

Does the Age of Islamic Banks Matter? A Case Study of Pakistan

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The objective of the present study is to analyse the impact of Islamic banks' age along with other firm specific variables (size, liquidity and leverage) on their performance in Pakistan. For this purpose, the empirical investigation was made through Fixed Effect Model (FEM) by selecting the annual data period from the years 2006 to 2018. It was found that an increase in age of Islamic banks has a negative relationship with their performance. However, size and liquidity contribute positively towards Islamic banks' performance, whereas, no effect of leverage was observed. Overall, the study concludes that the firm-specific variables explain the Islamic banks' performance in Pakistan. This study also provides useful insight to managers and Islamic banks' customers regarding firm-specific determinants of the Islamic banks operational in Pakistan.

Key words: *Age, Banks, Islamic, Pakistan, Performance.*

Background of Study

The financial institutions make a vital contribution in stabilising the economy of any country by working as a facilitator between saving and the financing of the business activities. Thus, they contribute towards the economic development of a country (Majeed & Zainab, 2018).

As it was argued by Ansari (2013), the financial sector is an important tool for the economic prosperity of a nation. Specifically, in terms of Islamic banking institutions (IBIs), they have recorded tremendous growth over the last decade (Rashid, Yousaf & Khaleequzzaman, 2017), as was revealed by the Islamic Financial Services Industry Stability Report (2018); the system of Islamic banking of most of the Asian countries is growing around the pace of 10 to 20 percent.

The Islamic banking system of Pakistan has a much shorter history in comparison with conventional counterparts. Most of the Islamic banks fully operational in Pakistan emerged during the last thirty years. The much-needed attention to the Islamic banks industry was provided in December 23, 1999 by the regulators when the State Bank of Pakistan approved its various products; for example, Musharaka, Murabaha, Musawama, Mudaraba, Istisna, Salam and Leasing (State Bank of Pakistan, 2020). At the current stage, in Pakistan, the growth pace which the Islamic banks have is 7 percent, which is an impressive figure (Ansari, 2013; State Bank of Pakistan, 2019a). Therefore, current research aims at analysing whether Islamic banks' age in Pakistan play any role in defining their performance.

As of the year 2019, there are 22 Islamic banking institutes as well as total of 17 conventional banks having 2,979 Islamic banking branches, besides five fully-fledged Islamic banks in Pakistan (State Bank of Pakistan, 2019b). As was suggested by Ahmed, Siddiqui and Immamuddin (2013), the Islamic banking industry in Pakistan is positioning itself for wide scale growth, therefore, it is important to identify the factors which can impact its performance. Thus, the objective of this research is to observe the impact of the age of Islamic banks, as well as other firm-specific factors, on their performance.

This study aims to fill the gap in existing literature regarding the impact of Islamic banks' age on their performance. And although there are some previous studies (Agyei & Marfo-Yiadom, 2011; Utama & Musa, 2011) that have analysed the impact of age on the performance of conventional banks, the performance of Islamic banks in Pakistan with respect to their age is still ignored in previous literature.

Literature Review

In Pakistan, the emergence of Islamic banks has attracted the special attention of researchers. Furthermore, in terms of firm age, according to Loderer and Waelchli (2009), old aged firms may lose their competitive edge because they operate with outdated structure and processes. Furthermore, they also become rigid (Mwangi & Murigu, 2015), less flexible (Kaya, 2015; Liargovas & Skandalis, 2014) and do not accept change (Mwangi & Murigu, 2015). Therefore, their growth decreases (Evans, 1987). Aburime (2014) states that if a bank is newly established, it cannot become immediately profitable because it must reach its

breakeven point first. As was argued by Agyei and Marfo-Yiadom (2011), although the age of a bank can enhance its performance, after a specific age limit, however, this relationship can reverse.

In terms of the relationship between the age of conventional banks and their performance, a study by Beck, Cull and Jerome (2005) in the market of Nigeria found that age is a negative contributor towards the performance of conventional banks. Their study applied the Ordinary Least Square (OLS) model and covered the period from 1990 to 2001. However, in the context of the Pakistani market, to the knowledge of the authors of this current study, existing literature does not address the role of age in describing the performance of existing Islamic banks. Therefore, by considering previous literature regarding conventional banks, the negative impact of Islamic banks' age on their performance is postulated in this study.

H1: Increase in age of Islamic banks results in their decreased performance.

The size of a company has the defining power in explaining its market power (Almajali, Alamro & Al-Soub, 2012). Thus, an increase in market power puts a company in a competitive position as compared to other companies. According to Murerwa (2015), bank size is a significant contributor towards its positive performance. In addition, large sized banks can expand their operations globally and can access the untapped market which may provide them a competitive edge. Furthermore, large sized banks can also invest more in the technology as well as in other inputs. This increases their efficiency and customer base as well. However, Saonak (2016) argues that a bank can maximise its profitability only up to an optimal size.

Notwithstanding, the large size of a company also enables it to reach an economy of scale (Mwangi & Murigu, 2015) as well as an economy of scope (Liargovas & Skandalis, 2014). As a result, larger firms can become more efficient in their operations as compared to smaller ones (Almajali et al. 2012). Previous research (Al-Qudah & Jaradat, 2013; Masood & Ashraf, 2012) has also shown that firm size positively relates with the operational Islamic banks' performance. Thus, in light of these studies, the current study also proposes a positive linkage between Islamic banks' size and performance.

H2: The large sized Islamic banks in Pakistan experience enhanced performance.

In the context of the banking sector, Inyangala (2014) defines liquidity as a bank's ability to meet its obligations as they become due. Alternatively, liquidity can also be called the borrowing or debt capacity of a firm to fulfil the short-term demand of the funds (Brown, 2014). Francis (2012) states that bank managers should maintain an appropriate level of liquidity by considering the trade-off between risk-return and a high level of liquidity.

Furthermore, it Brown (2014) argues that banks should maintain such a liquidity level, which should be sufficient to meet the need of depositors as they want to withdraw their money. According to Naifar (2010), if the banks maintain a low level of liquidity, then in the case of sudden obligation they have to take a loan from a central bank or an interbank. This option can prove costly for banks as loans will be charged on higher rates.

Ngwili's (2014) study asserts that companies which maintain more liquid assets have lesser chances of failing because they can convert those liquid assets into cash in difficult situations. Furthermore, a firm can utilise its liquid assets for the purpose of investment, in case if external finance is too costly or not available (Almajali et al. 2012). Therefore, an increase in liquidity can increase the income generated from liquid assets. According to Murerwa (2015), liquidity can impact the financial performance of banks related to both developing and developed countries. Furthermore, as Al-Qudah and Jaradat (2013) conclusively demonstrate in their study, an increase in liquidity contributes positively towards the performance of Islamic banks registered in Jordan. In addition, in the context of conventional banks' performance, Khalfaoui and Saada's (2015) study also found the positive linkage among liquidity and the performance of the banks operating in the Tunisian market. They collected the data from the years spanning 2000 to 2013 and applied the multiple Ordinary Least Square (OLS) model for analysis' purpose. Therefore, it is assumed in this study that an increase in liquidity will increase the performance of the Islamic banks operating in Pakistan.

H3: The increase in Islamic banks' liquidity level translates into higher performance.

In the context of leverage, Omondi and Muturi (2013) argue that an increase in debt in the capital structure of a firm makes leverage riskier. Such an increase in risk level may even push a firm towards bankruptcy (Matemilola, Bany-Ariffin, Nassir & Azman-Saini, 2017) if a firm is unable to pay its debt (Mazviona, Dube & Sakahuhwa, 2017). Moreover, it may also face problems in the future seeking lenders. In terms of empirical evidence, a study by Obeidat, El-Rimawi, Maqableh and Al-Jarrah (2013) also reports the negative association among leverage and Jordanian Islamic banks' performance. Their data period was from 1997 to 2006 and they applied the multiple OLS analysis. Therefore, a significant negative relation is expected between Islamic banks' leverage and performance.

H4: An increase in Islamic banks' leverage decreases the performance

Data and Methodology

In this study, Islamic banks' performance measured by Return on Equity (ROE) is selected as the dependent variable, whereas, age, size, liquidity and leverage are selected as explanatory

variables. The yearly data of these variables is collected from 2006 to 2018. The data is in the shape of a balanced panel and each variable has 65 observations.

Table 1: Measurement of the variable

Variable	Notation	Measurement	Data Source
Profitability	PR	Return on Equity (ROE) = Net profitability after tax/ Total equity of shareholders	State Bank of Pakistan
Age	AG	Difference between observation year and establishment year	Website of Respective Company
Size	SI	Total assets	State Bank of Pakistan
Liquidity	LI	Cash and balances with banks divided by total assets	State Bank of Pakistan
Leverage	LE	Total deposit/total equity	State Bank of Pakistan

Source: Author's own compilation based on previous literature

In the Table 1, selected variables are exhibited in terms of their notation, measurement and data source. In addition, the mathematical expression of selected variables is shown in equation 1:

$$PR_{it} = \beta_1 + \beta_2 AG_{it} + \beta_3 SI_{it} + \beta_4 LI_{it} + \beta_5 LE_{it} + \mu_t \quad (1)$$

Whereas,

PR_{it} = Islamic banks' profitability i at time t ; AG_{it} = Islamic banks' age i at time t ; SI_{it} = Islamic banks' size i at time t ; LI_{it} = Islamic banks liquidity i at time t ; LE_{it} = Islamic banks' leverage i at time t ; β_1 = Intercept; μ_t = error term

Results and Interpretations

This section deals with the results and interpretations of the selected independent and dependent variables. First, to meet the basic assumptions of OLS such as multicollinearity, normality, heteroscedasticity and autocorrelation, the results of diagnostic tests are reported. To identify the existence of multicollinearity, the Variance Inflation Factor (VIF), tolerance factor (1/VIF) and the Pearson correlation test are applied. If correlation among two variables is more than 0.90 then it indicates the multicollinearity issue. Moreover, if the value of VIF increases from 10 or the value of tolerance factor (1/VIF) decreases from 0.10 then the

problem of multicollinearity arises in the model. The results of these multicollinearity tests are reported in Table 2.

Table 2: Multicollinearity tests results

	VIF	1/VIF	AG	SI	LI	LE
AG	1.383	0.722	1			
SI	5.183	0.192	0.465	1		
LI	1.061	0.942	0.108	-0.053	1	
LE	4.439	0.225	0.313	0.869	0.024	1

According to the results reported in Table 2, there is not any multicollinearity issue in the model, as the value of VIF is less than 10 and the value of the tolerance factor is greater than 0.10. The results of the Pearson correlation technique also ensure the non-existence of multicollinearity. This is because the correlation among all selected variables is less than 0.90. The Islamic banks' size and leverage has the highest positive correlation of 0.869. Although the correlation between these variables is relatively high as compared to other pairs of variables, it is still below the benchmark criteria set by Asteriou and Hall (2007, p. 91), which is 0.90. The correlation among leverage and liquidity is lowest at the level of 0.024.

In this study, the Jarque-Bera normality test was also applied to check the normality of the data. Hair, Black, Babin and Anderson (2010, p. 34) define normality as the extent to which a sample data's distribution relates to normal distribution. The results of this test are reported in table 3.

Table 3: Jarque-Bera normality test results

Jarque-Bera	278.348
Probability	0

According to the Jarque-Bera normality test results, the p-value is significant. This means that data is not normally distributed. However, as Hair et al. (2010, p. 70) and Pallant (2007, p. 204) state, if the sample size is greater than 30, it is considered large enough to relax the assumption of normality. In this study, the sample size is 65, thus, based on the arguments given by Hair et al. (2010, p. 70) and Pallant (2007, p. 204), the assumption of normality is ignored in this study.

In this study, the Breusch-Godfrey test is applied to detect any autocorrelation problem. According to Gujarati (2009, p. 70) a model is said to not have autocorrelation if its error terms' mean is random. The results of this test are reported in table 4.

Table 4: Autocorrelation test results

F-statistic	0.151	Prob. F (1,59)	0.698
Obs.*R-squared	0.166	Prob. Chi-Square (1)	0.683

According to the autocorrelation test results shown in table 4, the p-value is greater than 0.05. This indicates that there is not any autocorrelation problem in the data.

To identify the problem of heteroscedasticity, the Breusch-Pagan-Godfrey test is also applied in this study. This is because to execute the multiple regression analysis, data should meet the homoscedasticity assumption. A homoscedasticity assumption means that a dependent variable's variance should be equal for all selected independent variables. If it is not the case, a heteroscedasticity problem arises. Table 5 reports the results of heteroscedasticity test.

Table 5: Heteroscedasticity test results

F-statistic	6.521	Prob. F (4,60)	0
Obs.*R-squared	19.696	Prob. Chi. Square (4)	0

It can be observed from table 5 that the p-value is less than 0.05. This indicates that a heteroscedasticity problem exists in the model. To solve this issue, the model is made consistent with the help of the Heteroskedasticity and Autocorrelation Consistent (HAC) standard errors and covariance.

Table 6: Hausman test results

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	14.647	4	0.005

In table 6, the results of the Hausman test are reported. The Hausman test conducted in this study helped the researchers to choose either the Fixed Effect Model (FEM) or the Random Effect Model (REM). According to the results of Hausman test, the p-value is significant, which leads towards selection of FEM.

Table 7: Results of the Fixed Effect Model (FEM)

Variable	Beta Coefficient	T-stat	P-value
c	-3.163	-2.740	0.008
AG	-0.025**	-1.904	0.062
SI	0.193***	2.647	0.010
LI	0.520*	1.713	0.092
LE	-0.009	-1.649	0.104
R-squared (R²)	0.693		

Adjusted R²	0.649		
Prob(F-statistic)	0		

* Significant level = 0.1

** Significant level = 0.05

*** Significant level = 0.01

The results of the FEM are reported in Table 7. In the above model, AG, SI, LI and LE are independent variables, whereas the performance of Islamic banks measured by ROE is the dependent variable. According to the results, AG, SI and LI have the significant association with PR. On the other side, LE does not influence the PR. In the context of age, it negatively impacts the performance of the Islamic banks functional in Pakistan, with the beta coefficient value of -0.025. Such negative value of beta indicates that due to one unit increase in age, the performance of Islamic banks in Pakistan reduce by 0.025 units. It also represents that as the Pakistani Islamic banks grow older, their profitability declines. As Loderer and Waelchli (2009) state, old aged firms, due to their outdated processes and structure, may not be able to maintain their competitive edge. Similar findings, in the context of conventional banks, were found by Beck et al. (2005) in their study, which concludes the negative impact of conventional banks' age on their performance. These results are also supported by the claim made by Agyei and Marfo-Yiadom (2011), that after a specific age limit, a negative relationship between the age of a bank and its performance can be observed. These results also indicate that the Islamic banks in Pakistan are unable to utilise their experience of learning as they become older.

According to the results reported in table 7, the size of Islamic banks in Pakistan contributes constructively towards their performance. This is because large sized firms can achieve economy of scale and economy of scope (Liargovas & Skandalis, 2014; Mwangi & Murigu, 2015). Therefore, large sized Islamic banks in Pakistan also become able to increase their profitability due to their larger size. In addition, as stated by Murerwa (2015), the larger size of banks makes them able to raise capital at lower cost as compared to smaller banks. These results are also supported by previous studies (Al-Qudah & Jaradat, 2013; Masood & Ashraf, 2012), which reveal the positive impact of Islamic banks' size on their performance.

In light of this study's results, an increase of liquidity also increases the profits of the Islamic banks in Pakistan. According to the results, the value of the beta coefficient is 0.520. This indicates that a one unit increase in liquidity results in a 0.520 unit increase in Islamic banks' performance. These results also support the claim of Khalfaoui and Saada (2015), that an increase in liquidity increases the profitability of banks. Therefore, an increase in liquidity not only reduces the chance of failure for Islamic banks, but it also increases their performance. These results also indicate that by maintaining a higher level of liquidity, Islamic banks in Pakistan can be in a better position to fulfil any short-term commitment. The



findings of this research are similar to those of previous studies (Masood & Ashraf, 2012; Wasiuzzaman & Tarmizi, 2010), which find a positive influence of liquidity on Islamic banks' performance.

Conclusion

The critical role played by financial institutions in a country cannot be ignored. Specifically, in the case of the banking sector, as stated by Ansari (2013), Islamic and conventional banks significantly contribute towards the economic development of Pakistan. By considering such importance, the current study investigates the role of Islamic banks' age, along with size, liquidity and leverage, on their performance proxied by Return on Equity (ROE). The annual data from 2006 to 2018 was collected and the Fixed Effect Model (FEM) was applied for analysis' purpose. The findings provide evidence that an increase in the age of Islamic banks proves harmful for their performance. Contrarily, however, an increase in the liquidity and size of Islamic banks increases their performance. The findings of this study suggest that Islamic banks in Pakistan can benefit from an increase in liquidity by investing idle cash into some profitable avenues.



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