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THE IMPACT OF LIQUIDITY ON PROFITABILITY IN BANKING SECTOR OF BANGLADESH: A CASE OF CHITTAGONG STOCK EXCHANGE

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ABSTRACT

The study focuses on two important issues of main stakeholders of bank which are liquidity and profitability. The shareholders desire maximum profitability as a return on their investment, while the depositors opt for a maximum liquidity as a guarantee for safety and ability to pay their money on demand. Statistical significance of liquidity on profitability can be a great factor for existing and potential stakeholders. Therefore, this study had attempted to investigate the impact of liquidity and profitability of the private commercial banks of CSE-30 in Bangladesh by focusing on certain ratios over a period of five years. Five private commercial banks have been selected to undertake the research. Profitability measures - ROA and ROE are dependent variables and liquidity measures - Loan Deposit Ratio, Deposit Asset Ratio and Cash Deposit Ratio are selected as independent variables. The research carried out simple regression analysis to test the hypotheses. However, the null hypothesis is accepted in this study indicating that there is no significant relationship between liquidity and profitability.

KEYWORDS: Liquidity, Profitability, Commercial Bank, Deposit Asset Ratio,

1.INTRODUCTION

Bangladesh has a mixed banking system comprising State-owned Commercial Banks (SCBs), Development Financial Institutions (DFIs) or Specialized Commercial Banks (SBs), private commercial banks (PCBs) and foreign commercial banks (FCBs). Private Commercial Banks (PCBs) started their journey in Bangladesh in 1982. Their prudence in selecting appropriate borrowers and sector of providing loans and monitoring them closely has decreased the percentage of non-performing loan. Besides, the prudent regulatory measure of the central bank including guidance regarding prudential norms of capital adequacy, classification of loans, on-site and off-site supervision have made the PCBs sound in Banking operation. Their performance in respect of the profitability shows their potentiality in the banking industry. Banking sector plays a vital role in the economic growth and development of Bangladesh. The importance of an efficient banking sector lies in the fact that, it ensures generation and mobilization of savings, and investments inproductive sectors. In fact, this system assists in directing most profitable and efficient sectors to most productive sources of future growth. Banking being an important sector of financial system of Bangladesh, the study on performance of Banking sector and evaluation of determinants of profitability remain as a prudent area of research on financial system. Therefore, this study aims to examine how liquidity impacts the profitability of some selected banks of Bangladesh in order to provide insight for improving banks profitability through better asset and liability management of banks in Bangladesh.

2. METHODOLOGY

This study aimed to establish a relationship between liquidity and profitability of banks in Bangladesh through an empirical research. The data used in this study are compiled from income statements and balance sheet of selected banks. A sample of five private commercial banks have been randomly selected and examined to find the impact of liquidity on profitability over the period of 2009 to 2013. The selected banks of CSE 30 are Arab Bangladesh Bank Limited, Dhaka Bank Limited, Islami Bank Limited, Eastern Bank Limited and Uttara Bank Limited. The sample has been tested through descriptive statistics, correlation analysis and regression analysis. The hypotheses have been tested by applying linear regression using SPSS. The profitability ratios are the dependent variables whereas liquidity measures are the independent variable. The variables selected to analyze the impact of liquidity on profitability and the regression models used for testing hypotheses are as follows:

Dependent Variables:-

Return on Assets = Net Income after Taxes / Total Assets

Return on Equity = Net Income after Taxes / Total Equity Capital Account

Independent Variables:-

Loan Deposit Ratio = Loans and Advances / Total Deposit

Deposit Asset Ratio = Total Deposit / Total Assets

Cash Deposit Ratio= Cash & Equivalent / Total Assets

MODELS

The research model is as follows:

ROA= α1 + β11 LTD + β12 DTA + β13 CTD + Ui ——————————model (1)

ROE = α2 + β 21 LTD + β22 DTA + β23 CTD + Ui ——————————model (2)

α: the constant , β: the regression coefficient, Ui : error

The following hypotheses have been formulated for the study:-

H_{01}: There is no significant impact of independent variables on dependent variable return on asset (ROA).

H_{02}: There is no significant impact of independent variables on dependent variable return on equity (ROE).

3.LITERATURE REVIEW

Banks today are under great pressure to perform- to meet the objectives of their stockholders, employees, depositors and borrowing customers, while somehow keeping government regulators satisfied that the bank's policies, loans and investments are sound Rose (2004). Commercial banks are profit seeking organizations. Banks have to earn profits because if they don't, all the shareholders would sell off the shares if proper dividends are not earned. Hence they have to earn profits for their shareholders and at the same time maintain liquidity to satisfy the withdrawal needs of its customers. Bank liquidity management involves a tradeoff between the cost of attaining higher liquidity and the cost of inefficient allocation of such liquidity. Bourke (1989) finds some evidence of a positive relationship between liquid assets and bank profitability for 90 banks in Europe, North America and Australia from 1972-1981. On the other hand, other researchers argue that, holding liquid assets imposes an opportunity cost on the bank given their low return relative to other assets, thereby having a negative effect on profitability. For example, Molyneux and Thornton (1992) and Goddard, et al (2004) find evidence of a negative relationship between liquidity and profitability for European banks in the late 1980s and mid 1990s, respectively. According to Eichengreen and Gibson (2001), the fewer the funds tied up in liquid investments, the higher we might expect profitability to be. Eljelly (2004) examined the relation between profitability and liquidity measured by current ratio and cash gap (cash conversion cycle) on a sample of joint stock companies in Saudi Arabia using correlation and regression analysis. They found a negative relationship between profitability and liquidity indicators. In order to test hypothesis, Pimentel et al (2005) performed an empirical study with a sample of retailing companies in the Brazilian market for the period of 2000 to 2003. The authors found out for the analyzed sample that the larger the current ratios, the smaller the ROE, thus there would be a negative correlation among liquidity and profitability on the short run. In fact, various authors have found varying relationships between the liquidity and profitability of banks in various countries. Lartey V, Antwi1 S, Boadi E. (2013) studied the relationship between the liquidity and the profitability of banks listed on Ghana Stock Exchange and revealed that there was a very weak positive relationship between the liquidity and the profitability of the listed banks in Ghana. In fact, various authors have found varying relationships between the liquidity and profitability of banks in various countries. However, the impact of liquidity management in the context of banking sector of Bangladesh

remains as a less explored area. Hence, the study aims to contribute a practical research paper aimed at assisting banks to better manage its liquidity to improve profitability and also to fill the research gap in this area of financial literature.

4.FINDINGS AND ANALYSIS

Table 1 reports descriptive statistics which are minimum, maximum, range, mean, standard deviation and variance of all independent variables which are Loan-Deposit ratio (LTD), Deposit-Asset ratio (DTA), Cash-Deposit ratio (CTD) and dependent variable Return on Asset (ROA) and Return on Equity (ROE).

Table1: Descriptive Statistics of the variables

Variables	N	Minimum	Maximum	Range	Mean	Std. Dev.	Variance
ROA	5	1.2	2.35	1.15	1.75	0.47	0.22
ROE	5	14.56	23.33	8.77	18.92	3.83	14.69
LTD	5	0.86	0.93	0.07	0.89	0.03	0.0009
DTA	5	0.79	0.86	0.07	0.82	0.03	0.0009
CTD	5	0.10	0.15	0.05	0.12	0.03	0.0009

Table 2 reports the correlation between the dependent and independent variables. The correlation between independent and dependent variables is found to be statistically insignificant.

Table 2: Correlation Matrix

Variables	ROA	ROE	LDR	DAR	CDR
ROA	1				
ROE	0.96** 0.01	1			
LDR	0.54 0.35	0.53 0.36	1		
DAR	-0.67 0.27	-0.67 0.21	-0.69 0.20	1	
CDR	-0.32 0.60	-0.03 0.96	-0.21 0.74	-0.02 0.97	1
**** Correlation is significant at the 0.01 level (2-tailed). Pearson Correlation Sig. (Two- tailed)**					

However, the table reports significant positive correlation between ROA and ROE. To test the research hypotheses SPSS program is used to conduct simple regression analysis and the results are explained in following paragraphs.

Table 3: Regression analysis (Return on Assets)

Variable	B	SE B	β	Sig.	R Square
LTD	0.65	17.90	0.04	0.98	0.50
DTA	-6.46	17.25	-0.37	0.77	
CTD	-8.35	18.14	-0.41	0.73	

Table 3 reports the result of simple regression analysis of the independent variables with ROA. In Table 3, ROA is dependent variable and Loan to deposit ratio, Deposit to Asset ratio and Cash to Deposit ratio are independent variables. The result of regression analysis indicates that association between dependent and independent variables are statistically insignificant.

Table 4- Analysis of Variance

Source	Sum of Squares	Degree of freedom	Mean of Square	F-statistics	Significance
Regression	0.43	3	0.14	0.85	0.83
Residual	0.45	1	0.45		
Total	0.88	4			

The coefficient of determination reported in Table 3 by R-square indicates that 50% of the changes in ROA can be explained by the independent variables. However, the results of ANOVA reported in Table 4 indicate that at 10% level of significance, the regression model as whole is statistically insignificant and hence first null hypothesis is accepted. The reason for the regression model to be statistically insignificant could be use of limited data on only five banks and for five years. Therefore, this study could not ascertain any significant impact of liquidity measure like Loan Deposit ratio, Deposit Asset ratio, and Cash Deposit ratio on profitability measured by Return on Asset (ROA).

Table 5- Regression analysis (Return on Equity)

Variable	B	SE B	B	Sig.	R Square
LTD	12.84	152.81	0.09	0.95	0.46
DTA	-82.31	147.25	-0.58	0.68	
CTD	-10.69	154.85	-0.06	0.96	

Table 5 reports the result of simple regression analysis of the independent variables with ROE. In Table 3, ROA is dependent variable and Loan to deposit ratio, Deposit to Asset ratio and Cash to Deposit ratio are independent variables. The result of regression analysis indicates that association between dependent and independent variables are statistically insignificant.

Table 6- Analysis of Variance

Source	Sum of Squares	Degree of Freedom	Mean Square	F-Statistics	Significance
Regression	27.06	3	9.02	0.38	0.84
Residual	31.71	1	31.71		
Total	58.77	4			

The coefficient of determination reported in Table 5 by R-square indicates that 46% of the changes in ROE can be explained by the independent variables. However, the results of ANOVA reported in Table 6 indicate that at 10% level of significance, the regression model as whole is statistically insignificant andhence second null hypothesis is also accepted. Therefore, this study could not ascertain any significant impact of liquidity measure like Loan Deposit ratio, Deposit Asset ratio, and Cash Deposit ratio on profitability measured by Return on Asset (ROE).

5.CONCLUSION

A tradeoff between these two elements can minimize the conflict between liquidity versus profitability of a bank according to Islam, M. Muzahidul (2008). As stated by Islam (2008) and Koch (1992) that there is a short-run tradeoff between liquidity and profitability. The more liquid a bank is, the lower are its return on equity (ROE) and return on assets (ROA), all other things being equal. Therefore, statistical significance of liquidity on profitability can be a great factor for potential investors. In a nutshell the influence of banks liquidity cannot be negligible when considering profit motive.

This study had attempted to investigate the impact of liquidity and profitability of the private commercial banks of CSE-30 in Bangladesh by focusing on certain ratios over a period of five years. Five private commercial banks have been selected to undertake the research. Liquidity and profitability in private commercial banks are two sensitive issues in the operations of the banks and the information on these two are seriously hoarded. Therefore, the major concern of this study was to figure out if the amount of liquidity maintained by the banks effect their profitability as these two issues are much important to the main stakeholders of the banks. The research carried out simple regression analysis to test the hypotheses. However, the null hypothesis is accepted in this study indicating that there is no significant relationship between liquidity and profitability.

Though this study failed to establish association between liquidity and profitability, but future studies on the banking industry with large sample may establish such association in the context of Bangladesh. Finally, this study contributes to banking literature by focusing on an important issue of main stakeholders of bank. As the shareholders desire maximum profitability as a return on their investment, while the depositors opt for a maximum liquidity as a guarantee for safety and ability to pay their money on demand, further researches on these area would likely to generate realistic association between these two variables.

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