

# Impact of Liquidity Risk on Firm Specific Factors. A Case of Islamic Banks of Pakistan

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## Abstract

The major objective of the study is to develop a model and to test the relationship among liquidity risk and firm performance through its facets. The main facets of firm performance in the study are i-e profitability, firm size, leverage, share prices and earnings on assets. The present study mainly attempts to analyses qualitative, quantitative & contextual relationship of liquidity risk in Pakistan. Moreover, liquidity risk is less investigated in Pakistan and mainly regarding Islamic banking sector with respect to current data. Therefore, study is mainly investigated on the fourth pillar of significance i-e contextual significance. While, Islamic banking sector of Pakistan is investigated in current study. And the data is acquired from state bank of Pakistan database and through annual reports of the banks. Though, the study has supported past investigations results. Hence, the study has revealed key findings that will be fruitful for theorists, educationists and research scholars as well.

**Keywords:** Liquidity risk, Return on Assets, Profitability, bank size, leverage, Contextual study, Islamic banking, Pakistan.

## INTRODUCTION

A risk that represents about an investment that has less marketability or that cannot be sold early in order to protect from potential loss is named as liquidity risk. The point and time when certain liquidity featured investment pinches to face subordinate composition against these investments are elaborated as investment under liquidity risk. Liquidity risk forces entire entity to execute alternative decision rather than investment conversion into cash. Liquidity risk parameters are widely investigated scientifically. Liquidity risk depends upon liquidity risk management (LRM) strategies regarding global and domestic environment, majorly on proportionate of prime deposits (Correa, Goldberg and Rice, 2014; Pastor and Stambaugh, 2001). And such cross sectional matter of liquidity risk is valued contextually that shows it as an antecedent of stock returns (Li, Sun and Wang, 2011).

Moreover, the term structure of fixed income financial instruments also determines liquidity risk (Jarrow and Roch, 2013). And the return of such financial instruments is associated to the nature of risk on stock indices categorized by risk premium theory (Abdalla, 2012). In some cases, liquidity risk and its turnover is also dependent on firm assets structure, return on equity and other variables (Ramzan and Zafar, 2014). But theoretically low turnover causes more liquidity in sense (Berenguer, Gimeno and Nave, 2013). Moreover Akhtar, Ali & Sadaqat, (2011) have found most of the significant results in their study regarding liquidity risk investigation in Pakistan. Therefore, study is planned to investigate firm specific factor's with liquidity risk of Islamic banking of Pakistan.

And according to Aycan et.al (2000) Pakistan is underdeveloped country in scientific investigation as well. And after partition of subcontinent commercial banks were rushed here and are welcomed. But as a Muslim estate Islamic banks has have their vital contribution. But such contribution is not investigated much in Pakistani context regarding Islamic banks of Pakistan. Hence, study is aimed to investigate the casual relationship among liquidity risk and firm financial position and profitability as well. However, study consists of diverse model.

And such lack of investigation of Islamic banking sector of Pakistan rose study significance and contextual gap. Therefore, study will provide key theoretical contribution for theorists and practitioners working in various financial institutions and other stakeholders that are associated to this scientific investigation.

Moreover, study depends upon positive risk premium theory and liquidity risk theory, states that as the marginal level of risk rises ultimately proportionate of return and firm performance also boosts. The study consists of three portions. Part one discusses the literature study model and hypothesis, part two elaborates methodology and third part briefs the study output and conclusion.

## 1.2 Study Model

Study consists of one dependent variable – Liquidity risk and five independent variables i-e profitability, earnings on assets, leverage, firm size and stock returns. So the econometric model is given as follows,

$$Y = C + \beta_1 (PR) + \beta_2 (ROA) + \beta_3 (LEV) + \beta_4 (BS) + \epsilon$$

Y is named as the liquidity risk and is considered as the dependent variable of the study. Meanwhile, PR is the profitability, ROA is the return on assets, LEV is abbreviated as leverage, BS is considered as bank size of the each bank. The measurement scale of these variables is shown in the methodological section.

### 1.3 Study Hypothesis

- H1:** Profitability is negatively correlated with liquidity risk.  
**H2:** Return on assets is positively Co integrate with liquidity risk.  
**H3:** Leverage is negatively correlated with liquidity risk.  
**H4:** Bank size is positively correlated with liquidity risk.

## 2. RESEARCH METHODOLOGY

The study sample consists of Pakistani financial markets. Mainly Islamic banking sector of Pakistan is planned to be investigating. Sample year of the study are thirteen (2000 to 2013). Four Islamic banks are considered in the study i.e. Bank Islami, Tameer Bank, Meezan Bank and Bank Alfalah Pakistan. Therefore, sector representation of the data is from Islamic banking of Pakistan as mentioned in table # 01 below. The data is taken from the state bank of Pakistan database ([www.sbp.com.pk](http://www.sbp.com.pk)). And the data of the study is panel in nature.

Moreover, the variables are measured by these instruments,

1. Profitability = (EBT/ Total Assets)
2. Return on Assets = (Earnings of common stocks/Total Assets)
3. Leverage = (Total Debt/Total Assets)
4. Bank size is determined by the natural log of Total assets (Janice et. Al, 2005).
5. Liquidity Risk = (Total Capital/ Total Assets)

As prior mentioned study is based on the Islamic banking sector of Pakistan and it is the reason that sector representation of the study hundred percent belongs to Islamic banking sector.

**Table # 01**  
**Sector Representation**

Sector Name	Sector Representation
Islamic Banking	100%

## 3. RESULTS & ANALYSES

**Table: 02**  
**Reliability Measures**

Variables	Cronbach's Alpha
Profitability	0.714
Bank Size	0.723
ROA	0.83
Leverage	0.627
Liquidity Risk	0.782

Reliability is a kind of statistical tool used to measure the errors regarding variables. And Cronbach's alpha is normally used to measure the normality in data or responses of data. While data sets has responded high and standard rate of response that shows correlation level high with their respective dimensions in this study. The alpha value of profitability is responded as 0.714, bank size 0.723, return on assets 0.83, leverage 0.627 and liquidity risk as 0.782 respectively. Hence the variable has responded high in their reliability measures. And it shows high consistency in over all data sets.

**Table: 03**  
**Descriptive Analyses**

Variable	Mean	Standard Deviation
Profitability	0.9080	0.01587
Bank Size	3.4260	14.2270
ROA	0.5672	0.7896
Leverage	1.9843	0.8436
Liquidity Risk	0.378	0.5759

The descriptive statistics are carried out to measure the response rate variation and average regarding each variable. The mean value of profitability is represented as 0.9080 and standard deviation as 0.02587. Bank size mean value is 3.4260 and deviation as 14.2270. While, the return on assets has 0.5672 mean value, 0.7896 as standard deviation value. And leverage value has 1.9843 as mean value and 0.8436 as deviation response. But the liquidity risk has 0.378 and 0.5759 as mean value and standard deviation value respectively.

**Table # 04**  
**Correlation Analyses**

Variable	1	2	3	4	5
Profitability					1
Bank Size				-0.08**	1
ROA			0.128**	0.0346**	1
Leverage		0.057*	0.077**	0.081**	1
Liquidity Risk	0.067**	0.078**	0.19**	0.054**	1

The study has used the Pearson's correlation to measure the correlation and coefficient of correlation respective variables. While the table shows the correlation among profitability, size of bank, return on assets, leverage and liquidity risk. The table shown negative and significant correlation among profitability and bank size (-0.08\*\*, p<0.01) and bank size is positively correlated with return on assets as (0.128\*\*, p<0.01). While, return on assets has positively correlation with leverage as (0.081\*\*, p<0.01) and leverage has also positive correlation with 0.054\*\*, p<0.01).

**Table # 04**  
**Multivariate Regression Analyses**

Variables	Coefficients	t. stat	p. value
Intercept	2.44	2.53	0.000
Profitability	-0.50**	-0.17	0.000
Bank Size	-1.98**	-1.78	0.045
ROA	4.17**	4.19	0.000
Leverage	0.12	0.67	0.540
Liquidity Risk	0.35**	0.33	0.000

On the basis of statistical parameters study consists of more than one predictor. However, a multivariate regression analysis is executed. Therefore, the value of profitability beta is found significant ( $\beta = 0.50$ \*\*, p <0.01). Moreover, bank size is found negatively significant ( $\beta = -0.198$ \*\*, p = 0.05), return on assets is found positively significant with the p value less than 0.01 and beta with 4.17\*\*. While leverage is found insignificant ( $\beta = -0.12$ , p<0.54). And liquidity risk is found positively significant with respective predictors ( $\beta = 0.35$ \*\*, p<0.01).

**Table # 05**  
**Relationship Expected & Observed**

Variables	Expected Relation	Observed Relation	Accepted/Rejected
Profitability	Negatively	Negatively	Accepted
Return on Assets	Positively	Positively	Accepted
Leverage	Negatively	Positively	Rejected
Bank Size	Negatively	Negatively	Accepted

Other than leverage all results are found statistically significant.

#### 4. DISCUSSION

The hypothesis one states that "profitability is negatively correlated with liquidity risk". And multivariate regression results have accepted such hypothesis and stated profitability as negatively co integrated with liquidity risk. The second hypothesis stated that "return on assets has positive impact on liquidity risk". And results have concluded strong positive significance of return on assets on liquidity risk. Therefore, such hypothesis is accepted. The third hypothesis stated as "leverage is negatively correlated with liquidity risk". But leverage is found positively correlated with liquidity risk and hypothesis is rejected. The fourth hypothesis has stated "the bank size is negatively correlated with liquidity risk". And the results stated it as expected relation. However, it is accepted that bank size has positive impact on liquidity risk.

In current study, as prior mentioned profitability, return on assets and bank size are positively correlated with liquidity risk. And leverage is negatively correlated with liquidity risk. Thus, results proved their significance in accordance to prior studies. Hence, current study results are correlated with investigations of Jarrow & Roch, (2013); Akhtar, Ali & Sadaqat, (2011); Ramzan & Zafar, (2014).

#### 5. CONCLUSION

The objective of the study was to investigate the relationship of liquidity risk to profitability, bank size, return on assets, and leverage and bank size of Islamic banking sector of Pakistan. While, the study has supported the prior study's findings that profitability is negatively correlated because Islamic banking has less diversified investment and operations. Assets return ratio has also found significant results that shown strong impact on liquidity risk of

Pakistani Islamic banking. And hypothesis of leverage is also rejected. Moreover, bank size is found correlated negatively with liquidity risk.

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