

## Liquidity Risk and Islamic Banks: Evidence from Pakistan

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### ABSTRACT

*In order to safely and successfully run the business operations and to build healthy relations with the stakeholders, the banks as intermediaries, should manage the supply and demand of the liquidity. This study seeks to investigate the firm's level determinants of liquidity risk of listed Islamic banks of Pakistan. For this purpose, liquidity risk is used as dependent variable while size, tangibility of assets, leverage, profitability and age are employed as independent variables. The results indicate that leverage, tangibility and age are important determinants to define the liquidity risk of Islamic banks of Pakistan while liquidity risk has statistically insignificant relationship with profitability and size of Islamic banks of Pakistan.*

**Keywords:** *Liquidity risk, Firm level characteristics, Islamic banks, Pakistan.*

### 1.0 INTRODUCTION

In order to safely and successfully run the business operations and to build healthy relations with the stakeholders, the banks as intermediaries, should manage the supply and demand of the liquidity. If the firm fails to manage this demand and supply then it may lead to certain irregular exposures i.e. the risk to maintain the high bank reserve, high interest rate risk and the risk to decrease the reputation of banks (Ismal, 2010). The liquidity problem might arise in the banks either due to mismanagement of funds or volatile withdrawals of funds by the depositor at the time of unfavorable economic conditions in the society. The global financial crunch (2007-2008) also arises when the banks are failed to provide the liquidity to the depositor and third parties (Siddiqi, 2008). Therefore, to manage the liquidity positions in the banks are extremely difficult and challenging in the current unusual external influencing environment along with the competitive economic conditions.

The same case applies to the Islamic banks since Islamic banks with their unique values and operations also have to maintain the same liquidity as maintained by conventional banks but under the sharia principles. It is argued that lack of liquidity is the fundamental problem (Ray, 1995) and key barrier to the growth of Islamic banks (Vogel & Hayes, 1998). There are at least two basic reasons for liquidity problem in Islamic banks (C. Y. How). First, the lack of funding as compared to conventional banks because of limited number of acceptable Islamic financial instruments. Second, disharmony creates between Islamic and central bank when state bank refuse to provide the interest free funds to Islamic banks. In addition, the absence of secondary or money market for Islamic financial instruments complicates the problem of mismatched maturities in Islamic banks. As a result, Islamic banks are unable to generate or provide the sufficient returns to their customers as provided by the conventional banks for attracting the depositors (Ray, 1995; Henry, 1999). In order to indicate and to overcome these problems, present study investigates the firm level determinants of liquidity risk of Islamic banks of Pakistan.

### 2.0 LITERATURE REVIEW

Assessment of risk management practices and their impacts has attracted scholarly attention in corporate finance literature over the several decades. Carey (2001) identified that risk management is more important for financial or intermediary institutions like banks as the core objectives of these institutions are to maximize the customer's revenues and to maximize the shareholders wealth by providing the diverse nature of financial services. In the seminal work, Keynes (1936) set up the investor's liquidity demand motives in relation with the monetary policy. Bruinshoofd and Kool (2004) applied these motives (transactional, speculative and precautionary) to investigate the firm level determinants i.e. information asymmetries, opportunity cost and transaction cost which

define the corporate liquidity demand. In addition, these determinants also became the part of cash management models of Baumol-Tobin (Baumol, 1952; Tobin, 1956; Miller and Orr, 1966).

Oldfield and Santomero (1997) indicated that the establishment of reports and standards, the creation of self investments strategies and guidelines, the alignment of compensation and incentive contracts and the imposition of rules and position limits are four risk management techniques in financial institutions. Salas and Saurina (2002) investigated the micro and macro level determinants of credit risk of Spanish savings and commercial banks for the period of 1985-1997. They showed that branch expansion, GDP growth rate, inefficiency, capital ratio, net interest margin, size and market power were important determinants of credit risk in Spanish banks. By taking 20 Japanese banks Khambata and Bagdi (2003) explored the off balance sheet credit risk. The results indicated that Japanese banks used fewer OBS instruments, more risk averse and traditional than USA and European banks.

Linbo Fan (2004) measured risk verses efficiency in national banks of USA and indicated that profit efficiency has strong relationship with insolvency and credit risk while liquidity risk could not contribute in profit efficiency of USA national banks. Ho Hahm (2004) examined the impact of exchange rate and interest rate exposure on Korean commercial and merchant banks in pre-crisis period. The results showed that interest and exchange rate risk was significantly affecting the Korean commercial banks. Niinimaki (2004) explored the effect of competition on banks' risk and found that degree of risk depends on side and structure of the market in which competition takes place. Wetmore (2004) inspected the relationship between loan- to-core deposit ratio and liquidity risk of commercial banks. He deduced that loan-to-core deposit ratio increased with the change in liquidity ratio.

Al-Tamimi and Al-Mazrooei (2007) not only measured the risk management techniques and practices of UAE banks but also compared these practices and techniques among the domestic and foreign banks of UAE. 45 closed-ended Questions was developed to measure the degree of different types of risks and findings reported that UAE commercial banks were somewhat efficient in risk identification, risk assessment and risk managing but faced operating, credit and foreign exchange risk. In addition, both national and foreign banks used different types of techniques to control, assess and monitor the risk. Isshaq and Bokpin (2009) examined the determinants of corporate liquidity management of listed companies of Ghana Stock Exchange over the period of 1991 to 2007. This study adopt panel model to investigate the relationship. The results showed that networking capital, size of the firm, return on assets and target liquidity level are important determinates of liquidity management of listed firms of Ghana. Ismal (2010) constructed LRM index (100 scale) approach to measure the liquidity risk management practices in Indonesian Islamic banks for the period of eight years from 2000 to 2007. The results indicated that LRM index awards the "good" grade for managing the liquidity risk in Indonesian Islamic banks. In Pakistan, little work has been done related to the impact of macro and micro variables on risk management practices of Islamic banks of Pakistan. However, to the best of my knowledge, no single study has focused on determinants of liquidity risk of Islamic banks of Pakistan. Therefore, the current study investigates the firm level determinants of liquidity risk of Islamic banks of Pakistan over the period of four years from 2006 to 2009.

### 3.0 METHODOLOGY

#### 3.1 Sample and Data

In Pakistan, currently six banks named Meezan Bank, Bank Islami, Dubai Islamic, Dawood Islamic, Al-barka Islamic Bank and Emirates Bank are providing their services as "pure Islamic Banks" and running their operations under the guidance of Islamic Sharia. All these six Islamic banks are selected to investigate the determinants of liquidity risk over the period of 4 years from 2006 to 2009. The book value based yearly financial data has been collected from the financial statements (Balance Sheet & Profit and Loss A/c) of Islamic banks of Pakistan.

**Model** LIQUIDITY RISK =  $\beta_0 + \beta_1$  (SIZE) +  $\beta_2$  (TANGIBILITY) +  $\beta_3$  (LEVERAGE) +  $\beta_4$  (PROFITABILITY) +  $\beta_5$  (AGE) +  $\epsilon$

Variables	Proxies / Definitions
Liquidity Risk	Ratio of current assets to total liabilities
Size	Natural log of total assets
Tangibility	Ratio of fixed assets to total assets
Leverage	Ratio of debt to total assets
Profitability	Ratio of net profit to total assets
Age	Difference between establishment and observation year

## 4.0 EMPIRICAL FINDINGS

### 4.1 Descriptive Statistics

Table 4.1 shows the descriptive statistics of dependent and independent variables of current study. The statistics indicate that average age of Islamic banks of Pakistan is 6.55 years. Leverage shows the portion of debt in the capital structure of the Islamic banks and descriptive analysis shows expected results as the debt portion in the structure seems to be insignificant. On the other hand, the mean value of tangibility is 0.77 indicates a massive portion of fixed assets in the total assets of banks. In addition, the average size of Islamic banks is 18.02 while the portion of profitability with respect to assets is 23% which is significant.

**Table 4.1 Descriptive Statistics**

Variables	Minimum	Maximum	Mean	Std. Deviation
Age	3	8	6.55	5.761
Leverage	.01	.49	.0992	.09691
Tangibility	.06	.99	.7708	.23727
Liquidity risk	.02	1.06	.2237	.22347
size	15.21	19.78	18.0296	1.27611
Profitability	.12	.35	.2388	.08347

### 4.2 Regression Analysis

Tables 4.2 reports the results of regression analysis in which five independent variables are regressed by using the data of Islamic banks of Pakistan from 2006 to 2009. The adjusted value of R square (0.71) indicates that liquidity risk of Islamic banks of Pakistan is nearly 71% dependent on independent variables i.e. size, leverage, tangibility, age and tangibility. Therefore, liquidity risk is mainly defined by these five variables of Islamic banks in Pakistan over four years.

Table 4.2 indicates that leverage is positively and significantly related with the liquidity risk of Islamic banks. This predicts that Islamic banks of Pakistan face more liquidity risk with the increase in debt ratio. The coefficient of variable tangibility is negative and statistically significant at 1% level. This indicates that more fixed assets in the Islamic banks leads to decline the liquidity risk. On the other hand, Table 2 reports that liquidity risk has positive and statistically significant relationship with the age of the Islamic banks of Pakistan, indicates that older Islamic banks face more liquidity risk.

**Table 4.2 Regression Coefficients & Significance level**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.771	.776		.993	.335
Profitability	.543	.403	.203	1.350	.195
size	-.028	.042	-.157	-.662	.517
Age	.021	.006	.541	3.261	.005**
Leverage	1.285	.430	.557	2.988	.008**
Tangibility	-.559	.125	-.593	-4.454	.000*

R Square 0.732

Adjusted R Square 0.713

F statistics 12.062

\* Significant at 1% level

\*\*Significant at 5% level

The beta values of explanatory variables profitability and size are 0.203 and - 0.157 with the positive and negative coefficient sign respectively. However, profitability and size are not statistically significant with the large p-values. Therefore, size and profitability are not considered powerful explanatory variables to define the liquidity risk of Islamic banks of Pakistan over four years.

## CONCLUSION

The current study explores the firm's level determinants of liquidity risk of Islamic banks of Pakistan over the four years from 2006 to 2009. The results show that leverage, tangibility and age are the important determinants of liquidity risk of Islamic banks of Pakistan. Surprisingly, the results predict that explanatory variables size and profitability are not powerful explanatory variables to define the liquidity risk of Islamic banks of Pakistan.

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