Islamic banks operating in Pakistan. Moreover, the interaction term for GFC (global financial crisis) also significant and positive implies that Islamic banks were more stable in crisis period than their conventional counterparts.

| Variable             | Coefficient  | t-Statistic | Prob. |
|----------------------|--------------|-------------|-------|
| LER                  | 6.452***     | 4.551       | 0.000 |
| IB_Dummy             | -1.418       |             |       |
|                      | 2.821***     | 6.469       | 0.000 |
|                      | -0.436       |             |       |
| GFC                  | -1.265***    | -3.626      | 0.001 |
|                      | -0.349       |             |       |
| IB_Dummy*LER         | 1.727***     | 3.003       | 0.004 |
|                      | -0.575       |             |       |
| IB_Dummy*GFC         | 0.091**      | 2.521       | 0.017 |
|                      | -0.036       |             |       |
| Bank Size            | 2.947***     | 7.454       | 0.000 |
|                      | -0.395       |             |       |
| Non-interest income  | 0.442***     | 3.688       | 0.000 |
|                      | -0.12        |             |       |
| Board Size           | 0.263***     | 7.735       | 0.000 |
This table shows the results of Generalized Least Squares (GLS) regressions and the coefficients are estimated by using random-effects estimator. A panel of 38 cross-sections is estimated in e-views over the fifteen years period from 1996 to 2013. In the estimated equation, the dependent variable is a bank’s Z-Score measured as capital asset ratio plus return on assets divided by sigma of return on assets. LER is the Lerner index score estimated from trans-log cost function using quantity of output, input prices and time trend. IB_Dummy is a dummy variable that takes the value one if bank type is Islamic bank and zero otherwise. Moreover, GFC represents the global financial crisis. IB_Dummy*LER and IB_Dummy*GFC are the interaction terms of Islamic dummy with Lerner index and global financial crisis. Interaction terms capture the deferential effect of competition and financial crisis on bank stability for Islamic and conventional banks. Robust standard-errors are reported in parentheses***, **, and * indicate significance at 1%, 5%, and 10%, respectively.

4.3 Further investigation

In this section, mean comparison analysis is used in order to compare the mean stability score and degree of competiveness for the group of Islamic and conventional banks. Results are presented in Table 3. These results are confirmed by mean comparison analysis, which shows the mean stability score and degree of competitiveness is lower in conventional banks and Islamic banks groups respectively as compared to another group.

| Table 3: Bank competition in Islamic and conventional banks and financial stability |
|--------------------------------------|----------------|----------------|----------------|----------------|----------------|
| **Panel A: Bank Stability**          |                |                |                |                |                |
| #Obs.                                | Mean IB        | Std. Dev.      | SE Mean        | Test Value     | Z-score CB     |
| 9                                    | 26.23          | 14.41          | 4.80           | 10.59          |                |
| Test stat                            | df             | Sig. (2-tailed)| Mean Diff      | LLLC@95%       | ULCI@95%       |
| 3.257                                | 8              | 0.012          | 15.64          | 4.567          | 26.719         |
| **Panel B Competition**              |                |                |                |                |                |
| #Obs.                                | Mean IB        | Std. Dev.      | SE Mean        | Test Value     | Lerner Index CB|
| 9                                    | 0.528          | 0.0277         | 0.0092         | 0.443          |                |
| Test stat                            | df             | Sig. (2-tailed)| Mean Diff      | LLLC@95%       | ULCI@95%       |
| -9.196                               | 8              | 0              | -0.085         | -0.1063        | -0.0637        |

Panel A shows the result of one sample test for Z-Score, where the test value Z-score is the average value of Z-score for conventional banks (CB). Panel B shows the result of one sample test for Lerner index, where the Lerner index test value is the average value of Lerner index for CB. IB indicates Islamic banks.
Moreover, the average score of bank stability and competition is calculated for sample banks and reported in table 4. For this purpose, the sum of Lerner index and Z-score of all years for each bank is individually divided by the number of years.

Table 4: Competition and stability: Average score of Islamic and conventional banks

| Category          | Name of Bank                           | Years | Lerner Index | Z-Score |
|-------------------|----------------------------------------|-------|--------------|---------|
| Conventional      | Allied Bank Limited                    | 17    | 0.355        | 4.7     |
| Conventional      | American Express Bank Limited          | 4     | 0.361        | 14.2    |
| Conventional      | Askari Bank Limited                    | 16    | 0.384        | 5.9     |
| Conventional      | Atlas Bank Limited                     | 6     | 0.816        | 17.9    |
| Conventional      | Bank Al Habib                          | 17    | 0.68         | 5.6     |
| Conventional      | Bank Alfalah Limited                   | 16    | 0.43         | 5.2     |
| Conventional      | Bank of Khyber                         | 16    | 0.59         | 11.2    |
| Conventional      | Bank of Puniab                         | 18    | 0.55         | 7.8     |
| Conventional      | Faisal Bank Ltd                        | 17    | 0.493        | 9.9     |
| Conventional      | First Dawood Investment Bank Limited   | 9     | 0.25         | 15.2    |
| Conventional      | First Women Bank Limited               | 15    | 0.3          | 7.3     |
| Conventional      | Habib Bank Limited                     | 19    | 0.215        | 6.2     |
| Conventional      | Habib Metropolitan Bank Limited        | 17    | 0.505        | 7.5     |
| Conventional      | Indus Bank Limited                     | 8     | 0.368        | 18      |
| Conventional      | JS Bank Limited                        | 8     | 0.366        | 17.9    |
| Conventional      | KASB Bank Limited                      | 17    | 0.464        | 9.5     |
| Conventional      | MCB Bank Limited                       | 17    | 0.256        | 8.7     |
| Conventional      | Mybank Ltd                             | 16    | 0.525        | 11.7    |
| Conventional      | National Bank of Pakistan              | 17    | 0.458        | 9.1     |
| Conventional      | NIB Bank Ltd                           | 11    | 0.533        | 12.9    |
| Conventional      | PICIC Commercial Bank Limited          | 13    | 0.151        | 9.1     |
| Conventional      | Royal Bank of Scotland Ltd (The)      | 16    | 0.608        | 8.4     |
| Conventional      | Samba Bank Limited                     | 11    | 0.612        | 25.8    |
| Conventional      | Silkbank Limited                       | 17    | 0.497        | 5.3     |
| Conventional      | Soneri Bank Limited                    | 16    | 0.45         | 7.5     |
| Conventional      | Standard Chartered Bank Limited (Paksitan) | 8    | 0.383        | 15.5    |
| Conventional      | Summit Bank Limited                    | 8     | 0.475        | 1702    |
| Conventional      | Union Bank Limited                     | 14    | 0.363        | 6.4     |
| Conventional      | United Bank Limited                    | 17    | 0.412        | 5.8     |
| Islamic           | Albaraka Bank (Pakistan) Limited       | 7     | 0.363        | 17      |
| Islamic           | Albaraka Islamic Bank BSC (EC)         | 7     | 0.754        | 12.4    |
| Islamic           | Bank Islam Pakistan Limited            | 10    | 0.452        | 25.1    |
| Islamic           | Buri Bank Limited                      | 8     | 0.571        | 37.6    |
| Islamic           | Dubai Islamic Bank Pakistan Limited    | 9     | 0.458        | 26.7    |
| Islamic           | First Habib Modaraba                   | 11    | 0.805        | 58.8    |
| Islamic           | First National Bank Modaraba           | 9     | 0.402        | 15.6    |
| Islamic           | Meezan Bank Limited                    | 14    | 0.647        | 1703    |
| Islamic           | Standard Chartered Modaraba            | 9     | 0.301        | 25.6    |

Source: Authors’ Calculations
5. CONCLUDING REMARKS

Existing literature, in general, has focused on the competition stability nexus for conventional and Islamic banking. However, no research has been done in the context of Pakistani banks. Moreover, comparative evidence on this relationship across dual banking systems is a demanded topic. This paper addresses these issues and analyses and compares the bank competition and financial stability of Islamic and conventional banks in Pakistan. Panel data for 29 Islamic and conventional banks of Pakistan for the period starting from 1996 to 2013 is used and analyzed. Diagnostic tests namely redundant fixed effect and Hausman test suggest the existence of random effect model in panel estimation. The results of this panel generalized least square show that both Islamic banks and conventional banks are different in terms of financial stability. Further, an interaction term of Islamic banks dummy with Lerner index is used to explore whether the relationship between competition and stability is different for Islamic banks compared to conventional banks. Overall, Islamic banks are found to be more stable than conventional banks in competitive environment. These results are confirmed by mean comparison analysis, which shows the mean stability score and degree of competitiveness is lower in conventional banks and Islamic banks groups respectively as compared to another group.

This paper provides an important contribution in the context of Pakistan using direct measure of bank competition. The results provide useful insight for regulators decisions about devising the appropriate competition policy. Besides, the objective of developing Sharia compliant banking, this study encourages motive from the perspective of stability of banking system and economy of the country as well. Conventional bank may start their Islamic windows (which has been established in some banks) to improve its stability.

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