

Unravelling the Drivers of Profitability in Pakistani Islamic Banking: An Investigation of Key Factors

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Abstract

This study examines the impact of financial institution-specific profitability variables on the performance of Islamic banks in Pakistan from 2017 to 2021. The study finds a positive and statistically significant relationship between the gearing and capital adequacy ratios, with a significance level of 5% in both statistical multivariate regression models. Asset management is found to be statistically significant in model I and insignificant in model II, with a positive relationship in both cases. The bank's size is found to have a negative and negligible relationship in all models, which may be due to the fact that most Islamic banks in Pakistan have been losing money in recent years. Additionally, as the State Bank of Pakistan tightens its prudential regulations, capital sufficiency is found to have significant correlations in both models. This study provides new information to scholars and practitioners to improve the financial and economic literature on Islamic bank profitability.

Keywords: ROE, ROA, Profitability, Regression, Islamic Banks; Pakistan.

JEL classification: G21, G32, G39, O16

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1. Introduction

In recent years, financial institutions have faced a dynamic, competitive, and fast-paced environment on both national and global levels. One of the most critical dimensions is the new prototype of Islamic banking, which has drawn the attention of both Islamic and conventional economists and has established itself as a practical and feasible alternative with various benefits. Although it was created to meet Muslims' needs, Islamic banking has gained widespread popularity and is one of the fastest-growing finance and banking industries. While most Islamic Banks were initially established in developing and middle eastern countries, many banks in developed countries have started to recognize the significant demand for Islamic Banks' financial services (Sufian, 2007).

The Islamic banking industry has continued to thrive in most sections of the country, despite the weak economic conditions exacerbated by recent floods. Islamic banking deposits continued to rise strongly throughout the quarter, with total assets increasing to Rs. 424 billion from Rs. 411 billion at the beginning of the quarter, representing a 31% YoY growth. Deposits and financing & investments increased by 38.2% and 17.7%, respectively, to Rs. 338 billion and Rs. 233 billion after the quarter. The issue Islamic banking institutions have in seeking new financing, and investment opportunities to establish upward deposits is reflected in the decreased escalation in funding and investments. The Islamic banking industry's significant share in the country's banking system increased to 6.4% at the end of the quarter, up from 6.1% at the beginning.

Although there have been numerous studies on the efficiency capabilities of conventional banking in the United States, Europe, and Asia, studies on Islamic banking are still in their early stages. Research on the performance of Islamic banks has traditionally focused on theoretical aspects, with practical work generally concentrating on analysing descriptive data rather than rigorous statistical judgments. Because of the underdevelopment of capital markets, banks play a significant role in the provision of financial services in transition countries, which facilitates building the banking system's performance, which is crucial for economic development. This study aims to empirically examine the profitability variables of Pakistani Islamic banks to add to the literature on the efficiency of Islamic banks.

The goal of this study is to fill a gap in the literature by providing practical assistance on the current factors that affect the profitability of Islamic banks, updating research on the profitability of Islamic banking, scrutinizing and examining the factors that can manage the profitability of Islamic banks, making recommendations for improvement based on the author's knowledge and the evidence presented in this study, and suggesting Islamic banking. This study will empirically employ parametric linear analysis to approximate Islamic institutions' profitability. This approach allows for a data-driven assessment without specific functional forms or errors in structure. This study fills a gap in the literature by departing from the standard profitability analysis.

2. Literature Review

The drivers of profitability in Islamic banks have been highlighted by Basher, (2003). They gathered profits statements from 14 Islamic banks in eight international locations between 1993 and 1998 for a move United States of America exam. According to regression, profitability indicators respond favourably to mortgage ratios and capital increases, using return on asset (ROA) and return on equity (ROE) as structured variables. From 1987 to 2002, Al-Tamimi (2008) investigated the elements of UAE commercial banks by evaluating national and overseas banks.

They found that the bank portfolio mixture and financial institution length have an exceedingly widespread relationship with return on asset and return on equity for the performance of national banks, based on the effects of regression analysis.

Another study by Rashid and Jabeen (2016) examines the influence of specific banks and macroeconomic determinants of Islamic and conventional banks. The study results show that overheads and efficiency negatively influence the financial performance index (FPI). Further, the study shows that bank reserves positively affect financial performance (Rashid & Jabeen, 2016). In addition, Akram and Rahman (2018) examine that loan quality has a positive and significant effect on Credit Risk Management (CRM) for both Islamic banks and Conventional. On the other hand, asset quality hurts credit risk management (CRM) (Akram & Rahman, 2018).

Further, Maryam's study suggests that reputation, cost-benefit, and religious obligation have a highly significant and positive impact on Islamic Banks. On the other side, knowledge, government support, and business support have an insignificant effect on Islamic Banks (Maryam et al., 2019).

Although most Islamic Banks were founded in developing and centred in international locations, many banks in evolved international locations have begun to apprehend the exquisite demand for Islamic Banks' monetary offerings (Sufian, 2007). Even studying Malaysian banks from 1997 to 2003, Mokhtar et al. (2008) confirmed that while absolutely fledged Islamic banks were extra green and well-prepared than Islamic home windows, they had been nonetheless less green than traditional banks. Siddiqui (2008) tested the conduct of Islamic financial strategies and their chance features. They looked at a comparison and evaluated a ramification of income, liquidity, profitability, and capital adequacy parameters between two completely Islamic-regulated banks in Pakistan (Meezan financial institution and Al-Baraka financial institution). The observation discovered that Pakistan's Islamic banks were inclined to use long-term financing initiatives and had higher profitability than traditional banks. Conventional banks outperformed Islamic banks

in phrases of increasing profitability and threat control techniques, according to (Ali et al. 2011 and Akhtar et al. 2011).

Between 2000 and 2004, Sufian & Parman, (2009) investigated the profitability of Malaysian non-commercial banks and financial institutes (NCBFIs) and the macroeconomic and bank-specific elements that affected their profitability. Using the standard least-square model, the researchers observed that NCBFIs with excessive credit score danger and mortgage intensity had lower profitability levels. In contrast, people with high working costs and capitalization have different profitability stages. According to Sufian & Akbar (2009), Islamic banks had been administratively inept in maximizing the use of their resources. Choi et al. (2007) and Koutsomanoli-Filippaki et al. (2009) discovered huge diversity in inefficiency stages among banking structures and numerous prototypes. Similarly, he found that tiny and domestic private banks are the maximum efficiency. While examining a group's foundation of 11 organizations of Islamic Cooperation (OIC) nations over the period 1990-to 2005, Hassan et al., (2009), Sufian & Akbar (2009) found that banks are greater competent in using their resources than in generating profits and sales.

Furthermore, Sufian & Habibullah, (2009) investigated the efficiency of Thailand's banking machines from 1999 to 2008. The DEA model and multivariate regression analysis determined that banks with larger capitalization and lending depth have higher performance stages. In contrast, empirical studies propose that the recent worldwide economic disaster hurts Thailand's banks' efficiency.

Even in getting to know Islamic financial institution danger control techniques, Akhtar et al. (2011) and Ali et al. (2011) located the importance of scale and networking capital. Furthermore, they also checked out the bank-specific and macroeconomic elements that impact profitability in Pakistani industrial banks. They have a look at found that capital adequacy ratio, credit threat, asset management, GDP, and consumer price index have vast effects on profitability when measured with going back on belongings (ROA) and that operating efficiency, asset management, and GDP

have tremendous outcomes on profitability while measured with return on fairness (ROE).

Ali, Akhtar, and Sadaqat (2011) examined Pakistan's business banks' monetary and non-financial chance dimensions. The study used linear regression fashions on a pattern of 28 commercial banks in Pakistan (of which six had been full-fledged Islamic banks). Credit chance and operational chance were hired as monetary and non-financial chance factors, respectively. They have a look indicating that size, gearing ratio, and liquid property greatly affected version (A), which examines financial threats. But the study determined a robust relationship between length, non-appearing mortgage ratio, and operational efficiency inside version (B), which looks at non-financial hazards.

The size of a bank has been found to have a significant impact on its performance, particularly in terms of profitability. Larger banks are often better positioned to achieve economies of scale and scope, which can lead to lower costs and higher revenues. Several studies have found a positive relationship between bank size and ROA and ROE (Baele et al., 2007; Berger et al., 1999; Casu & Girardone, 2004).

However, the relationship between bank size and profitability may not be linear. Some studies have found a U-shaped relationship between bank size and profitability, suggesting that there may be an optimal size beyond which larger banks may face diseconomies of scale (Berger et al., 1999; Casu & Girardone, 2004).

The gearing ratio, which measures a bank's level of leverage, has been found to have a significant impact on its profitability. Banks with higher levels of leverage are often able to generate higher returns on equity, but they also face higher risks of financial distress and default. Several studies have found a positive relationship between the gearing ratio and ROE (Altunbas et al., 2001; Molyneux et al., 1996).

However, the relationship between gearing ratio and profitability may not be straightforward. Some studies have found a non-linear relationship between gearing ratio and profitability, suggesting that there may be an optimal level of leverage beyond which further increases may lead to

diminishing returns or increased risk of financial distress (Demirgüç-Kunt & Huizinga, 1999).

Asset management, which measures a bank's ability to efficiently deploy its assets to generate revenue, has also been found to have a significant impact on its profitability. Banks that can effectively manage their assets are often able to generate higher returns on both assets and equity. Several studies have found a positive relationship between asset management and both ROA and ROE (Berger et al., 1997; Casu & Girardone, 2004).

However, the relationship between asset management and profitability may also be influenced by other factors, such as the quality of a bank's loan portfolio and its level of risk management. Some studies have found that the relationship between asset management and profitability may be weaker for banks with higher levels of non-performing loans or lower levels of capital adequacy (Berger et al., 1997).

This takes a look at targets to present new empirical support to the resources and variables of the Islamic Banks of Pakistan to fill understanding gaps in the profitability of Islamic banks.

3. Research Method

The ordinary least square approach is a widely accepted and appropriate method for evaluating the banking sector's profitability, as it has been utilized in numerous previous studies. Therefore, it is a well-established and reliable technique that can be confidently applied in this research. Moreover, this study will use secondary sources such as books, journal papers, and government publications, contributing to the data analysis's comprehensiveness and accuracy. These sources are well-respected in the academic community and have been extensively used to interpret and comprehend data.

By employing these methodologies, this research is poised to provide a comprehensive and insightful analysis of the banking sector's profitability. The findings of this study are expected to contribute significantly to the existing body of knowledge on this topic, making it a compelling and valuable addition to the academic discourse on banking and finance. Therefore, utilising the

ordinary least square approach and secondary sources will enhance the rigour and credibility of this research, making it a persuasive and attractive study that will interest scholars, policymakers, and practitioners alike.

3.1 Models for Research

The following models were offered to accomplish the study's goals.

Model I. Return on Asset (ROA)

$$ROA = a + x_1 \beta_1 + x_2 \beta_2 + x_3 \beta_3 + x_4 \beta_4 + x_5 \beta_5 + x_6 \beta_6 + \varepsilon$$

Model II. Return on Equity (ROE)

$$ROE = a + x_1 \beta_1 + x_2 \beta_2 + x_3 \beta_3 + x_4 \beta_4 + x_5 \beta_5 + x_6 \beta_6 + \varepsilon$$

3.2 Data Collection

In this study, the Islamic banks of Pakistan have been selected as the sample to examine financial data profitability over a four-year period spanning from 2017 to 2021. The decision to choose Islamic banks in Pakistan as the study's sample was based on their unique characteristics and significant role in the country's financial system.

The data for this study has been sourced from multiple channels, including the annual reports of various banks and the websites of the Lahore Stock Exchange and the State Bank of Pakistan. These sources are widely recognized for providing reliable and comprehensive financial data, which is essential for conducting a thorough analysis.

This study employs bank financial data to estimate the capacity and dimensions for control variables. This data serves as a crucial input in establishing the necessary parameters to control extraneous variables' effects on the analysis. Furthermore, using financial data from the banks will ensure the accuracy and reliability of the control variables, which is crucial for making valid inferences from the study.

3.2 Variables Measurement

Profitability is an essential aspect for bank shareholders, as it reflects the ability of a bank to generate profits and maximize shareholder returns. However, banks face various adverse

situations, such as loan losses or unexpected changes in economic conditions, which may impact their profitability. Return on assets (ROA) and return on equity (ROE) are the most commonly used measures to evaluate a bank's financial performance, as highlighted by numerous studies (Berger, 1995; Naceur & Goaid, 2001; Miller & Noulas, 1997; Williams, 2003; Kosmidou, 2008; Siddiqui, 2008; Sufian & Habibullah, 2009). Therefore, this study has analyzed the profitability of Islamic banking institutions in Pakistan for four years, from 2017 to 2020, using these dimensions and several explanatory variables.

The study has examined various financial variables such as bank size, gearing ratio, asset management, non-performing loans (NPLs) ratio, capital adequacy, and operating efficiency measures. These variables have been chosen based on their relevance to the profitability of Islamic banks and their impact on financial performance. Table 1 in this paper provides specific details on these variables, including their symbols and proxies, which have been used to analyze the profitability of Islamic banking institutions in Pakistan. The study has investigated the yearly financial statements of these banks for four years, using these variables to evaluate their profitability.

Table 1. Variable, their Proxies, and Symbols

Symbols	Variables	Proxies
Dependent Variables for Models I and II		
Y1	ROA (Return on Asset)	Total Asset Common Stock
Y2	ROE (Return on Equity)	Equity (CSE)
Explanatory Variables		
X1	Banks Size (BS)	Logarithm of Total Asset
X2	Gearing Ratio (GR)	Asset
X3	NPL Ratio (NPLR)	Equity
X4	Asset Management (AM)	Total Loan Operating Income
X5	Operating Efficiency (OE)	Total Asset Risk-Weighted
X6	Capital Adequacy (CA)	Asset

4. Results and Discussion

The profitability of Islamic banks is significantly influenced by various factors such as bank size, debt-equity ratio, asset management, non-performing loans (NPLs) ratio, capital adequacy ratio, and operating efficiency. The interrelation between these factors and profitability underscores the need for a long-term approach to financial management in Islamic banks. It is worth noting that any adverse impact on profitability resulting from asset and liability mismanagement can significantly affect the overall performance of Islamic banks. These factors are bank-specific and can be effectively managed by implementing appropriate strategies and efficient resource allocation.

Islamic banks' effective management of these factors can significantly enhance their profitability and overall financial performance. For instance, improving the asset management approach can lead to more efficient use of financial resources, which, in turn, can increase profitability. Similarly, reducing the NPLs ratio through appropriate loan management strategies can improve the bank's financial performance.

4.1 Pearson Correlation Statistics and Descriptive Statistics

Table 2 presents the descriptive statistics of all exploratory and explanatory variables analyzed in this study. The descriptive facts indicate that a discrete random variable represents the arithmetic mean of all the variables for a specific set of statistics. The standard deviation provides information about the range or dispersion in the dataset for each variable. A low standard deviation suggests that the data points are likely very close to the mean, while a high standard deviation indicates that the data is spread over a wide range of values.

It is worth noting that the descriptive statistics in Table 2 provide valuable insights into the characteristics of the data analyzed in this study. These statistics are crucial in interpreting and understanding the relationship between different variables and the profitability of Islamic banks in Pakistan.

Table 2. Statistical Descriptive

Statistical Description		
Variables	Mean	Standard Deviation
Return on Asset (ROA)	-0.00443	0.023067
Return on Equity (ROE)	0.024484	0.155345
Banks Size (BS)	6.699245	2.104554
Debt Equity Ratio (DER)	4.981711	4.123234
Asset Management (AM)	0.000896	0.002122
NPL's Ratio (NR)	0.019165	0.023169
Capital Adequacy Ratio(CAR)	0.242455	0.188454
Operating Efficiency (OE)	0.043345	0.032344

*Correlation is significant at the 0.001 level (Significance value < 0.001).

**Correlation is significant at the 0.10 level (Significance value < 0.10).

Table 3. Coefficients of Pearson Correlation

Coefficients of Pearson Correlation						
	Banks Size	Gearing ratio	Asset Management	NPL Ratio	Capital Adequacy	Operating Efficiency
Banks Size (BS)	1	0.615**	0.111	0.289**	0.323	0.519
Gearing Ratio (GR)		1	0.588	0.308	-0.425	-0.043
Asset Management (AM)			1	-0.115	-0.399**	-0.566
NPL Ratio (NR)				1	0.047**	0.335
Capital Adequacy (CA)					1	0.539
Operating Efficiency (OE)						1

Table 4. Model I Regression Statistics

Coefficient Model I					
	Unstandardized Coefficients		Standardized Coefficients	T	Sig
	B	Std. Error	Beta		
Constant	0.0000	0.008		-0.013	0.992
Banks Size (BS)	0.0000	0.003	-0.003	-0.010	0.993
Gearing Ratio (GR)	0.0040	0.002	0.503	2.521	0.028
Asset Management (AM)	0.4060	0.325	0.209	1.199	0.249
NPL Ratio (NPLR)	-0.3209	0.097	-0.268	-2.355	0.032
Capital Adequacy (CA)	0.0750	0.019	0.556	3.647	0.002
Operating Efficiency (OE)	-0.8778	0.176	0.759	-4.374	0.000
R ²		0.851	Mean		-0.002349
Adjusted R ²		0.797	Standard Deviation		0.19516
Sum Squared Residual		0.003	F-Statistics		16.953
D u r b i n - W a t s o n Statistics		1.962	Prob (F-Statistics)		0.0000

Table 5. Model II Regression Statistics

Coefficient Model II					
	Unstandarized Coefficient		Standardized Coefficient	t	Sig
	B	Std. Error	Beta		
Constant	0.000	0.068		-0.003	0.999
Banks Size (BS)	-0.005	0.015	-0.055	-0.280	0.793
Gearing Ratio (GR)	0.032	0.011	0.723	2.527	0.028
Asset Management (AM)	2.806	2.225	0.269	1.299	0.249
NPL Ratio (NPLR)	-1.320	0.972	-0.168	-1.355	0.152
Capital Adequacy (CA)	0.375	0.195	0.456	2.647	0.029
Operating Efficiency (OE)	-4.877	1.761	-0.597	-2.374	0.013
R ²	0.795		Mean	0.0000	
Adjusted R ²	0.718		Standard Deviation	0.13816	
SumSquared Residual	0.115		F-Statistics	10.953	
Durbin-Watson Statistics	1.662		Prob (F-Statistics)	0.0000	

The findings of the Pearson correlation test indicate no evidence of multicollinearity among the variables analyzed in this study. This suggests that none of the explanatory variables is interdependent, and each variable contributes unique information to the regression model. Table 3 presents the Pearson correlation coefficients, which provide information about the strength and direction of the linear relationship between each pair of variables. The coefficients range from -1 to +1, with values closer to -1 or +1 indicating a stronger correlation and values closer to 0 showing a weaker correlation.

Table 4 presents the results of the least-squares regression analysis for Model I. For the regression in this model in which ROA serves as the dependent variable, the p-values of "Gearing ratio (GR)", "NPL ratio (NPLR)", "Capital adequacy (CA)", and "operating efficiency (OE)" are all less than 0.05, indicating statistical significance. Increases in "Gearing ratio (GR)" and "Capital adequacy (CA)" both exhibit a positive coefficient and substantial T-statistics, indicating that these two independent variables significantly affect the dependent variable (ROA). On the other hand, the negative coefficient and T-statistic of "NPL ratio (NPLR)" and "operating efficiency (OE)" imply that a rise in these variables considerably effects a fall in ROA. However, "Banks size (BS)" and "Asset management (AM)" do not exhibit statistical significance, suggesting they do not

play a substantial role in determining ROA in the presented regression model. The F-statistic indicates the overall significance of the model at a 0% significance level, while the Durbin-Watson test score confirms the absence of autocorrelation. The R-squared value in model I is 0.85 which means that 85% of the variation in the dependent variable "ROA" is explained by all the independent variables included in model I while the 15% remaining is explained by other independent variables.

Table 5 presents the regression results of Model II. The "Gearing ratio (GR)" and "Capital adequacy (CA)" p-values for the regression of this model using ROE as the dependent variable are both less than 0.05, showing statistical significance. An increase in "Gearing ratio (GR)" and "Capital adequacy (CA)" are two independent variables that have a positive coefficient and significant T-statistics, suggesting that they substantially impact the dependent variable (ROE). None of the other variables in the proposed regression model—"Banks size (BS)", "Asset management (AM)", "NPL ratio (NPLR)", and "Operating efficiency (OE)"—exhibit statistical significance, indicating they play little to no influence in predicting ROE. The R-squared value of Model II is 0.79 which means that 79% of the variation in the dependent variable "ROE" is explained by all the independent variables included in the model while the 21% remaining is explained by other independent variables.

These findings highlight the importance of maintaining an appropriate debt-equity ratio to enhance the profitability of Islamic banks. Efficient management of assets and the management of non-performing loans are also crucial factors that should not be overlooked. Nonetheless, bank size has no statistically significant impact on profitability, suggesting that the performance of Islamic banks does not depend on their size. These findings provide valuable insights for policymakers and practitioners in the Islamic banking sector to devise appropriate strategies to enhance profitability.

The study showed that bank size did not affect profitability as evaluated by ROE at the 5% level. Aligning with other research, this study finds that larger banks tend to be less profitable than their smaller counterparts (Akhtar et al., 2011, Spathis et al., 2002, Kosmidou 2008, Ali et al., 2011, and Ahmed, 2011).

Nevertheless, it is important to note that a negative coefficient shows a possible propensity for profitability to drop as bank size grows, even while statistical insignificance implies the observed link may have happened by coincidence. One possible explanation is that bigger banks have to bear greater running expenses, which might cut into their profits. Larger banks may also be subject to more regulatory obligations, which might raise expenses and lower profits.

This suggests that the effect of bank size on profitability may be complicated and impacted by different variables beyond the scope of this research, since the observed negative association is not statistically significant.

On the other hand, the negative association between operating efficiency and ROE suggests that more efficient banks tend to generate higher profits. This finding is consistent with previous research by Alexiou & Sofoklis (2009), Sufian & Habibullah (2009), Ramlall (2009), Akhtar et al. (2011), Ali et al. (2011), and Ahmed (2011). Efficient banks can reduce operating costs and increase profits, enhancing their financial performance.

Moreover, the positive relationship between the capital adequacy ratio and profitability suggests that banks with higher capital adequacy

ratios tend to be more profitable. This finding is consistent with previous research by Ramlall (2009), Akhtar et al. (2011), Ali et al. (2011), and Ahmed (2011). A higher capital adequacy ratio implies that banks have sufficient funds to absorb unexpected losses, which can enhance their financial stability and profitability. Additionally, banks with higher capital adequacy ratios may have a better reputation among investors and customers, which can increase their profitability.

5. Conclusions

The study investigated the outcomes of economic institution-particular profitability determinants in Pakistani Islamic banks. The records study is primarily based on data from 2017 to 2020, suggesting an extended-time period of affiliation between all explanatory elements and profitability. The connection between the gearing ratio and capital adequacy ratio is discovered to have superb dating. It is statistically widespread at the 5% importance degree in both statistical multivariate regression approaches. At the same time, asset management is statistically substantial in model I and insignificant in model II, with good relationships in both directions. In both models, the bank's length confirmed a terrible and negligible step out, which can be explained through the truth that leading Islamic banks were dropping cash in current years.

Furthermore, while the state financial institution of Pakistan tightens its prudential necessities, capital adequacy became observed to have a vast step out in both models. The NPLs ratio is honoured to have a bad connection with each profitability metric (return on asset and return on equity), with statistical importance within model I and negligible in model II. This observation gives pupils and practitioners new insights into the financial and financial literature on Islamic bank profitability.

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