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Liquidity Risk Management in Islamic Banking Institutions: A Comparative Study between Malaysia and Pakistan

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Abstract

This study compares the liquidity risk management between IBI's of Malaysia and Pakistan. An investigative approach was taken to know about the significance of ROA, ROE, CAR, SOB, and NWC with liquidity risk management of both countries. The data is collected for the period of 2010-2016 from secondary sources. The results are derived using descriptive, correlation and regression analysis. The results explained that there is a positive and insignificant relationship of ROE of IB's of Malaysia and NWC of IB's of Pakistan with liquidity risk. Also it shows that there is negative and insignificant relationship of CAR with liquidity risk in model1 but significant in model 2. SOB is negative but significant in IB's of Malaysia but insignificant in IB's of Pakistan. ROA of IB's of Pakistan is positive

and insignificant but negative and insignificant in IB's of Malaysia. ROE of model 2 is negative but insignificant.

Key Words: Risk Management, Islamic Banking, Malaysia, Pakistan

Introduction

Most of the businesses use banking sector for financing purposes which is one of the important source of financing. Both Islamic and conventional banks face different types of risk and the most important and familiar of them is liquidity risk. Liquidity risk is defined as when an institution is unable to meet its demand of liquidity either for financing purpose or for its customer demand. There are different role of liquidity risk management, primary role is to measure the essentials for treasuries to encounter responsibilities. Another role is to guarantee that there is enough cash for wants that need to be fulfilled at the suitable time by managing different springs of funds which is available to organization both in regular & anxious circumstances.[1] In Islamic banks loans are forbidden if interest is involved in it because interest is forbidden in Islam and Islamic banks don't approve anything which violates shariah rules and preaching of Islam. The global financial crisis that occurred in 2007 - 2009 was the crisis in the US that affected the whole world. In this crisis, many banks went bankrupt due to liquidity as one of the oldest and largest investment banks in the United States is Lehman Brothers. In this same crisis, the banking sector asked for help of liquidity fund in order to continue its business and to prevent the rush which can lead to a crisis plunge deeper.[2] The focus on liquidity risk management increased after the global financial crises of 2007 and 2008.

Liquidity hazard administration relies upon various capacities of banks like size of the bank. Size of the bank is the logarithm of aggregate resources. Net working capital is the total measure of every present resource and current liabilities. It is utilized to gauge the fleeting liquidity of a business, and can likewise be utilized to acquire a general impression of the capacity of organization administration to use resources in a productive way.[3] The Return on Equity proportion basically measures the rate of restore that the

proprietors of normal load of an organization get on their shareholdings. Profit for value implies how great the organization is in creating returns on the speculation it got from its investors (Economic Times). The Capital Adequacy Ratio (CAR) evaluates the capital necessity in view of the dangers looked by the banks/DFIs. The banks/DFIs are required to agree to the base necessities as indicated by the State Bank of Pakistan on independent and in addition solidified premise.

Profit for resources is the proportion of yearly net salary to normal aggregate resources of a business amid a money related year. It quantifies effectiveness of the business in utilizing its advantages for produce net salary. It is a benefit proportion (Jan).

Controllers, industry associations and market players have all focused on the dire requirement for a worldwide Islamic interbank market and liquidity administration plot, the absence of which they see as hampering the foundational improvement of the Islamic back industry.2 Markets everywhere throughout the world, incorporating the set up ones in Malaysia, Bahrain and the United Arab Emirates (UAE), have built up here and now global liquidity administration plans to meet their different speculation necessities. At present, Islamic currency markets are not all around incorporated into the general currency advertises in many wards. The present structure of the Islamic currency showcase is commanded by exchanges among IIFS, and by extraordinary courses of action with regular banks. The worldwide budgetary emergency and the credit crunch have prompted a restored push to think of an instrument that is worldwide, powerful, productive and Sharī`ah-agreeable. Having great liquidity administration is a key essential for supporting budgetary security and easing any liquidity lack.[4]

This examination researches the centrality of the measure of the firm, Networking Capital, Return on Equity, Capital sufficiency proportion and profit for resources with liquidity chance administration in Islamic banks of Pakistan and Malaysia. To realize that is there any criticalness distinction in

liquidity chance administration between them or not. As Malaysia has built up a transient worldwide liquidity administration plot and Islamic interbank offer rate (IIBOR) while Pakistan doesn't have any of them.

Statement of the problem

Liquidity risk is considered an important risk faced by the banks both Islamic and Conventional. To minimize this risk central bank issue some rules and regulations like (KIBOR which is a benchmark) and is necessary to be fulfilled by banks. Islamic banks in Pakistan as compared to Malaysia don't have any interbank offer rate which is very essential and this may have some impacts on the liquidity hazard administration of Islamic banks.

Objective of the study

- The first goal of the investigation is to look at the liquidity chance administration of the Islamic banks of Pakistan and Malaysia amid the time of 2010 to 2016 utilizing the proportion examination by contrasting the mean estimations of proportions.
- The relationship and the impact of Independent factors including the extent of the bank, ROE, ROA, NWC and CAR on the needy variable that is Liquidity hazard is investigated.

Literature review

[5] The study conducted a study on the liquidity risk and performance: The case of Bahrain and Malaysian Banks. The data cover the period of 2008-2014 using descriptive statistics, correlation and regression. They examined that liquidity risk is an important factor for banking in managing risk. They also examined that there is a significant positive relation among bank size, loan to deposit, growth to total asset with liquidity risk but negative significant relationship between bank capitalization and bank volatility. [6] Directed an investigation on liquidity chance & Islamic banks: Evidence from Pakistan. The information covers the time of 2006 to 2009 of six undeniable Islamic Banks. Engaging measurements and relapse examination were utilized as a part of the investigation to discover the outcomes. They inspected that use, substantial quality and age are the real determinants of liquidity dangers

of Islamic banks of Pakistan however size and gainfulness doesn't characterize the liquidity danger of Islamic banks of Pakistan.

[7] Conducted a study on liquidity risk: comparison among IB's and CB's. The data consist of 20 IB's and 12 CBs of seven different countries using panel data regression. They examined that CAR, FEXP, FLP & the NPF has a significant effect on the LR of Islamic Banking but not in conventional banking While NIM, ROA, and SIZE have no significance on Islamic Banks. On conventional side FEXP, FLP, NPL and ROA have effect on LR although CAR, NIM, & SOB's have no effect on LR. [8] Conducted a study on RM practices on IBI's between Malaysia and Jordan, the results explained that both countries are slightly competent in handling risk. The results also explained that risk management practices are better in Jordan than Malaysia and some factors like risk regulator, observing and valuation etc. are better in Malaysia.

[9] led an investigation on the LR administration: A near report amongst CB;s and IB's of Bangladesh. The information included 6 firms altogether in which 3 are customary and 3 are Islamic and the time of study is 2007 to 2011. Enlightening insights and relapse investigation are utilized to discover the outcome. They inspected that the SD of Islamic banks is not as much as CB's in various factors yet the range is more noteworthy in IB's contrasted with CB's. Rate of profit for Islamic banks is unimportant. SOB & NWC funding to LR in IB's are autonomous variable & they have inconsequential however positive connection. Capital ampleness in IB's has negative connection. Profit for resource is unimportant while ROE is in huge yet positive. In CB's just ROA have huge impact on liquidity hazard at 10% level however size of firms is negative? Capital adequacy is negative while return on equity is positive but insignificant.

[10] Directed an examination on LR administration: a relative report amongst CB's and IB's of Pakistan. The information covers the Period between 2006 to 2009 of 12 firms of which 6 are CB's and six are IB's. Illustrative insights

and relapse test have been utilized to discover the outcome. They inspected that SOB and NWC to net resources have positive yet immaterial connection. ROA in IB's have positive and critical connection at 10% importance level while CAR have positive however inconsequential connection. In CB;s CAR have positive and huge connection at 10% noteworthiness level while return on resources is certain however irrelevant connection.

[11] The research works directed an investigation on liquidity hazard administration: a relative report amongst local and FB's in Pakistan. Auxiliary information was gathered for the time of 2001 to 2010. Expanded Dickey Fuller test and Johansson's co-incorporation is utilized for long run relationship. On local banks side they inspected that the relationship of SOB's, obligation to value proportion with LR is negative and noteworthy while relationship of speculation to resources proportion, return on value, fluid resources with LR is negative and inconsequential. While on FB's side the relationship of bank size, venture to resources proportion and profit for value with liquidity chance is negative and irrelevant. While the relationship of obligation of value with liquidity chance is negative and critical and the relationship of fluid resources with liquidity chance is sure and huge. [12] directed an investigation on LR administration: a near report amongst CB's and IB's of Bangladesh. The time of study was between 2006-2010. On the Islamic banks side they look at that NWC and ROE affect the liquidity chance in a reverse way while SOB's, CAR and ROA affect the LR in a positive way. While on regular banks side they inspected that size of bank and profit for value have affected contrarily on liquidity hazard and net NWC and NWC on assets have affect emphatically on LR.

List of Banks

Islamic Banks of Malaysia

1. Bank Islam Malaysia.
2. Bank Muamalat Malaysia.
3. Kuwait Finance House Malaysia.
4. RHB Islamic Bank Berhad.

Islamic Banks of Pakistan

1. Meezan Bank Limited Pakistan.
2. Dubai Islamic Bank Pakistan.
3. Bank Islami Pakistan.
4. Al-Barakah Bank Pakistan.

Research Methodology

1. Sample data and Collection

The sample of this paper contains a total of 8 banks of which 4 are IB's from Pakistan while 4 IB's are chosen from Malaysia. Data is collected from secondary sources which are the Banks annual reports during the period of 2010-2016.

2. Research Model

$Y = \alpha + B1X1 + B2X2 + B3X3 + B4X4 + B5X5 + E$

Model 1 and 2 are specified for both Islamic banks of Malaysia and Pakistan respectively.

$Y1c = \alpha + B1cX1c + B2cX2c + B3cX3c + B4cX4c + B5cX5c + E$

$Y1d = \alpha + B1dX1d + B2dX2d + B3dX3d + B4dX4d + B5dX5d + E$

Variables and their intermediary

Sign	Variable	Proxies
Y1	LR	Cash to complete assets
X1	SOB	Natural log of entire assets
X2	NWC	Current assets - Current liabilities
X3	ROE	Net income/ total equity
X4	CAR	(Tier 1 Capital+ Tier 2 capital) / risk weighted asset
X5	ROA	Final income/ Total assets
E	Error term	

Dependent variable in this study is liquidity risk while ROA, ROE, CAR, SOB and NWC are taken as independent variable. List of banks is given before the methodology section of the study. To examine the effect of dependent variable on dependent of this research the test used are Descriptive, correlation and multiple regression, for gauging, inspecting and associating the dependent variable of the study for IB's of Malaysia and Pakistan, SPSS is used. Multiple regression from stata is also used on the data to verify that the results are correct.

3. Hypothesis

H1: There is a significant relationship between the bank size and LR.

H2: There is a significant bond between the NWC and LR.

H3: There is a significant connection between ROE and LR.

H4: There is a significant correlation between ROA and LR.

H5: There is a significant link between CAR and LR.

Data Analysis

Secondary data analysis for the study has been separated in three different proportions i.e. expressive, linked and multiple regression. As indicated by the regression results in table 1, the ROA isn't emphatically connected with LR, so it means that it is negatively correlated however is discovered inconsequential with LR in the event of IB's of Malaysia, yet it is decidedly corresponded and is irrelevant among LR if there should arise an occurrence of IB's of Pakistan, so it means that there is positive correlation but insignificant effect. ROE is emphatically related and is immaterial with liquidity hazard in IB's of Malaysia, which means that there is a positive correlation and insignificancy however it is adversely connected and is likewise unimportant with liquidity chance in IB's of Pakistan which means that it has negative correlation and insignificancy to. CAR is contrarily corresponded with liquidity hazard in both IB's of Malaysia and Pakistan, so it means that there is negative correlation however it is irrelevant with liquidity chance in IB's of Malaysia and is critical with liquidity chance in IB's

of Pakistan, so it is insignificant with IB's of Malaysia and significant with IB's of Pakistan. SOB is additionally contrarily associated with liquidity hazard in both Islamic banks of Malaysia and Pakistan, so it means that there is negative relationship in both but yet is noteworthy with liquidity chance in Islamic banks of Malaysia and is immaterial with liquidity chance in Islamic banks of Pakistan, this means that it is significant with IB's of Malaysia and insignificant with IB's of Pakistan, hence it is rejected. NWC is contrarily related with liquidity chance in IB's of Malaysia however is decidedly related with liquidity chance in IB's of Pakistan and is irrelevant with liquidity hazard if there should be an occurrence of both IB's of Malaysia and Pakistan.

In order to confirm that results derived by SPSS, using multiple regression technique, Stata was also used to ensure that the results given that by SPSS are correct. Multiple regression analysis was also used in Stata which give the exact same results. Hence the results of the study are correct and are obtained using the real data of both countries.

Correlation results in table 2 explain that ROA is perfect downhill/perfectly positively correlated with ROE in both IB's of Malaysia and Pakistan. While there is a weak downhill/negative correlation of ROA with CAR, SOB and NWC in case of IB's of Malaysia however there is a weak downhill/negative correlation between ROA and CAR but ROA have a strong uphill positive correlation with NWC and SOB in case of IB's of Pakistan. ROE have a weak downhill/negative relationship with CAR, SOB and NWC in case of IB's of Malaysia, In case of IB's of Pakistan ROE also have a weak downhill negative correlation with CAR but a strong uphill/positive relationship with SOB and NWC. CAR has a moderate downhill/negative relationship with SOB and NWC n case of both IB's of Malaysia and Pakistan. NWC has a moderate uphill/positive correlation with IB's of Malaysia and a strong uphill/negative relationship with IB's of Pakistan.

Descriptive statistics results in table 3 revealed that ROA and ROE is greater in IB's of Pakistan than Malaysia which means that profitability of IB's of Pakistan is greater than Malaysia. Furthermore it explains that CAR and SOB in both IB's of Malaysia and Pakistan is almost equal to each other. The results also explained that NWC of IB's of Malaysia is slightly better than IB's of Pakistan. The study also reveal that LR in IB's of Malaysia is lower than IB's of Pakistan which means that IB's of Malaysia have a better liquidity risk management than IB's of Pakistan, this is because Islamic banks in Pakistan have to work under KIBOR which is made for conventional banks by State bank of Pakistan and Islamic banks don't have an interbank offer rate since IB's in Malaysia are more developed as compared to IBs of Pakistan and they a separate interbank offer rate is available for IB's of Malaysia. So there is a dire need of separate interbank offer rate for IB's of Pakistan which can help them in overcoming their liquidity problem.

Table 1: Regression outcome for LR

Coefficients- Framework 1 (IB's of Malaysia)[4]					
	Un-standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	2.225	.814		2.734	.012
ROA	-4.495	15.820	-.284	-.284	.779
ROE	5.174	20.473	.253	.253	.803
CAR	-.770	1.161	-.663	-.663	.514
SOB	-.082	.033	-.566	-2.519	.020
NWC	-.007	.100	-.017	-.065	.949

R-squared	.264	MV	.1409
Adj R^2	.097	S.D. variance	.08437
Totality square	.141	F-statistic	1.581
residual	.051	Prob (F-statistic)	.207
Durbin-Watson			

stat				

Coefficients- Framework 2 (IB's of Pakistan)[4]					
	Un-standardized Coefficients		Standardized Coefficients	t	Sig.
	B	Error term	Beta		
Constant	15.472	9.011		1.717	.100
ROA	1.656	9.334	.271	.177	.861
ROE	-1.067	13.497	-.116	-.079	.938
CAR	-12.414	4.624	-.573	-2.685	.014
SOB	-.543	.387	-.438	-1.403	.175
NWC	.682	.776	.219	.879	.389

R-squared	.304	MV	1.5229
Adj R^2	.146	S.D. var	.66421
Totality square residual	8.292	F-statistic	1.921
Durbin-Watson stat	3.619	Prob (F-statistic)	.132

Table 2

Pearson correlation coefficients (IB's of Malaysia)					
	ROA	ROE	CAR	SOB	NWC
ROA	1	.997	-.194	-.153	-.172
ROE		1	-.195	-.146	-.173
CAR			1	-.412	-.588
SOB				1	.556
NWC					1
Pearson correlation Coefficients (IB's of Pakistan)					

	ROA	ROE	CAR	SOB	NWC
ROA	I	.992	-.323	.744	.656
ROE		I	-.313	.721	.647
CAR			I	-.529	-.391
SOB				I	.635
NWC					I

- Significance at 5% level

Table 3

Descriptive Statistics (IB's of Malaysia)					
	N	Min	Max	Mean	Standard. Dev.
ROA	28	.00	.07	.0125	.01263
ROE	28	.00	.06	.0093	.00976
CAR	28	.12	.20	.1547	.01794
SOB	28	22.89	24.74	23.8230	.58278
NWC	28	.17	.89	.7164	.22001
LR	28	.04	.35	.1409	.08437
Valid N (listwise)	28				
Descriptive Statistics (IB's of Pakistan)					
	N	Min	Max	Mean	Standard. Dev.
ROA	28	.00	.32	.1261	.10881
ROE	28	.00	.21	.0845	.07244
CAR	28	.10	.21	.1450	.03067
SOB	28	22.28	24.14	22.9291	.53538
NWC	28	-.05	.93	.2765	.21301
LR	28	.73	4.09	1.5229	.66421
Valid N (listwise)	28				

Conclusion

This study investigates the relationship of ROA, ROE, CAR, SOB, and NWC with liquidity risk management through a comparative study between IB's of Malaysia and Pakistan. 8 banks have been selected for this study, 4 of which are IB's from Malaysia and another 4 of which are IB's from Pakistan. The data is been collected for the period of 2010 to 2016 from the annual reports of the selected firms. Descriptive, correlation & regression analysis have been used for the analysis of this study. Independent variables that have negative but insignificant relation are ROA, CAR & NWC in model 1 while ROE and SOB have in model 2. SOB in model 1 and CAR in model 2 have negative but significant relationship. The results also explained that Islamic banks in Pakistan have more focus on taking into consideration those projects which have financing for long terms. The performance of IB's in Pakistan in provision of assets and returns also assured that they have better outcome and profitability than that of IB's of Malaysia but LR management will better in IB's of Malaysia than IB's of Pakistan and it also revealed that CAR and SOB are almost equal to each other in both firms. This study reflects the effective picture of IB's both of Malaysia and Pakistan. This study gives a brief knowledge to academicians, bankers and scholars to take a look about bank's progresses in LR management equally it gives an idea about the liquidity risk management of Islamic banks of two countries.

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