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Liquidity Management and Its Impact on Banks Profitability: A Perspective 0f Pakistan

Muhammad Nabeel[1], Sobia Muhammad Hussain[2]
[1, 2] *Department of management sciences University of Gujrat sub campus Narowal.*

Abstract: *The basic purpose of this research is to examine the effect of liquidity management on profitability in the banking sector of Pakistan. Liquidity management is independent and profitability is dependent variable. The secondary data used for this study and taking from publish annual report of ten banks (2006-2015). The data was analyzed by using correlation, descriptive statistics and regression techniques run on E-views. The quick, current, cash, interest coverage and capital adequacy ratios is taken as dimension of liquidity and return on assets, return on equity, and earnings per share as dimension of profitability. The research findings show that interest coverage, capital adequacy and quick ratio has a positive whereas the cash and current ratio has negative relationship with banks profitability.*

Key words:*Liquidity management, Banks profitability, quick ratio, current ratio, cash ratio, interest coverage ratio, capital adequacy ratio, return on assets, return on equity, earning per share.*

I. INTRODUCTION

This study evaluates the effects of liquidity management on the profitability in the banking sector of Pakistan. Liquidity management involves liquidity ratios and banks profitability involves profitability ratio. Liquidity can be defined as the assets or securities which can be easily convertible into cash. Liquidity refers to the short term assets (cash, short term advances, and balance with other bank) and short term liabilities (short term borrowing, account payable, lending to financial institution and short term deposits). Liquidity explains the company capability to cope with it short duration liability because it plays vital role in defining how efficiently a firm manage its short duration requirement and invest the cash to rise the profitability of the organization. In banking sector the liquidity management is significant element that will be considered to determine the bank's profitability. Liquidity management is essential for banks effectiveness and profitability. There are different studies that explain the liquidity management and its effect towards the profitability in banking sector.

The profitability is defined as the ability of the firm to generate the profit to uses it resources. Under this study profitability shall be appraise in relation to the liquidity. The basic goal of any firm is to generate and to enhance the profit of the firm, so it is compulsory to utilize its resources efficiently. There is need firm shall determine and maintain optimum level of liquidity. Therefore, there is significant relationship between liquidity management and profitability. Because the need to fulfill the short term requirement of cash and there is also need to have some amount in liquid form to exploit the investment opportunity for gain.

Banking sector perform an essential role in business sector and economy of any country. Bank is a financial institution who deposits the saving of public and gives loan to people, other institutions, organization and Govt. etc. and also make investment to get the return. Thus, to get maximum benefit there is need to effective use of resources. To achieve maximum benefit the bank should find out the highest level of funds to fulfill the short term obligations and then make the investment of further funds and also have some funds to get gain form investment opportunity. Because by effectively manage liquidity banks can increase the profitability.
The ten famous banks is taken into consideration for this research which include, Habib bank, allied, Bank al Falah, Faysal, National, United , Soneri, Askari, Muslim commercial bank and Punjab bank limited. The data of such banks is taken easily from their annual reports.

II. OBJECTIVE

The goal of this study is to analyze the effect of liquidity management on the profitability of banks. The results of such study will also addition to literature by showing the response of liquidity management with regard to the bank's profitability.

III. LITERATURE REVIEW

Literature review includes the previous studies that are related of our research that plays a significant role in conducting any type of research. Because the researchers by taking guidelines form such studies can make our research more valuable. The few studies that are related our research is given below:

Maqsood et al. (2016)explained that there is significant impact of liquidity management on the profitability in the banking sector. The data that is used in this is taken from financial statement of 8 different banks from 2004 to 2015. The regression and correlation technique is used in this study. To look the liquidity it uses the current and cash ratio as independent variable and to measure the profitability uses the return on assets as dependent variable.

Ikeora and Andabai (2016) finds that there is positive relationship between the dependent (profitability) and independent variable (liquidity management) using time series data spanning (1989-2013). Liquidity management includes the broad money supply and aggregate bank deposits and profitability is measure by return on assets ratio. Ordinary least square (OLS) econometrics method was used to analysis the hypothesis. Data were collected from the Central Bank of Nigeria Statistical Bulletin and National Bureau of Statistics of various years.

Salim and Bilal (2016) explains that there is meaningful relationship between the bank's Liquid assets/deposits; Liquid assets/Short term liabilities and return on equity. The study finds significant relationship between the bank's Loans/ Total assets, Loans/ Deposits & short term liabilities, Bank's loans – customer deposits/ Total assets and return on assets. The study also finds that no meaningful relationship between Omani bank liquidity position and NIM (net interest margin). The data was collected from the financial statement of four banks to examine the relationship between the liquidity and financial performance of five period of 2010-2014. The data was analyzed by using multiple regression analysis.

Ali abdi sheikhdon and kavale (2016) concluded that there was a significant linear relationship between Account receivable management, Account payable and cash management on the performance of commercial banks in MOGADISHU. Questionnaire was used as a method of data collection. The target population was 112 employees of commercial banks in Mogadishu. The sample size of 87 respondents was selected using slog van's formula. By using SPSS version the data was analyzed.

Khan and Mutahhar Ali (2016) narrated that there is positive relationship between the liquidity and profitability. The current ratio and quick ratio was consider as measure of liquidity and Gross profit margin and Net profit margin ratios were consider as measure of profitability. The data was taken from annual account of HABIB Bank Limited of last five year (2008-2014). SPSS was used to analyze the data.

Nedunchezhian and Premalatha (2015) researched that there is no significant relation between the cash at bank, and return on assets. And there is narrated that there is no significant relation between the advance total assets and return. The sample size was taken 5 banks out of 20 in India.

Alshatti (2015) invested that there is relationship between the liquidity management on profitability in the Jordanian commercial banks during the time period (2005–2012). The research paper taking the investment ratio, capital ratio, liquid ratio, net credit facilities/ total assets and quick acid ratio as to measure the liquidity management independent variable and return on assets and return on equity to measure the profitability dependent variable. Quantitative approaches and ratio analysis were used to analysis the data. The study explains that the impact of investment and quick ratio is positive on profitability when it measure by return on equity and the impact of capital ratio is also positive when it is measure by return on assets and the impact of other independent variable is negative on the two measure of profitability (Return on assets and Return on equity).

Almazari (2014) examines the internal factor that have an effect on profitability of banks that are in Saudi and Jordanian. He concluded that some liquidity indicators have positive correlation between profitability and some have negative correlation between profitability measured by ROA of Saudi and Nigerian banks.

Akter and Mahmud (2014) examine the relationship between the liquidity and profitability. The profitability is measured as return on assets ratio and the liquidity is measured as current ratio. The data for this study is taken from the specific commercial banks income statements and balance sheets of published in the website of such bank. The twelve specific banks were taken as sample. For analysis of data a number of techniques were used which includes the Correlation technique; regressions & descriptive statistics and (SPSS) 16.0 Version. The overall findings of this study are that there is no significant relationship exists between liquidity and profitability in all the categories on banks in Bangladesh.

Ibe (2013) discusses that the liquidity management is an important problem in the Nigeria. There is need for banks to examine the optimal liquidity position to resolve such problem. The data is collect from three banks which is selected randomly represent the whole banking sector of Nigeria. Profitability represents the after tax profit dependent variable and the liquidity management is independent variable which include the Bank cash assets (CA), Bank Balance, Treasury Bills and certificate. Regression is used to analysis the data.

Al-Nimer et al. (2013) finds that there is a significant relationship between the liquidity and Jordanian banks profitability. The study examines the liquidity (independent variable) as a quick ratio and the profitability (dependent variable) as return on assets. The data is collected from 15 Jordanian banks which are listed at Amman Stock Exchange (ASE) for the period of 2005-2011. Simple regression model were used to analysis the data. And the result shows that the profitability is highly influenced by liquidity in the Jordanian banks.

Agbada and Osuji (2013)investigate empirically the impact of efficient liquidity management on the performance of banks in Nigeria. The findings of this research show that there is significant relationship between the efficient liquidity management and the performance of banking sector and with the efficient liquidity management the soundness of bank enhance.

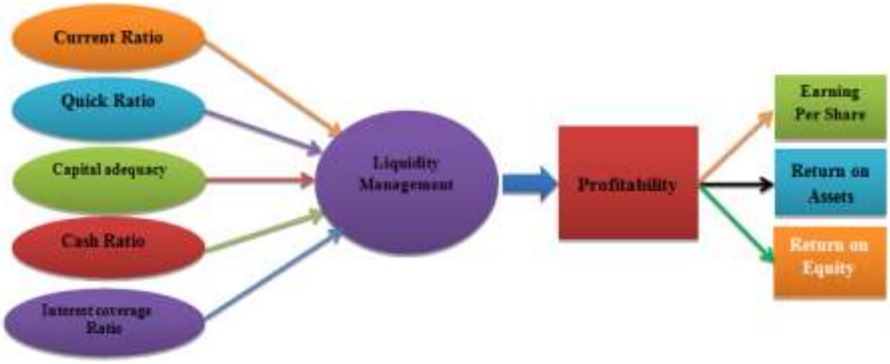
Arif and Nauman Anees (2012) concluded that there is meaningful impact of liquidity risk factors on the profitability of banks. Such study includes 22 Pakistani banks during the period of 2004-2009 to examine the impact of liquidity risk factor on the Pakistani banks.

Olagunju et al. (2011) stated that profitability in commercial banks is influenced by liquidity. This means that liquidity increase, profitability decrease and vice versa. In order to achieve the object of the study both structured and unstructured questionnaires were used. The data is collect from the management and financial statement of sampled banks. Primary and secondary data used in this study. The Pearson correlation data analysis technique is used to analysis the data.

Saleem and Rehman (2011) explain the relationship of liquidity and profitability. The results show that there is significant effect of the each ratio on the financial position of enterprise. This study also explains that profitability plays an important role in the financial position of enterprise.

Bordeleau and Graham (2010) narrated that profitability is for banks which hold some liquid assets and the banks which have more liquid assets their profitability goes to diminish. The large banks of U.S and Canadian were used as a sample in this study.

IV. CONCEPTUAL FRAMEWORK



Source: Model developed by authors.

V. HYPOTHESIS

Hypothesis of any study is considered as basis of the research and these hypotheses are tested to find the conclusion of the research. The hypotheses of the research are:

H0: Liquidity management and profitability does not relate each other.

H1: Liquidity management and profitability has significant and positive relationship each other.

H2: Interest coverage ratio, Quick ratio and capital adequacy ratio have positive and significant relationship with banks profitability.

H3: Current ratio has negative and significant relationship with banks profitability.

VI. DATA AND METHODOLOGY

This study point out the reaction of liquidity management on the performance of banking sector of Pakistan using different liquidity and profitability ratios. Liquidity ratio include the current, Quick, Cash, Capital Adequacy and interest coverage ratios and profitability include the return on assets (ROA), return on equity (ROE), Earning per share (EPS).

The liquidity management shall be evaluating as independent variable and profitability as dependent variable. The ten bank is taken as the sample for this research as proxy of the whole banking sector.

The data regarding such research is collected from annual report (financial statement) of last ten year (2006-2016) of ten banks, Habib bank limited, allied, Bank al Falah, Faysal, National, United , Soneri, Askari, Muslim commercial bank limited and Punjab bank limited. The required ratios were extracted from consolidated and unconsolidated financial statement of these banks. The data has been analysis by using E-views. The correlation,descriptive statistics and regression (Panel Least Squares) were used to examine the nature of relationship between the dependent (profitability) and independent variable (liquidity management).

VII. RESEARCH MODELS

The following three models represent the research models:

$$ROE = \alpha + \beta_1 CR_{sn} + \beta_2 QR_{sn} + \beta_3 CASR_{sn} + \beta_4 CADR_{sn} + \beta_5 ICR_{sn} + \varepsilon_{sn}$$

$$ROA = \alpha + \beta_1 CR_{sn} + \beta_2 QR_{sn} + \beta_3 CASR_{sn} + \beta_4 CADR_{sn} + \beta_5 ICR_{sn} + \varepsilon_{sn}$$

$$EPS = \alpha + \beta_1 CR_{sn} + \beta_2 QR_{sn} + \beta_3 CASR_{sn} + \beta_4 CADR_{sn} + \beta_5 ICR_{sn} + \varepsilon_{sn}$$

In each model determines the effect of banks profitability on liquidity management in Pakistan. The liquidity is check out by five different liquidity ratios and banks profitability is check out by three different profitability ratios.

Table I. Determinants of Liquidity Management and Banks profitability

Determinants	***Variable***	***Measures***	***Notations***
Profitability	Return on assets	Net profit / Average Total assets	ROA
	Return on equity	Net profit / Average Total Equity	ROE
	Earnings per share	Profit attributable to equity holder / No. of share outstanding	EPS
Liquidity Management	Current Ratio	Current Assets / Current Liabilities	CR
	Quick Ratio	Quick Assets / Current Liabilities	QC
	Cash Ratio	Cash / Current Liabilities	CASR
	Capital Adequacy ratio	Total eligible regulatory capital held /Total risk weighted assets	CADR
	Interest coverage Ratio	Profit before interest and tax / Total interest expenses	CAR

VIII. RESULTS

Table II. The descriptive statistics results display that return on equity and earning per share have greatest average values while cash ratio has lowest average value. This descriptive statistics table also shows that standard deviation is also highest for the return on equity whereas cash ratio has the lowest standard deviation value. The greatest difference of maximum and minimum is also for return on equity. Capital adequacy has the highest mean and return on equity.

Table II. Descriptive statistic

Variable	Mean	Maximum	Minimum	Std. Dev.
ROA	1.317245	3.790000	-5.000000	1.336049
ROE	12.14622	37.90000	-203.0200	27.76699
EPS	8.096020	26.17000	-83.05000	12.65827
QC	0.412959	1.110000	0.120000	0.175330
CR	1.574449	3.710000	0.530000	0.590412
CASR	0.264745	0.530000	0.110000	0.084720
ICR	1.731122	4.830000	-4.750000	1.134894
CADR	13.52796	22.25000	1.080000	4.014363

The table III shows the regression results taking return on assets as dependent variable. The results show that interest coverage, capital adequacy, return on equity and earning per share ratios has significant and positive relationship with banks profitability. Current and quick ratio demonstrates the positive and insignificant relationship with profitability. And cash ratio has negative and insignificant relationship with bank's profitability.

Table III. Dependent variable: ROA

Variable	Coefficient	t-Statistic	Prob.
C	-1.031811	-3.963724	0.0001
ROE	0.006351	2.343548	0.0213
EPS	0.011021	2.175412	0.0322
QC	0.447704	0.901354	0.3698
CR	0.101322	0.775847	0.4399
CASR	-0.962194	-1.056766	0.2934
ICR	0.786354	10.80545	0.0000
CADR	0.054091	3.204463	0.0019
R-squared	0.924398		
F-statistic	157.2060		
Prob(F-statistic)	0.000000		

Table: IV. Regression results taking return on equity as dependent variable shows that interest coverage and quick ratios shows the significant and positive relationship with banks profitability. While the cash and current ratio has negative and insignificant relationship with banks profitability. The capital adequacy has negative but significant relationship with banks profitability. Return on equity and earning per share has positive and significant impact on banks profitability.

Table IV.Dependent variable: ROE

Variable	Coefficient	t-Statistic	Prob.
C	15.55364	1.477489	0.1430
ROA	9.056617	2.343548	0.0213
EPS	0.339202	1.757551	0.0822
QC	27.07175	1.453555	0.1495
CR	-6.989391	-1.428419	0.1566
CASR	-47.96057	-1.401308	0.1646
ICR	10.38067	2.582800	0.0114
CADR	-1.739461	-2.686956	0.0086
R-squared	0.750383		
F-statistic	38.65041		
Prob(F-statistic)	0.000000		

The table V shows the regression results by considering the earning per share as dependent variable. The results show that quick assets and cash ratio has positive but insignificant impact on banks profitability when it measure by earning per share. The current and interest coverage ratio shows negative and insignificant relationship with bank profitability. Finally the capital adequacy, return on equity and return on assets has significant and positive relationship with banks profitability.

Table V. Dependent variable: EPS

Variable	Coefficient	t-Statistic	Prob.
C	-11.80975	-2.114751	0.0372
ROA	4.532824	2.175412	0.0322
ROE	0.097827	1.757551	0.0822
QC	2.066328	0.204257	0.8386
CR	-2.580020	-0.976017	0.3317
CASR	14.92812	0.806363	0.4222
ICR	-2.601019	-1.171572	0.2445
CADR	1.220143	3.613408	0.0005
R-squared	0.653596		8.096020
F-statistic	24.25887		2.303212
Prob(F-statistic)	0.000000		

Table: VI. The correlation results display return on equity is positively associate with return on assets at percentage of 0.83. And earning per share, quick, interest coverage and capital adequacy ratios has positive relationship with dependent variables return on assets and return on equity. The current ratio and cash ratio has a negative relationship with dependent variable(return on assets and return on equity. Moreover, the results also indicate that the quick ratio, current ratio, cash ratio has a negative relationship with earning per share.

Table VI. Correlation

Variable	ROA	ROE	EPS	QC	CR	CASR	ICR	CADR
ROA	1.000000							
ROE	0.828992	1.000000						
EPS	0.748812	0.642130	1.000000					
QC	0.011680	0.001186	-0.076368	1.000000				
CR	-0.326700	-0.326589	-0.377925	0.767829	1.000000			
CASR	-0.040272	-0.109042	-0.056251	0.836995	0.715263	1.000000		
ICR	0.945801	0.831452	0.688426	0.026505	-0.310779	-0.024304	1.000000	
CADR	0.716949	0.507504	0.724680	-0.247778	-0.509405	-0.147426	0.658936	1.000000

IX. CONCLUSIONS:

The basic aim of such is to explore the relationship between liquidity independent variable and profitability dependent variable. The data is taken from annual reports of ten banks from 2006-2015. The data is analyzed by usingcorrelation and regression run through E-views 9.5. The results show that most liquidity ratios has positive and some liquidity ratios has negative relationship with the bank's profitability.

The findings of such study clarify that interest coverage ratio has positive and significant relationship with banks profitability when it analyzed with return on assets and return on equity. The capital adequacy ratio has positive and significant relationship with return on equity and earning per share. The quick ratio has positive relationship with profitability. The current ratio suggest the positive but insignificant relationship when look the relationship with return on assets. And current ratio suggests the negative and significant relationship with return on assets and negative and insignificant with earning per share. Therefore, the overall results explain that liquidity management has positive related with banks profitability. The research results also relate to the previous studies conducted by various scholars.

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