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Financial Openness and Islamic Bank Liquidity: Evidence from Pakistan

Muhammad Manazir
Department of Management Science, MY University, Islamabad, Pakistan. Malik Firoz Khan Noon Business School, University of Sargodha, Sargodha, Pakistan.
Dr. Faisal Abbas
Department of Business Administration: Baba Guru Nanak University, Nankana Sahib, Pakistan. E-mail: faisal.abbas@bgnu.edu.pk
Dr. Mirza Nasir Jahan Mehdi
Department of Management Science, MY University, Islamabad, Pakistan
E-mail: dr.nasirmirza@myu.edu.pk

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Abstract

This study looks at how financial openness impacts the liquidity of Islamic banks in Pakistan from 2011 to 2023, using a specific data analysis method called System GMM to consider changes over time and other influencing factors. Despite the growing relevance of Islamic finance, the influence of macroeconomic openness, particularly financial openness, on Islamic bank liquidity remains underexplored in the context of developing economies like Pakistan. The analysis includes a full sample of Islamic banks as well as sub-samples based on bank size. Findings reveal a significant and positive relationship between financial openness and Islamic bank liquidity, suggesting that liberalized financial environments enhance banks' access to capital and support better liquidity management, even under Shariah constraints. The results offer practical insights for regulators and policymakers seeking to improve liquidity resilience in Islamic banks through macro-level reforms. This study will be a contribution to the literature by connecting the liquidity of Islamic banking with financial openness and will also emphasize the value of taking into account institutional and regulatory environments in determining financial outcomes.

Keywords: Islamic Bank, Liquidity, Financial Openness, GMM, Bank Size, Pakistan.

Introduction

As part of the current day finance issues, liquidity management is one of the most significant issues, particularly in case of Islamic financial institutions, which are abide by the guidelines of Shariah. Islamic banks face a special restriction on liquidity operations when compared with their conventional counterparts, because products which attract interest and speculative trading are not allowed in Islamic finance. These limitations enhance the importance of identifying the institutional and macro-economic factors that affect the liquidity of the Islamic banks. One such aspect is financial openness, that determines how open countries allow cross-border flows of finances and fiscal liberal conditions. The importance of financial openness is connected to the fact that it allows capital to become more mobile, attract foreign capital and make the financial sector more competitive (Kose et al., 2011; Chinn & Ito, 2006). In case of Islamic banks, more financially open markets might offer additional chances to diversify sources of funding, to better manage short-term liabilities, and to have access to liquid markets and to comply with Islamic concepts of finance. Financial liberalized regimes highlight positive quality of a regulation, enhanced protection of investors, and a greater market efficiency, which is conducive to the maintenance of healthier liquidity conditions (Klein & Weill, 2018; Ang & McKibbin, 2007).

Even though there is an increasing interest on Islamic finance, the connection between the financial openness and Islamic bank liquidity is fairly scanty. Although the financial development or macro-economic conditions have been studied to show their impact on liquidity of a bank (Bunda & Desquilbet, 2008; Aspachs et al., 2005), there are very little studies that have actually singled out the direct impact that financial openness has, especially within a Shariah-compliant based financial system. Given the novelty of Islamic bank (particularly that led to increased asset-based banking, profit-and-loss sharing contracts, and limits on their ability to place funds), the need and relevance of analyzing how the external financial liberalization operates in lieu of these internal governance restrictions applies (Mollah et al., 2017). The current paper aims to examine the influence of financial openness on the liquidity level of Islamic banks operating in Pakistan., using panel data (covering 2011-2023) for full sample of Islamic banks and sub-sample based on a size. We tested the general as well as the heterogeneous effects of three different samples based on size; that is large banks, medium size banks and small banks. Liquidity is gauged using the ratio between liquid assets and total assets (LATA), which is mostly agreed upon parameter of assessing short-term solvency (Diamond & Dybvig, 1983).

Due to this, we suggest that the financial openness can be a key concept determining the Islamic bank liquidity. In the different part of world where the economies has gone through liberalization of financial markets, Islamic banks are in a better position to use their excess funds, access international markets, and enjoy better institutional frameworks like enhanced investor protection and regulatory norms. The combination of such factors can be used to improve liquidity buffers and lessen impact on liquidity shocks. This postulation is based on our findings which indicated that there is an intense positive relationship between financial openness and Islamic bank liquidity. There are three contributions of this study. First, it addresses a major gap in the Islamic finance bibliography by empirically studying the impact of financial openness on the liquidity. Second, it adopts a dynamic panel framework to account for endogeneity and persistence in bank liquidity behavior. Third, it offers practical implications for policymakers in Pakistan by highlighting the importance of institutional reforms in promoting a stable and liquid Islamic banking sector. Furthermore, by focusing on both the full sample and bank-size-based sub-samples, this study addresses the potential heterogeneity in liquidity behavior across different institutional structures and operational capacities, a factor often overlooked in previous research, especially for Islamic banks (Bitar et al., 2020; Beck et al., 2013).

The remainder of the paper is organized as follows. Section 2 reviews the relevant literature. Section 3 describes the data, variables, and methodology, section 4 presents empirical findings and Section 5 discusses conclusion and policy implications.

Literature Review

The role of financial openness in shaping banking sector outcomes has been widely studied in the broader financial economics literature. Financial openness generally refers to the extent to which a country permits cross-border financial transactions, encompassing capital account liberalization, removal of investment restrictions, and participation in global financial markets (Kose et al., 2006). In theory, an open financial system enhances allocative efficiency, deepens financial markets, and enables banks to diversify funding sources. However, the implications of financial openness for bank liquidity, particularly in the context of Islamic banking, remain underexplored and potentially unique due to structural and operational differences from conventional banks.

From a theoretical perspective, financial openness is associated with an increased availability of external funding sources, reduced cost of capital, and enhanced financial integration. These mechanisms are believed to support bank liquidity by enabling access to international money markets, foreign deposits, and diversified investment instruments (Chinn & Ito, 2006; Ang & McKibbin, 2007). In particular, financially open economies may offer banks with opportunities to balance domestic liquidity pressures with external sources, thereby improving their liquid asset positions and reducing reliance on domestic interbank markets (Abbas, 2021) . Moreover, financial openness could notify better quality of institutions and investor confidence, which could subsequently lead to a better liquidity position of banks.

There is a lot of empirical evidence concerning this positive association. As an example, Chinn and Ito (2006) conclude that the possibility of liberalized capital accounts tends to have more prominent financial growth that indirectly contributes to a stable liquidity result of the banks. According to Ang and McKibbin (2007), financial openness leads to the further development of the financial sector, an aspect that increases the efficiency of capital allocation and also the ready availability of liquidity especially at the occurrence of credit booms or crises. In its turn, Klein and Weill (2018) showed that the financial openness correlates with raising liquidity ratios of banks as the global financial markets and available means of funding are better accessible. The findings of these papers, combined, imply that exposure to international trading in capital has the effect of allowing stronger liquidity management behaviors, and which also insulates banks against the volatility of domestic funding (Abbas F. I., 2020).

In the specifics of the Islamic banking, the implication of financial openness, is even more essential. The Islamic banks are financed using the rules of the Shariah law according to which loans cannot be charged with interest (riba), cannot be speculative (gharar), and some of the standard financial products like derivative. This is because these restrictions usually restrict their capacity to employ conventional wire transfer markets and central bank instruments in managing liquidity (Iqbal & Mirakhor, 2011; Chapra & Khan, 2000). Financial transparency and financial liberalization, in turn, may provide the Islamic banks with a wider supply of Shariah-compliant liquidity instruments, including sukuk (Islamic bonds), commodity murabaha structures, and cross-border Islamic banking partnerships (Mollah et al., 2017). It is also able to attract international investors and Islamic finance providers who would be interested in compliant investments, further boosting the funding levels of Islamic banks in global economies.

In a cross-country study, Mollah et al. (2017) conclude that, being an open financial sector, has a positive effect on the liquidity performance of Islamic banks due to the presence of cross-border capital flows, as well as increasing the availability of Shariah-compliant funding instruments. The authors claim that in any nation the Islamic banks are an important part of the world financial systems; these banks have a more diversified liquidity management and also, they can handle sudden liquidity shocks more comfortably. On the same note, Kose et al. (2011) insinuate the institutional advantages of being open, which attribute a good regulatory structure as well as high level of governance that is key to effective liquidity functioning in Islamic banking.

Although there are some benefits associated with the openness of the flows, there are more conservative strands of the literature especially where there is a lack of strong institutional and regulatory network in the process of financial openness. According to Kaminsky and Schmukler (2003), in case a premature liberalization is not avoided, it can spur a wave of risk-taking, unstable inflows and capital and heightened susceptibility to exogenous shocks. Such dynamics are likely to worsen the liquidity risk and cause an unstable situation in the banking sector, particularly in emergent and developing economies, where the control system is associated with looser monitoring. Further, Reinhart and Rogoff (2009) argue that despite the long-term benefits of financial globalization, the end result, most of the times, might be macroeconomic instability whose outcome can be devastating on the bank balance sheets. Failure to access conventional hedging and risk transfer tools exposes Islamic banks to even higher levels of the external vulnerabilities.

The findings of the current study, fully agree with Kose et al. (2009) that the positive effects of financial openness are not inherent and require strong macroeconomic fundamentals, the maintenance of good institutions and development of financial structures. Without these, the capital account liberalization can increase the systemic risks that can result in the dramatic oscillations in the capital flows and liquidity crises, as it can be seen in different nature of impact of financial openness on Islamic bank liquidity for different bank size. Such issues are of particular relevance to Islamic banks in those jurisdictions where Islamic financial infrastructure is undeveloped or Shariah-compliant financial markets are weak. The rigidity in their instruments of liquidity may undermine their responsiveness to the external shocks of financial instruments and thus counter the effect of keeping the financial systems open.

Furthermore, some of the studies indicate that the relationship between financial openness and liquidity of the banks is not meaningful or varies with the circumstances. As Beck et al. (2013) imply, the effect of financial openness on the bank performance such as liquidity strongly depends on legal and institutional frameworks. In most times, financial openness alone does not bear fruitful results as it should be complemented with other reforms in financial regulation, protection of investors, and quality of judicial system. Bitar et al. (2020) conclude that Islamic bank liquidity is highly determined by internal features of the bank including the strength of its capital, quality of its assets and its risk appetite, more than its external measures of openness (Abbas F. &., 2021). Their conclusions suggest that any theoretical benefits of openness might not be reflected in a consistent effect on liquidity, which needs to be reinforced by sound domestic financial structure.

The above literature combined together indicates that financial openness has a potential to improve liquidity of banks though it increases access to diverse capital sources and it also contributes to the advancement of investor confidence. Nonetheless, these advantages presuppose the institutional capacity, macroeconomic stability, and the creation of liquidity instruments which would comply with the requirements of Shariah. The literatures are still inconclusive in case of Islamic banks, because the liquidity management is governed under religious consideration, and limited nature of financial instrument.

Data and Methodology

Data Sources and Coverage

This study utilizes an unbalanced panel dataset of Islamic banks from Pakistan over the period 2011 to 2023. The sample selection focuses exclusively on fully-fledged Islamic banks to ensure consistency with Shariah-compliant banking principles. The primary data on bank-level financials—including the liquidity ratio and control variables—were obtained from standardized and audited financial statements for the given sample of Islamic banks operating in Pakistan. Country-level macroeconomic indicators, particularly financial openness data, were sourced from the Heritage Foundation's Index of Economic Freedom, specifically the Financial Freedom Index, which is widely recognized for measuring the extent of government intervention and financial sector liberalization and other macroeconomic variables data is taken from world bank.

Variable Measurement

The dependent variable in this study is "Islamic bank liquidity", which is proxied by the "Liquid Assets to Total Assets ratio (LATA)". This ratio is commonly used in the banking literature as a measure of short-term solvency and reflects the proportion of a bank's assets that can be quickly converted into cash without significant loss of value (Diamond & Dybvig, 1983). The greater are the values of LATA, the better developed are the liquidity reserves, which are necessary to sustain financial shocks and guarantee the capacity of the bank to cover withdrawals.

The central independent variable is financial openness, which is measured as the Financial Freedom Index according to Heritage foundation. This index gauges the extent to which the financial system is free of governmental regulation and varies between 0 and 100 and the higher the rating then the more liberalized and unrestricted the financial system. It is indicative of access to financial services and availability of financial firms owned by the state. The analysis involves a range of bank specific and macroeconomic control variables, some of the variables used in previous studies (Bitar et al., 2020; Beck et al., 2013). Such controls are bank profitability (ROA), equity-to-asset ratio, non-interest expenses, bank size (log of total assets), growth of GDP, and rate of inflation. These variables enable to test the effect of bank specific factors and of the macroeconomic environment.

$$Liquidity_{i,t} = \alpha_0 Liquidity_{t-1} + \beta_1 Financial\ Openness_{i,t} + \beta_2 Control_{i,t} + \mu_i + \varepsilon_{i,t}$$

System GMM estimation technique is used, as it has the advantages over the traditional fixed-effects or pooled OLS procedures because of its capacity of dealing with simultaneous bias, as well as measurement errors in explanatory variable. In addition, it takes the suitable lagging instruments in order to address the issue of endogeneity and provide coherent estimators.

Results and Discussion

Descriptive Statistics

Table 1 represents descriptive statistics that can offer some information about the patterns of the most important variables within the sample of the Pakistani Islamic banks, for the period 2011-2023. With a ratio of 21.45%, the mean liquidity ratio LATA indicates that Islam banks have the tendency to keep their liquidity buffers healthy. The mean rate of financial freedom Index (FFI) is 40.43, the mean, minimum and maximum of FFI for the said sampled period, represents various financial openness levels of Pakistan, a few being highly liberalized and others being much mediated. The variation of other bank specific measures including profitability (ROA), capitalization (Equity Ratio) and the size of banks reveals that there is a level of heterogeneity in the financial circumstances and institutional frameworks in the sample.

Table 1: Descriptive Statistics

Variable	Mean	Std. Dev.	Min	Max
Islamic bank liquidity	0.2145	0.63	0.01	0.61
Financial openness	40.43	15.92	20.00	69.00
Profitability	0.18	0.09	-0.11	0.06
Equity Ratio	0.195	0.06	0.04	0.30
Size	16.21	1.62	10.03	18.41
Managerial efficiency	0.02	0.03	0.04	0.24

In specific, this variation has particular importance in the view of the liquidity preference theory (Keynes, 1936) according to which the financial institutions maintain the liquidity according to the future returns' expectations, perceptions of risk, and the accessibility of markets. The increased financial openness can aid cross border financial flows and the integration of a market, decrease liquidity holdings and enable a more efficient liquidity distribution (Bekaert et al., 2005; Chinn & Ito, 2006).

Correlation Matrix

Table 2 in the correlation matrix shows that there is a moderate and positive relationship ($r = 0.244$) between financial openness and liquidity (LATA), and therefore, as well as the fact that financial openness and liquidity are not strongly related, this supports the observation of how a liberalized financial environment can benefit capital and interbank market accessibility.

Table 2: Correlation Matrix

Variables	LATA	FO	ROA	Equity	Size	ME
Islamic bank liquidity	1.000					
Financial openness	0.244	1.000				
Profitability	0.13	0.18	1.000			
Equity Ratio	0.19	0.04	0.05	1.000		
Size	-0.12	-0.06	-0.08	-0.12	1.000	
Managerial efficiency	-0.14	-0.08	-0.06	0.07	0.13	1.000

Note: LATA (Islamic bank liquidity), FO (financial openness), ROA (Profitability), ME (Managerial efficiency)

Additionally, profitability and equity ratio, are positively correlated with liquidity, indicating that more profitable and better-capitalized banks tend to maintain higher liquid reserves. In case of bank size, and managerial efficiency, correlation matrix shows negative relationship with liquidity, indicating that smaller banks maintain more liquidity to avoid liquidity risk, as well as banks with greater managerial efficiency tend to maintain lower level of liquidity. The low-to-moderate correlations among variables can be seen from the given correlation matrix, which reduces concerns of multicollinearity in the regression analysis (Gujarati & Porter, 2009).

GMM Results – Full Sample

The dynamic panel results using System GMM (Table 3) confirm the persistence of liquidity behavior among Islamic banks, as reflected in the statistically significant lagged LATA variable ($p < 0.01$). More importantly, the financial openness has a positive and significant effect ($\beta = 0.0038$; $p < 0.05$) on bank liquidity, supporting the hypothesis that greater financial openness enhances liquidity positions.

Table 3: System GMM Results (Full Sample)

Variables	Coefficient	Std. Error	t-Statistic	Significance
Lagged Islamic bank liquidity	0.512	0.068	6.82	***
Financial openness	0.0038	0.007	3.64	***
Profitability	0.113	0.072	2.11	**
Equity Ratio	0.121	0.078	2.32	**
Size	-0.01	0.005	-2.72	***
Managerial efficiency	-0.053	0.035	-1.42	*
Constant	0.413	0.054	2.24	***

Diagnostics: AR (1); AR (2); Hansen statistics and number of instruments are valid; significance level contain the following information*: *** p<0.01, ** p<0.05, * p<0.1*

This finding aligns with the financial liberalization theory, which argues that deregulated financial systems promote efficiency, encourage capital inflows, and enhance the allocation of resources—including liquidity—across the banking sector (McKinnon, 1973; Shaw, 1973). For Islamic banks, often operating in dual banking systems, financial openness can offer access to more diverse funding channels and mitigate liquidity mismatches inherent in Shariah-compliant contracts (Ahmed, 2011).

Additionally, bank-specific characteristics such as profitability (ROA) and capital strength (Equity Ratio) positively influence liquidity, suggesting that financially healthier banks are more capable of maintaining adequate liquidity buffers. In contrast, larger banks tend to hold relatively less liquidity, potentially reflecting economies of scale or greater market access (Diamond & Rajan, 2001). The inverse relationship between managerial efficiency and Islamic bank liquidity, indicates inefficiencies or resource misallocation, in case of inefficient management and governance.

Sub-Sample Results: Bank Size

The size-based sub-sample results (Table 4) reveal heterogeneity in the effect of financial openness. The Financial openness remains highly significant for small banks, moderately significant for medium banks, and insignificant for large banks.

Table 4: System GMM Sub-Sample Results by Bank Size

Variables	Small Banks	Medium Banks	Large Banks
Lagged Islamic bank liquidity	0.536***	0.205***	0.491***
Financial openness	0.065***	0.004**	0.011
Profitability	0.164**	0.162*	0.215
Equity Ratio	0.265**	0.219*	0.086
Size	-0.025*	-0.0285**	-0.041
Managerial efficiency	-0.213*	-0.067	-0.045
Constant	0.189***	0.435***	0.245***

Diagnostics: AR (1); AR (2); Hansen statistics and number of instruments are valid; significance level contain the following information*: *** p<0.01, ** p<0.05, * p<0.1*

This variation may reflect the pecking order theory in liquidity management (Myers & Majluf, 1984), where smaller banks are more financially constrained and depend more heavily on external market conditions. Financial openness reduces those constraints, allowing small

Islamic banks to secure funding and enhance liquidity buffers. Larger banks, with diversified operations and internal liquidity sources, appear less sensitive to changes in the external financial environment (Berger & Bouwman, 2009).

The stability of a positive impact of profitability and equity ratio on Islamic bank liquidity for different sub-samples reinstates the importance of bank fundamentals in managing liquidity. In case of managerial efficiency for sub-sample analysis, it can only be seen negative and significant relationship between managerial efficiency and Islamic bank liquidity for small banks, indicating that medium and large banks' liquidity is less sensitive to managerial efficiency. In the meantime, the negative and significant size coefficient in large and medium banks only support the inverse proportion between the size and liquidity, as it has been found in other studies (Bitar et al., 2017; Mollah et al., 2017).

Conclusion and Policy Implications

The empirical findings can bring useful insights on how financial openness is affecting the existence of Islamic banks in term of liquidity behavior of Islamic banks. The positive and significant relationship between financial openness and Islamic bank liquidity (LATA) tend to support the opinion that liberalized financial conditions help in ensuring better management of liquidity in Islamic banks. It corroborates with financial liberalization hypothesis (McKinnon, 1973; Shaw, 1973) according to which ridding the capital controls and the regulation barriers to finance should bring efficient financial position by increasing the availability of funding and promoting market discipline.

As indicated by the findings in conjunction with the Keynesian liquidity preference theory (Keynes, 1936), it can be suggested that under the assumption of the open and efficient functioning of financial markets, Islamic banks will be better equipped to address their short-term funding requirements. The argument is also supported by heterogeneity presented in the sub-sample regression. In particular, financial openness has greater benefit to smaller Islamic banks than it has on larger ones. This complies with the theory of pecking order (Myers & Majluf, 1984) where small institutions have less diversification hence rely more on financial conditions outside the institution to derive liquidity.

Some of the bank specific variables that reflect positive correlation to liquidity are profitability (ROA) and Equity Ratio, which highlights the role of internal financial strength in terms of facilitating liquidity management. These results are also consistent with the literature on banking stability, which points out that the better-capitalized and profitable banks are the more likely to endure strains on their liquidity (Berger & Bouwman, 2009; Bitar et al., 2017). In the meantime, the inverse correlation of bank size and liquidity implies that the larger the banks are, the greater economy of scale, or access to interbank markets, allows larger banks to run lean on liquidity shelves (Diamond & Rajan, 2001).

Collectively, the findings point to the conclusion that financial openness increases liquidity, although the responses are not consistent, but at higher levels among the smaller banks in the less liberalized or the emerging financial systems.

There are also several policy implications of these findings to regulators, policymakers and the Pakistan Islamic banking institutions. Regulation agencies within the country that have Islamic banking sectors, ought to take into consideration slow but persistent financial liberalization, financial openness may facilitate better management of liquidity and will help to create financial stability.

Since the positive impact of financial openness on small Islamic banks is higher, there is a need to have policies that will boost market access to these types of banks. The enhancement of access to such mechanisms can help cushion the size related drawbacks and boost the liquidity robustness of the smaller players. Open financial markets would facilitate the creation of Shariah-compliant financial products (e.g., Sukuk repos, commodity Murabaha to obtain the required liquidity, and Islamic Treasury Bills) that would allow open-liquidity management in Islamic banks.

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