FACTORS AFFECTING LIQUIDITY POSITION OF ISLAMIC BANKS

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Abstract

The purpose of the subject study is to analyze the position of Islamic banks in Pakistan with regard to liquidity management and to assess the factors affecting liquidity position of the Islamic banking Industry (IBI). Primary research method was employed through a questionnaire. The respondents of the questionnaire were Islamic bankers belonging to senior and middle management engaged in the process of liquidity management. The study initially examined the types of liquidity problems in financial institutions, comparison and difference in liquidity management in Islamic and conventional banking industry. Thereafter, the study examined the liquidity problem in Islamic banks, factors affecting bank liquidity position and mitigation practices. The study finds that the liquidity problem in Islamic Banks is dual in nature i.e. surplus in liquidity and a shortfall in liquidity and most of the Islamic banks faced both kinds of liquidity problem at different times. The study unearths key factors affecting liquidity position of Islamic banking industry in Pakistan. The paper may be of value to State Bank of Pakistan, Islamic banks as well as conventional banks of Pakistan, international banking industry, academic institutions and researchers to take on further research and propose solutions.

Keywords: Liquidity Management, Islamic Banks (IB), Financial Institutions (FI), *Shariah*, Mitigation Techniques, Islamic Financial Institutions (IFI), Investment Account Holders (IAH).

1. Introduction

Besides the persuasive performance of Islamic Banking industry, the foremost grey sector negatively influencing the profitability of Islamic banking industry is the efficient investment of funds along with the stimulation of funds against their commitments, also known as liquidity management in financial terms. The phenomena consist of two opposite spheres:

1. Liquidity Risk or management of shortfall in funds
2. Management of surplus liquidity.

The importance of Liquidity Management enhances manifold in an Islamic Bank (IB) in comparison with a Conventional Bank. This is because of the fact that an Islamic Bank is restricted to invest merely in real assets (Iqbal & Mirakhor, 2007). So, continuous creation of assets is necessary for an IB.

The funds generated from depositors can be mainly classified into two groups, short-term as well as long-term deposits. It is utmost important that the short term deposits remain in parity with the long-term deposits, and, likewise, parity is attained between short term and long term investments, and also that a portion of funds is kept in

hand to meet the immediate deposit outflow from the banks. This obviously entails a very sophisticated system of balancing of assets and liabilities, known as Balance Sheet/Asset-Liability Management. The level of sophistication required multiplies many times in Islamic banks mainly based on the fact that income generated in most of the transactions, in Islamic banks, comes from taking ownership risks in real assets, and so, it goes without saying that, some time is required to convert money into real assets. Surplus funds in an IB increase expense and liability as long as these funds remain uninvested. Side by side, an IB experiencing a liquidity crunch has to raise profit rates to attract more deposit or to present a call option for adjustment of financing, in order to balance assets and liabilities. As an obvious result, bank profitability undergoes a negative impact in either of the situations. Maintaining a correct balance between the motives of profitability and safety, by way of balancing of assets and liabilities, lies at the very core of Liquidity Management (Ahmad & Chapra, 2002; Bank of International Settlements, 2008; Gray, 2006). Thus, with regards to the liquidity management issues, particularly with reference to Islamic banks, the matter needs different approach due to the following reasons (Metwally, 1997; Hanif. 2011):

1. Like conventional banks, Islamic banks cannot issue a loan on the basis of markup or discount and at the same time cannot book liabilities on fixed interest rate.
2. Activities of an Islamic bank are based on partnerships between the Islamic bank and its depositors on the liability side as well as with the investment clients (borrowers) on the asset side.
3. Despite *Mudarabah* structure of saving deposits and loan agreement for current accounts, the behaviour of the liability side of an Islamic bank appears to bear similarity to that of a conventional bank due to the same depositor behaviour as in conventional banks, whereas the assets side presents a totally different picture from that of conventional banks as asset products are based on sale or rental agreement with deferred repayments of bank investments. Thus, the structure of balance sheet of an Islamic bank poses liquidity threat as asset side is a fixed investment where repayments are fixed whereas, on the liability side, the depositor can withdraw his amount at any time.
4. In the case of any early or delayed repayments of financing, there is no decrease or increase in the repayment amount to the bank as is the case in conventional banks. Early adjustment of financing increases banks profitability whereas the delayed payment seriously hits profit of an Islamic bank; the situation is contradictory in conventional banks.
5. Islamic banks do not enjoy access to a system of fund generation which is available to conventional banks like treasury bills, bill discounting, overnight borrowing, overnight repo, open repo and term repo etc. as these are loan based transactions, whereas such options are routinely exploited by the conventional banks.
6. SLR/CRR requirements on Islamic banks are more stringent because of no return on the placement of funds with State Bank of Pakistan unless Islamic avenues are available for placement of SLR.

Due to such a balance sheet configuration, additional arrangements are required whereas development of Islamic financial instruments is rather retarded and the absence of poorly organized Islamic interbank money market puts Islamic banks at a disadvantage when facing liquidity problem (Ismail, 2010). Thus, there is a dire insufficiency of Shariah standard compliant money market instruments in the market, to absorb excess liquidity of an Islamic bank. Likewise, there is an evident shortage of money market tools or mechanisms to ease the bank out of a liquidity crunch. Existing economic and business conditions require that the banking industry (including the Islamic banking industry) has to have a strong liquidity risk management framework. The global financial crisis of 2008-2009 has hindered the progress of even some of the resilient financial institutions, and, undoubtedly, the global financial industry in general (Batunanggar, 2002; Clementi, 2001; Hasan & Dridi, 2010). Thus, present expansion of the Islamic banking industry is required to address the following questions:

1. Whether Islamic banking industry is escorted with a comprehensive risk management framework which must comprise a strong liquidity risk management program?
2. What is the performance of Islamic banks regarding liquidity management and what tools are employed to manage surplus as well as the shortfall in liquidity?
3. Is there sufficient availability of *Shariah* compliant money market instruments to address the short-term liquidity issues of Islamic banks, hand in hand with restricted Islamic money market instruments to utilise surplus liquidity?

The paper appraised the risks in the banking industry, particularly considering liquidity management and comes out as a valuable contribution to the existing literature on liquidity management. The paper aims to delve into the administration of liquidity problem in both ways i.e., surplus or deficiency in liquidity, to find out the factors affecting liquidity position of the bank.

2. Literature Review

In financial language, the risk is defined as the possibility of a difference between the expected and the actual return. It has two-way likelihood: either positive & favourable i.e. more than projections, or, unfavourable i.e. lower than projections (Bain and Howells, 1999).

Risks associated with the banking industry can be categorised into three main classes:

1. financial risk
2. business risk
3. operational risk

Financial risk arises from the diversified business activities of banks. The business risk and operational risk is attached with the internal procedures of the bank. The management of all financial industry risks ought to be taken up paying due attention to the cause and effect phenomena and the interrelationship characteristic of various financial risks as propelling causes for and the following results of one type of risk may give rise to other types of risks. For instance, market risk or credit risk may shoot forth liquidity risk, and, similarly, business and operational risk can also cause liquidity risk. Banks must be equipped with strong foresight into the causes of financial risk, business risk, and operational risk, which can create asset liability differences, and, end up in liquidity risk (Ismal, 2010a). Banks procure funds from depositors and disburse the same, maintaining liquidity in hand to deal with commitments with depositors. In the course of this process, banks perform conversion of short term depositor funds into long-term financing. This, in turn, exposes them to liquidity risk (Bank for International Settlement, 2008; Abdullah & Khan, 2012). According to the research of Muhammad, Tariq and Momeneen (2009) based on comparing nine financial ratios of conventional and Islamic banks, conventional banks are in better position as compared to Islamic banks with regards to overall liquidity management. Liquidity risk in banks is a natural aftermath of the risk of a shortfall in meeting commitments to depositors or to generate funds for the assets as and when required, without causing undesirable expenditures or losses (Ismail, 2010). Liquidity risk is the possible loss to Islamic Financial institution (IFI) due to incapability either to meet their commitments or to arrange funds for assets creation as and when required without incurring intolerable expenditures or losses (Islamic Financial Services Board, 2012a, 2012b). Furthermore, the liquidity risk can happen due to unevenness in assets and liabilities or result from a mismatch in their maturities. On top of this, bank operations are faced with oscillating economic and non-economic factors and any such factor may produce operational risk, business risk, financial risk and, be followed by liquidity risk owing to the inherent interrelationship of the subject risks (Ismal, 2010c). The IFI is under compulsion to practise a prudent approach so that its maturity mismatch remains within limits to absorb the maturity conversion within the available infrastructure (Islamic Financial Services Board, 2008, 2012b). Banks must, inevitably, be equipped with the potent capability to foresee the causes of financial risk, business risk, and operational risk, which can prompt asset liability differences, and lead up to the occurrence of liquidity risk. Alternatively, liquidity risk in one bank has strong potential to hit the entire banking industry, and, in due course of time impact the entire economy. Therefore, development of cooperation among all the stakeholders is a consequent necessity (Ismal, 2010a).

For an Islamic Bank, there are more chances of liquidity mismanagement, as, while executing a financing activity, there is permanent basic *Shariah* requirement for conversion of money into real tangible *Halal* assets, and, the bank will not always find *Shariah* compliant assets to channelize the surplus liquidity, which is not the case in conventional banks (Usmani, 2007). In Pakistan, conventional banks gain an upper hand vis a vis Islamic banks due to the availability of wide range of short term and long term securities for investment of surplus funds, but the

opportunities for Islamic banking industry are acutely restricted, this ultimately affected bank profitability (Islamic Financial Services Board, 2008). Islamic banking industry is facing scarcity of sufficient *Shariah* compliant money market instruments and financial assets of an Islamic bank cannot be converted into negotiable financial instruments (Ariffin et al, 2009). The money in Islamic banks, as in conventional banks, cannot be considered as a commodity but it is, in essence, a medium of exchange in Islamic Banks (Parashar and Venkatesh, 2010). Therefore, Islamic banks need to create financing assets through purchase and onward sale of tangible goods to the financing customers which take some time, but this is not the case for conventional banks (Van Greuning and Iqbal, 2008, 2009). Due to aforementioned reasons, Islamic banks are chiefly very liquid and it is extremely difficult for Islamic Banks to manage excess liquidity as a search of an asset is a time consuming labour and this has impacted negatively the bank profitability and return on deposit (Siddiqui, 2008, 2009). According to the research of Jaffer and Manarvi (2011) and research of Ika and Abdullah (2011), Islamic banks have a better liquidity status with surplus funds as compared to conventional banks whereas investment avenues are limited which affects bank profitability. Additionally, Islamic banks in Pakistan are restrained because they cannot place their reserve requirements with the regulator in a *Shariah*-compliant earning mode like that of conventional banks (Abdullah *et al*., 2010). Perspected from the liquidity management arena, conventional banks enjoy an advantage because of investment avenues like government securities, call options etc., whereas such opportunities for Islamic banks are ill available owing to non Shariah element in such transactions (Ahmad, 2001; Ahmad & Khan, 2007; Ahmad & Usman, 2011; Akhtar et al., 2011; Hanif, 2011). In order to mitigate such a situation, the responsibility lies with the Central Bank. The Central Bank has the onus of furnishing Shariah compliant equitable return on deposit placed with it by recycling of Islamic Bank reserves and excess funds into Investments deposits with Islamic Banks (Kahf, 2009). If central bank pays interest to conventional banks on their deposit and reserves, it is equally obligated to provide Shariah compliant equivalent facility to Islamic banks, so as to promote fair competition in the country (Kahf, 2012).

With regards to the impact of global financial crises on the global banking industry, the study of Parashar and Venkatesh (2010) revealed that in terms of return, leverage and capital ratio, Islamic banking industry suffered more than conventional banks. However, the situation was reverse in terms of liquidity and return on average assets. Though surplus liquidity has created difficulties for many Islamic financial organizations in numerous countries, it has safeguarded these institutions against the impact of global financial crises of 2008-2009; however, the lower return was passed to IAH (Ahmad, 2009). Another reason for stability during the crises is that Islamic banking industry is new on the global platform (Islamic Financial Services Board, 2012a).

3. Research Methodology

It was a primary research conducted through research questionnaire. The respondents were Islamic bankers in Pakistan, mainly from the areas of Lahore and Karachi (where most of the head offices, controlling offices of the banks are located), placed in senior management tiers and middle management staff having experience and knowledge of the subject.

The population size consisted of 40 Islamic bankers from senior and middle management working in Islamic banks or Islamic windows of conventional banks. Response from 32 respondents was received; six questionnaires were discarded. Therefore, the sample size for this study was 26. The researcher strived to ensure that respondents had full comprehension of all the questions. The target population belonged to the senior and middle management of Islamic banks. It was a difficult task to get the responses, especially from senior management due to their busy schedule whereas some of the respondents were reluctant to respond.

For analyzing the demographic analysis of the respondents, software called *Statistical Package for Social Sciences* was used (SPSS version 21). In order to explore and analyse the prospects and challenges of liquidity management in Islamic banking in Pakistan, following research question was designed accordingly. In the questionnaire, questions A-G deemed to find out the knowledge, qualification and experience of respondents about the Islamic banking and the topic of research respondents demography. Questions 1, 2.1-2.18, 4 and 6 examined the

factors affecting liquidity position of an Islamic bank. Questions 3.1-3.6 pondered upon the actions taken by the Islamic banks during a liquidity crunch. Each question in the questionnaire was designed with answer options of yes, no or don't know to facilitate the respondent in choosing an option.

For the purpose of this study and development of the instrument and interviews with *Shariah* advisor, following hypotheses was developed:

H1: Islamic banks are facing liquidity problems, either a bank is a surplus in liquidity or a bank is facing shortfall in liquidity

The questionnaire used 18 possible reasons (factors) which could affect the liquidity position of the bank, respondents provided their agreement, disagreement or don't know for each proposed reason. This study has used the factor analysis to find the most important factors. Below table 1 indicates the correlation of the individual reasons with the issue of liquidity positioning of the Islamic banks. Higher the value of commonality more the factors is important determinant of liquidity positioning of Islamic banks. The above table shows that overall the factors show very strong commonality of about 75%with the dependent variable 'Liquidity position of Bank'. Minimum commonality is 0.464 and it is sufficiently greater than 0.3 and maximum commonality is 0.908 which is very high. So it can be said that the proposed factors are relevant to the issue at hand.

Table 1: Extraction correlation of factors.

Commonalities		
	Initial	**Extraction**
Surplus or shortfall in funds affects liquidity position	1.000	0.741
Increase or decrease in benchmark rate affects liquidity position	1.000	0.810
Depositors are sensitive to profit rate movement	1.000	0.638
Effects of maturity mismatch between deposits and financing	1.000	0.837
Effects on liquidity due to change in SBP Interest rate policy	1.000	0.711
Inability of Islamic banks to sale the debt	1.000	0.663
Limited Shariah compliant investment avenues	1.000	0.464
Stuck up financing affects liquidity position	1.000	0.745
Increased reliance on Institutional deposits affects liquidity position	1.000	0.684
Balance sheet with different maturity profiles on assets & liability side	1.000	0.852
Incorrect timings of future cash flows affects liquidity position	1.000	0.718
Incorrect assumptions in forecasting of future cash flows affects liquidity	1.000	0.897
Improper deposit mix affects liquidity position	1.000	0.838
Limited Islamic money market in Pakistan	1.000	0.500
Limited across the border Shariah compliant borrowing opportunities	1.000	0.838
Slowdown in business cycle affects liquidity position	1.000	0.770
Bank reputation affects liquidity position	1.000	0.869
Bank rating affects liquidity position	1.000	0.908
Extraction Method: Principal Component Analysis.		

Table 2: Variance Explained decomposition of Liquidity Position of Islamic Banks

Total Variance Explained									
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.296	29.423	29.423	5.296	29.423	29.423	3.310	18.387	18.387
2	2.445	13.583	43.006	2.445	13.583	43.006	3.197	17.762	36.149
3	2.191	12.173	55.180	2.191	12.173	55.180	3.015	16.750	52.898
4	1.357	7.536	62.716	1.357	7.536	62.716	1.457	8.097	60.995
5	1.153	6.407	69.123	1.153	6.407	69.123	1.289	7.159	68.154
6	1.043	5.793	74.916	1.043	5.793	74.916	1.217	6.762	74.916
7	0.975	5.416	80.332						
8	0.888	4.933	85.265						
9	0.796	4.422	89.687						
10	0.509	2.827	92.514						
11	0.458	2.543	95.056						
12	0.282	1.569	96.625						
13	0.230	1.279	97.904						
14	0.189	1.049	98.953						
15	0.105	.582	99.535						
16	0.047	.264	99.799						
17	0.021	.116	99.915						
18	0.015	.085	100.000						
Extraction Method: Principal Component Analysis.									

In the table 2, the eigenvalues show the contribution of each factor in the change in dependent variable. The rule of thumb is to select the factors whose eigenvalue is more than 1. Here, the eigenvalue is more than 1 for the first six factors, which jointly able to explain 74.9% of the variation in the liquidity position of Islamic banks.

Table 3: Rotated Component Factor Correlation Matrix

Rotated Component Matrix[a]						
	Component					
	1	2	3	4	5	6
Surplus or shortfall in funds affects liquidity position	0.813	0.120	0.196	0.005	-0.156	-0.055
Increase or decrease in benchmark rate affects liquidity position	0.837	0.171	0.031	0.152	0.220	0.088
Depositors are sensitive to profit rate movement	0.169	0.169	0.730	0.031	0.155	0.152
Effects of maturity mismatch between deposits and financing	0.047	0.074	0.123	0.038	0.038	**0.901**
Effects on liquidity due to change in SBP Interest rate policy	0.541	0.497	0.177	0.107	-0.060	0.354
Inability of Islamic banks to sale the debt	0.327	0.164	0.331	0.067	0.555	-0.328
Limited Shariah compliant investment avenues	0.227	0.076	0.554	-0.125	-0.233	0.173
Stuck up financing affects liquidity position	0.605	-0.260	0.356	0.001	0.429	0.008
Increased reliance on Institutional deposits affects liquidity position	0.002	0.436	-0.003	-0.088	**0.665**	0.208
Balance sheet with different maturity profiles on assets & liability side	-0.017	-0.022	0.466	0.742	-0.242	-0.158
Incorrect timings of future cash flows affects liquidity position	0.117	0.826	-0.064	-0.045	0.128	0.010
Incorrect assumptions in forecasting of future cash flows affects liquidity	0.108	**0.932**	0.116	0.002	-0.005	-0.065
Improper deposit mix affects liquidity position	0.407	0.763	0.283	-0.008	0.044	0.092
Limited Islamic money market in Pakistan	-0.165	0.624	0.216	-0.019	0.171	0.088
Limited across the border Shariah compliant borrowing opportunities	**0.912**	0.051	0.007	-0.003	0.051	0.001
Slowdown in business cycle affects liquidity position	0.158	0.236	**0.816**	0.149	-0.034	-0.020
Bank reputation affects liquidity position	0.129	-0.040	-0.09	**0.901**	0.106	0.132
Bank rating affects liquidity position	-0.086	0.003	0.903	0.066	0.279	-0.053
Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.						
a. Rotation converged in 8 iterations.						

From the rotated factor component correlation matrix in table 3, we can identify the top 6 factors which are arranged according to their importance. The values in the matrix are the correlation of that factor with components. For example: the Component 1 has the highest correlation of 0.912 with factor 'Limited across the border Shariah

compliant borrowing opportunities' so Component 1 is the most important variable and we selected it. Similarly, following are 6 components.

1. Limited across the border Shariah compliant borrowing opportunities
2. Incorrect assumptions in forecasting of future cash flows affects liquidity
3. Slowdown in business cycle affects liquidity position
4. Bank reputation affects liquidity position
5. Increased reliance on Institutional deposits affects liquidity position
6. Effects of maturity mismatch between deposits and financing

4. Findings of Study

The results reflect that conventional banks can better manage liquidity problem at both ends in comparison with Islamic banking industry, primarily owing to the availability of conventional money market tools like the option of bill discounting, investment in treasury bills etc. The majority of Islamic banks faced liquidity problem at several times and the problem is two pronged i.e., surplus liquidity as well as shortfall in liquidity. The fundamental reasons affecting liquidity position of the Islamic banking industry are:

i. limited *Shariah* compliant investment opportunities,

According to this, Islamic bank has limited set of innovative and Shariah compliant investment opportunities which can land them higher number of deals with the industry.

ii. the inability of Islamic bank to sell debt because of *Shariah* constraints,

Islamic banks are restricted by Shariah to deal in the debt secondary market, where conventional banks are experiencing high returns.

iii. constraints in the selling of Islamic securities in the market and Just like debt most of the securities are limited to primary market only, Islamic banks cannot swap them in the market.

iv. limited options of bill discounting in Islamic mode due to limited Islamic money market.

Since there is limited or no short term fund market or money market, Islamic banks are not able to trade in short term.

v. the quality of financing portfolio,

vi. forecasting of future cash flows,

vii. the difference in nature of assets (investments) and liabilities (deposits). Assets side is a fixed investment where repayment period is fixed whereas the liability side is dependent upon the behaviour of depositors.

viii. Central Bank policies,

ix. Deposit mix and bank reputation and rating.

The options of the sale of Islamic securities in the secondary market along with bill discounting in Islamic mode are very few. Offering high rate of deposit is one option to retain the deposit. Moreover, widespread branches network is directly linked to coverage of liquidity crunch. Results also obviate that Islamic windows of conventional banks can better manage liquidity crunch by obtaining funds from the conventional treasury. Results of the research show that insufficient *Shariah* compliant money market tools hinder Central Bank support to Islamic banks on equal footing, like that to conventional banks. Finally, most of the respondents are of the opinion that liquidity problem can be solved by securitization of existing long-term portfolio through the issuance of *Sukuk* bonds against the financing assets owned by Islamic banks and arrangement of liquidity from conventional bank subject to *Shariah* clearance.

5. Conclusions

This study set to explore the liquidity related issues faced by Islamic banks in Pakistan. Experience and perception based information collected using questionnaire from higher and middle management of Islamic banks who are connected to this issue. There were total 18 possible reasons (factors) which lead to the issue of liquidity

(either excess or shortage) by the Islamic banks, for which response from the bankers were collected in the form of agreement, disagreement or don't know.

This study used the principle factor analysis approach to shortlist the factors which can be blamed for the issue of liquidity. The results of the PFA indicated that the major factors effecting liquidity position of the bank are proposed. These the over reliance on institutional deposits, maturity mismatch, incorrect assumptions in forecasting cash flows, limited borrowing opportunities which are Shariah compliant, slowdown of economic activity and lastly reputation of the bank.

Based on the survey and PFA the above stated factors can be the source of liquidity risk faced by the Islamic banks of Pakistan. In order to mitigate the liquidity problem, the bank cannot opt following measures such as sale of Islamic securities in secondary market, the payments of depositors cannot be hold for some time and bill discounting in Islamic modes. However bank can take remedial measures such as offering high rate of return to the depositors and borrow funds from parent company.

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