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NAVIGATING STABILITY: EXPLORING KEY FACTORS INFLUENCING ISLAMIC BANKS AND CONVENTIONAL BANKS IN PAKISTAN

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Abstract

This paper examines the factors that influence Pakistani banks' stability, with a focus on Islamic Banks (IBs), through regression analysis. Drawing on a dataset spanning from 2007 to 2021, the study explores key factors influencing the financial health of banks, particularly through the lens of the Z-score, a popular indicator of stability. The analysis reveals several significant findings. Firstly, the created regression models have a high degree of explanatory power; their R-squared values of 0.721 and 0.556, respectively, show that the included variables account for more than 70% and 55% of the Z-score's variance. Secondly, individual variable analysis highlights important relationships. Notably, increasing cost-income ratio, GDP growth rate, and loan assets ratio are associated with lower Z-scores, suggesting potential risks to financial health. Conversely, higher inflation and HHI deposit concentration are linked to higher Z-scores, indicating potential benefits for IBs under such conditions. The implications of these findings are substantial. Maintaining operational efficiency, managing complexity effectively (especially for larger banks), and understanding the positive impact of inflation on Z-scores are identified as critical factors for achieving better financial stability. Regulatory policies should consider these factors to promote and maintain a stable Islamic banking sector in Pakistan. However, the study acknowledges certain limitations. It suggests further exploration of interactive effects and alternative measures of bank stability for a more comprehensive understanding. Future research could delve deeper into the mechanisms explaining the observed relationships, providing valuable insights for strategic decision-making and regulatory frameworks. In summary, this paper offers evidence-based insights into the factors influencing bank stability in Pakistan, particularly for IBs. Understanding these factors can inform strategic decision-making for individual banks and regulatory policies, ensuring a healthy and robust Islamic banking sector in the country.

Keywords: Navigating Stability, Islamic Banks, Conventional Banks, Bankruptcy

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Introduction

In September 2008, Lehman Brothers, the fourth-biggest US bank, filed for bankruptcy, and Merrill Lynch, Morgan Stanley, and Goldman Sachs were among the major banks having financial troubles. The US government decided to step in, together with the US Treasury Department, the Federal Reserve, and the Federal Deposit Insurance Corporation, to save the failing system and to revive public confidence in the banking industry of US, because they were unaware of the effects that another massive bankruptcy would have on the system's ability to withstand financial shocks. The largest bailout package in history was the outcome of this. Taxpayers had to bail out financial firms, injecting a stunning $9.7 trillion into the US market. The financial crisis was also affecting banks in the UK and other parts of Europe. For European banks, a bailout plan of $1.4 trillion and a $0.9 trillion proposal for UK banks was revealed by Bloomberg (2009).

According to Kayed and Hassan (2011), CBs chose a highly leveraged stance, making them more prone to the economic downturn, and did not apply profit and loss sharing (PLS) principles. Instead, they placed an excessive reliance on financial derivatives, knowing that central banks and other regulators would step in to save any failing bank that was too big to fail.

On the other hand, IBs proved to be more robust compared to CBs throughout the subprime crisis. As a result, a new line of inquiry into the factors contributing to IBs' success, stability, efficiency and effectiveness compared to CBs is being created (IMF, 2010). To grow their balance sheet, IBs depend on PLS and non-PLS transactions (financing on a markup basis).

According to Rammal et al. (2023), originating in the late 1940s was the idea of interest-free banking, when Ahmad (1952), Siddiqi (1948), and Qureshi (1946) offered a system of Islamic banking that avoids interest by using the concept of Mudaraba. Nonetheless, it was stated that Islamic finance was dormant during this time (Bintawim, 2011; Moisseron et al., 2014). This era could also be referred to as the "Islamic economics" era.

The financial sustainability of financial organizations is significantly influenced by solvency. Solvency refers to a bank's ability to meet its long-term growth and development objective as well as its long-term fixed costs. There is a need for further research on the success and failure of banks, particularly in emerging economies, given the current prevalence of unfavorable events like the financial crisis and bank failure in the global economy, a higher degree of competition, and globalization. By examining the significance of solvency for banks' survival and the health of Pakistan's financial system, this research adds to the corpus of literature. In view of international standards set by BCBS, AAOIFI, and IFSB, this additionally compares the solvency of CBs and IBs. This research attempts to compare the solvency of IBs in Pakistan with CBs using standards developed by BCBS, AAOIFI, and IFSB. The rationale behind this comparison is that IBs' asset and liability structures differ significantly from those of CBs.

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Research Questions

The investigation formulates the subsequent research inquiries:

1. Which solvency techniques were available for use by Pakistani IBs and CBs throughout the study period?

2. Do IBs that operated in Pakistan throughout the study period have more effective solvency strategies than regular banks?

This study is different in a few respects from earlier Pakistani research projects. The largest downloadable dataset for the years 2007–2021 is used as the starting point. Subsequently, a larger sample and two different samples of banks (e.g., the top 10 banks) are employed. Third, a comparison is made between five fully operational IBs and five CBs that offer traditional windows. The latter exceeds the size of fully formed IBs. Sabi (1996) recommends using this interbank examination method to examine bank performance. Additionally, the research helps to explain each conclusion by providing a reason in addition to identifying comparative evidence of better or worse performance.

Literature Review

In literature, when evaluating the performance of similar businesses, a comparative analysis is commonly used. Financial ratio analysis is a method that is frequently employed in the literature to assess and contrast bank operational results. (Iqbal et. al., 2023; Büyükoğlu, 2023).

Samad (2004) carried out studies that contrasted Bahraini IBs and CBs between 1991 and 2001. The study's conclusion demonstrates that while the credit performance of the two forms of banking differs, profitability and liquidity do not change much. In a different study, Srairi (2010) utilized the stochastic frontier approach to examine profit and cost efficiency. From 1999 to 2007, to carry out the investigation, 71 commercial banks in the GCC were investigated. The results demonstrated that IBs are not as efficient as CBs.

Using trend and ratio analysis, Iqbal (2001) researched the IBs' performance between 1990 and 1998. Using econometric approaches, Kaleem and Isa (2003) conducted a study on the return on deposits for Islamic and conventional accounts. Results demonstrated that IBs play a major role in emerging markets. According to the study's findings, IBs outperform CBs. A contrast between IBs and CBs has been made by Akhtar et al. (2011). As per the findings, there is a positive correlation between liquidity risk and networking capital to assets. Liquidity risk has a substantial positive correlation with both CBs' capital adequacy and IBs' ROA.

According to Wasiuzzaman and Gunasegavan's (2013) analysis of the performance of IBs and CBs in Malaysia, IBs' board sizes, ROAs, and bank sizes are similar to those of CBs. As stated by the findings, IBs also had higher levels of capital adequacy, asset quality, liquidity, and operational efficiency. For the period from 2004 to 2008, Safiullah (2010) employed ratio analysis to examine the performance of IBs

and CBs in Bangladesh. They showed how CBs perform better than IBs with regard to production and efficiency. As opposed to IBs, customers of CBs report higher levels of satisfaction, according to a 2013 study by Ali et al. on IBs and CBs. Using ratio analysis, Siraj and Pillai (2012) conducted a study on the GCC region's IBs and CBs comparisons from 2005 to 2010. Six IBs and six CBs served as the study's sample. The results indicated that operating profitability and financed equity are higher for IBs than for CBs.

During the period from 2005 to 2009, numerous studies were carried out to assess the effectiveness of Pakistani IBs and CBs. Jaffar and Manarvi (2011) compared the effectiveness of IBs and CBs. The CAMEL test was employed for analysis in the study. The findings demonstrated the superior earning capacity and liquidity management of CBs. The asset quality of both kinds of banks is comparable. Furthermore, they found that, according to the UNCOL ratio study, IBs perform better than CBs. Similar research was conducted by Moin (2013), except it covered a different period—from 2003 to 2007. In contrast, he employed twelve ratios. Because they have been in business for a long time, CBs were judged to be superior. According to a study by Usman and Khan (2012), there was greater growth and profitability in IBs than in CBs in Pakistan between the years of 2007 and 2009. Furthermore, compared to regular banks, IBs have more liquidity. A related study conducted in Pakistan between 2010 and 2014 by Mughal et al. (2015) demonstrated that CBs yield higher profits than IBs.

Numerous studies in the literature have compared the performance of IBs and CBs using ratio analysis. However, the research that is now available in Pakistan has only been analyzed for a short while. This study is being carried out over a longer time frame, from 2007 to 2021. In Pakistan, Islamic banking began in 2002, although there weren't many other IBs in the sector up until 2006. In order to provide a more accurate performance review and comparison, this research is being extended to the longest possible duration.

Methodology

Purposive sampling was utilized in this study to choose its sample population. Samples included five CBs and five fully operational IBs (see Table 1). Secondary data from chosen banks' published annual reports were used in order to perform this study. Useful information was gathered from the State Bank of Pakistan's annual report and its various departments.

Table 01: List banks considered in the study

ISLAMIC BANK	CONVENTIONAL BANK
Al-Baraka Bank	Allied Bank
Bank Islami	MCB Bank
Dubai Islamic Bank	National Bank
MCB Islamic Bank	United Bank
Meezan Bank	Habib Bank

Insolvency risk is a bank’s incapacity to pay back its loans and other financial commitments due to bankruptcy. The ROA, Capital Adequacy Ratio (CAR), and Z-Score are three important performance metrics that are included in a financial

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indicators' theory-based analysis of the bank's health. These metrics can be used to evaluate the overall financial health, profitability, and capacity to absorb losses of a bank. The Z-SCORE's retention measure is {(ROA + Capital Ratio) / Standard Deviation of ROA]}.

Using inferential statistics, the correlations and associations between the variables were examined. Regression analysis will be used to assess the impact of independent factors on dependent variables, and correlation analysis will be used to ascertain the direction and degree of relationships. The following chapters examine and discuss the findings after methodically performing the required statistical tests to ascertain the significance of the relationships and the precise model utilising significant independent factors that affect dependent variables.

Results and Discussion

Z Score, the dependent variable, has an R-squared of 0.721, meaning that 72.1% of its variance can be explained by the model (Table 2). In the adjusted R-squared, which is 0.701 and somewhat less than the R-squared, the quantity of variables in the model is considered. The standard error of the estimate is 2.236, which is the average difference between the actual and expected values.

Table 02: Results of regression model for CBs

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.849b	0.721	0.701	2.235

b. Predictors: (Constant), GDP_Growth_Rate, Cost Income Ratio, HHI_Deposit, Loan Assets Ratio, Inflation

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	892.352	5	178.470	35.708	0.000c
	Residual	344.866	69	4.998		
	Total	1237.218	74			

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-41.439	25.960		-1.596	0.115
	Loan Assets Ratio	-11.059	4.904	-0.268	-2.255	0.027
	Cost Income Ratio	-23.934	3.662	-0.525	-6.536	0.000
	HHI_Deposit	755.014	317.183	0.284	2.380	0.020
	Inflation	9.313	1.706	0.982	5.460	0.000
	GDP_Growth_Rate	-71.775	15.182	-0.347	-4.728	0.000

b. Dependent Variable: Z-score

Source: Authors' estimations

Z Score = -41.439 - 11.059 Loan Assets Ratio - 23.934 Cost Income Ratio + 755.014 HHI Deposit + 9.313 Inflation - 71.775 GDP Growth Rate

With a p-value of 0.000 and an F-statistic of 35.708, the model is statistically significant and provides a better explanation of the variance in Z-score than a model that includes the intercept. The variation explained by the model is represented by the regression sum of squares, which is 892.352. The variance that cannot be explained is represented by the residual sum of squares, which is 344.866 (see Table 2, results for ANOVA).

The lack of statistical significance in the constant term implies that the Z-score has no intrinsic value when all other variables are zero. The coefficients for GDP Growth Rate, HHI Deposit, Loan Assets Ratio, Cost Income Ratio, and Inflation are all statistically significant. The negative coefficients of GDP Growth Rate, Loan Assets Ratio, and Cost Income Ratio show that these variables are adversely correlated with Z-score. Positive coefficients for HHI Deposit and Inflation show that they are positively correlated with Z. The proportional significance of every predictor is shown by the standardized coefficients (Beta). For instance, Loan Assets Ratio, GDP Growth Rate, and Cost Income Ratio have the next-strongest negative effects on Z-score.

These findings indicate that the cost-income ratio, GDP growth rate, and inflation have a major impact on bank stability in Pakistan. The loan assets ratio and HHI deposit concentration also have an impact but to differing degrees of relevance.

Table 3: Regression model for IBs

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.746[b]	0.556	0.535	5.03

a. Bank_Ttype = Islamic Banking

b. Predictors: (Constant), Inflation, Cost Income Ratio, Log of Total Assets

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1997.288	3	665.763	26.312	0.000[c]
	Residual	1594.095	63	25.303		
	Total	3591.383	66			

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	162.255	18.875		8.596	0.000
	Cost Income Ratio	-34.956	6.874	-.430	-5.085	0.000
	Log of Total Assets	-13.617	1.814	-.910	-7.507	0.000
	Inflation	13.312	2.060	.779	6.462	0.000

b. Dependent Variable: Z-score

Source: Authors' estimations

Z Score = 162.255 - 34.956 Cost Income Ratio - 13.617 Log of Total Assets + 13.312 Inflation

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In Table 3, the model's 55.6% (R-squared) explanation of the Z-score's variance is considered moderately good. The model's statistical significance is confirmed by the F-statistic of 26.312 with a p-value of 0.000, indicating that it is a more effective way to forecast individual values than only utilizing the average Z-score. The adjusted R-squared, at 0.535, suggests that the model still fits well after adjusting for the number of predictors.

The ANOVA (see Table 3) assesses the overall significance of the regression model. The F-statistic (26.312) is highly significant ($p < 0.001$), indicating that the regression model as a whole is statistically significant in predicting bank stability.

Cost-Income Ratio: A one-unit increase in the cost-income ratio is associated with a decrease in the Z-score by approximately 34.956 units, with a highly significant p-value of < 0.001. Log of Total Assets: A one-unit increase in the logarithm of total assets is associated with a decrease in the Z-score by approximately 13.617 units, highly statistically significant ($p < 0.001$). Inflation: A one-unit increase in inflation is associated with an increase in the Z-score by approximately 13.312 units, highly statistically significant ($p < 0.001$).

Overall, these results suggest that inflation tends to influence the stability of IBs positively. At the same time, both the cost-income ratio and the logarithm of total assets have negative effects on bank stability.

Conclusion

This study investigated the determinants of bank stability in Pakistan, focusing on IBs through regression analysis. The findings offer valuable insights into the key factors impacting the Z-score, a commonly used measure of financial health.

Key Findings

The developed models demonstrate strong explanatory power, with R-squared values of 0.721 and 0.556, indicating that over 70% and 55% of the variance in the Z-score can be attributed to the included variables, respectively. Both models are statistically significant, confirmed by p-values less than 0.001, implying they offer better explanations than simply using the average Z-score.

Individual variable analysis reveals important relationships:

Negative relationships: Increasing cost-income ratio, GDP growth rate, and loan assets ratio are associated with lower Z-scores, implying potential deterioration in financial health.

Positive relationships: Higher inflation and HHI deposit concentration are associated with higher Z-scores, suggesting possible benefits for IBs under such conditions. Cost-income ratio, GDP growth rate, and loan assets ratio were identified as the most impactful factors based on standardized coefficients.

Implications

Maintaining operational efficiency (low cost-income ratio) and managing complexity effectively (especially for larger banks) are crucial for achieving better financial stability. Understanding the positive impact of inflation on Z-scores can inform strategic decisions during inflationary periods. Regulatory policies should consider these identified factors to promote and maintain a stable Islamic banking sector in Pakistan.

Limitations and Future Research:

The study focused on specific models and could benefit from incorporating additional variables and exploring interactive effects. Alternative measures of bank stability could be evaluated for a more comprehensive understanding. Further research could delve into the mechanisms explaining the observed relationships for deeper insights.

Significance of the study

This study provides valuable evidence-based insights into the factors influencing bank stability in Pakistan, specifically for IBs. Understanding these factors can guide strategic decision-making for individual banks and regulatory policies to ensure a healthy and robust Islamic banking sector in the country.

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