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# The Effects of Liquidity on Banks Financial Performance: Special Reference to Colombo Stock Exchange

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**ABSTRACT**

*This study aims at investigating the relationship between liquidity and financial performance of commercial banks in Sri Lanka. The main objective of the study is to find impact existing between the variables. Descriptive statistics, Correlation and regression are used respectively to find the impact between dependent and independent variables. Secondary data was used for analysis which was extracted from the last five years (2012/2013-2016/2017) annual reports of listed commercial banks in CSE. Financial performance measures ROA and ROE are dependent variables and liquidity measures Loan Deposit Ratio (LDR), Deposit Asset Ratio (DAR), Cash Deposit Ratio (CDR) are selected as independent variables. Then conducts correlation and regression analysis it was found that there is negative and positive significant impact between the banks financial performances on deposit asset ratio and cash deposit ratios respectively.*

**Keywords**: Financial Performance, Deposit Asset Ratio, Deposit Asset Ratio, Cash Deposit Ratio

## INTRODUCTION

Banking system is the heart beat of every economic system, and many factors affect and determine its performance. Liquidity as one of these determinants performs a crucial function in the successful operation of a business firm and it is mostly important to make it known that a bank is liquid when it has the ability to settle obligations instantly. On the other way round, liquidity is a bank's capacity to fund increase in assets and meet both anticipated and unanticipated obligations at reasonable cost without running into unacceptable losses. Traditionally, liquidity of an asset means how quickly it can be transformed into cash. When referring to company liquidity one usually means its ability to meet its current liabilities and is usually measured by different financial ratios. The financial performance of a company can by described as its ability to generate income

which surpasses its liabilities.It is important for firms to maintain a reasonable amount their assets in the form of cash in order to meet their short term obligations. Balanced liquidity level is necessary for the effectiveness and financial performance of a firm. Therefore, firms need to determine the optimum level of the liquidity in order to ensure high financial performance. In order to find the financial performance level of firms, financial performance ratios are used, whereby it can clearly be examined that where the firm stands in terms of financial performance because, enhancement of financial performance is the ultimate purpose of every firm. In today's developing and competitive world, banking sector has emerged as key player, and contributing its best to create employment, and improving the financial sector of the country. With the growing trend, it has become a challenge for the sector to earn maximum financial performance. It has become necessary for firms to take dynamic decisions to effectively manage their assets. On the other hand liquidity and financial performance goals are contradictory to each other in most decisions which the finance manager takes. In addition to this, referring to the risk return theory there is a direct relationship between risk and return. Thus, firms with high liquidity may have low risk and then low financial performance. Conversely, firm that has low liquidity may face high risk results to higher return. Consequently, a firm is required to maintain a balance between liquidity and financial performance in its day-to-day operations. However, the relationship between liquidity and financial performance has been investigated in Sri Lanka as well as developed and other developing countries, in Sri Lankan context evidence from Banks and Finance Companies and the internal and external interested parties are given more attention in this area to take decision regarding to their field. Therefore, this study has been investigated the degree and pattern of determinates of liquidity on financial performance of Banks and Finance Companies in Sri Lanka for the period from 2012/2013 to 2016/2017.

**Problem Statement**

Banks and financial institutions in Sri Lanka play their mediation role by absorbing financial surpluses from their holders (depositors) and put them at the disposal of investors (borrowers) to be directed towards various investment channels. This investment activity carried out by the bank is hardly devoid of risks

and problems, because the bank is seeking to maximize its expected profits on these investments, and this requires optimum utilization of the available resources, since the bank is exposed at any moment to meet the obligations of its clients and depositors who want to withdraw their savings, and so the bank should be ready to meet these demands at any time. The problem arises when the Bank is not able to meet these demands, especially those unexpected ones, which may embarrass the bank with its clients and may lose their trust over the time, in light of the intensive competition in the banking sector resulting from the increasing number of local banks, as well as intensive competition from the foreign banks that work in the local banking market. Therefore, each bank has to work to maximize its profits, and at the same time be able to meet the financial requirements of its depositors by holding a sufficient amount of liquidity, in order to achieve a balance between the financial performance and liquidity. Banks should determine the optimal amount of cash that enable them in achieving balance between financial performance and liquidity together, because each level of liquidity has a different effect on the levels of financial performance, and the problem arises when the commercial banks try to maximize their profit at the expense of neglecting the liquidity effect, which may cause a technical and financial hardship with the consequent withdraw of deposits. Therefore, this research seeks to answer the following question:

"Does the liquidity affect the banks' financial performance?"

**Objectives**

The main objective of the study is to find out the impact of liquidity on financial performance of listed banking and financing companies in Sri Lanka. The following sub objectives are considered for the above purpose.

Specific Objectives

1. To identify whether there is any significant relationship between loan deposit ratio and financial performance.
2. To identify whether there is any significant relationship between deposit asset ratio and financial performance.
3. To identify whether there is any significant relationship between cash deposit ratio and financial performance.

## LITERETURE REVIEW

According to Nimalathasan *etal* (2013) found that there is a significant

relationship exists between liquidity and financial performance among the listed manufacturing companies in Sri Lanka. Further they suggested that Inventory Sales Period (ISP), Current Ratio (CR)and are significantly correlated with Return on Asset (ROA), Operating Cash Flow Ratio (OCFR)are significantly correlated with Return on Equity (ROE). Based on the research findings, Alshatti (2015), concluded that, there is an effect of the liquidity management on financial performance in the Jordanian commercial banks as measured by ROE or ROA, where the effect of the investment ratio and quick ratios on the financial performance is positive when measured by ROE, and the effect of capital ratio on financial performance is positive as measured by ROA, and the effect of the other independent variables on the two measures of financial performance (ROE and ROA) is negative, the researcher thinks that this negative effect is due to the increased volume of untapped deposits at the Jordanian commercial banks. Olarewaju *etal* (2015), recommend that the apex bank (Central Bank of Nigeria) should ensure close supervision and monitoring of deposit money banks' strength and level of liquidity in an attempt to stabilize and strengthen the financial sector of the economy and also place a benchmark for their loan portfolio.

Shafana (2013) argued that financial institutions have to be highly concentrated on developing sound techniques for proper tradeoff between liquidity and financial performance due to its highly deal with ensuring adequate liquidity assets than non- financial institutions to meet the customers' demands. And also findings revealed that Cash Position Indicator and Total Deposit Ratio have significant determinants on ROA with sign of positive and negative respectively while Current Ratio has insignificance on ROA of Banks and Finance Companies in Sri Lanka. The overall finding from regression model is that 30% of variation in financial performance (ROA) is explained by variation of liquidity of Banks and Finance Companiesin Sri Lanka.

Iqbal *etal* (2014) investigated and measured the relationship between financial performance and working capital management by different variables. The study predicts both negative and positive relationship of the working capital management and firm performance. They found a negative relationship of working capital management with an average collection period, while positive

relationship was found with Cash Conversion Cycle, Inventory Turnover in days, Debt, Sales and Average Payments Period. The previous studies have been sufficiently investigated on non-financial companies than financial companies. Raheman and Nasr (2007) examined the effect of working capital management on financial performance of sample of 94 Pakistani companies listed on Karachi Stock Exchange for a period of six years from 1999 – 2004. The study has been used average collection period, inventory turnover in days, average payment period, cash conversion cycle, and current ratio as independent variables to represent the working capital management to examine the effect on net operating financial performance. They found that there is a strong negative relationship between variables of working capital management and financial performance of the firms. Further, the study also showed that the liquidity and debt ratio have significant negative relationship with its financial performance while size of the firm has significant negative relationship with its financial performance. According to J. Aloy Niresh (2012) empirically revealed that financial performance and liquidity are the most prominent issues in the corporate finance literature. The ultimate goal for any firm is to maximize financial performance and however, too much attention on financial performance may lead the firm into a pitfall by diluting the liquidity position of the organization. Based on the study of 31 listed manufacturing firms in Sri Lanka over a period of past 5 years from 2007 to 2011 suggested that there is no significant relationship between liquidity and financial performance.According to the Abdullah *etal* (2014) based on banking sector revealed that there is no significant relationship between liquidity and financial performance.Based on above literature following hypothesis were developed.

H1: There is a significant relationship between LDR and Financial performance

H2: There is a significant relationship between DAR and Financial performance

H3: There is a significant relationship between CDR and financial performance

## METHODOLOGY

### Study Period and Data Coverage

This study analyses all listed commercial banks in the CSE in Sri Lanka for five year

period from 2012/2013 to 2016/2017. Among 12 commercial banks selected as the sample of this study. Data for this research has been collected from the annual financial reports, which means used secondary data for quantifying variables.

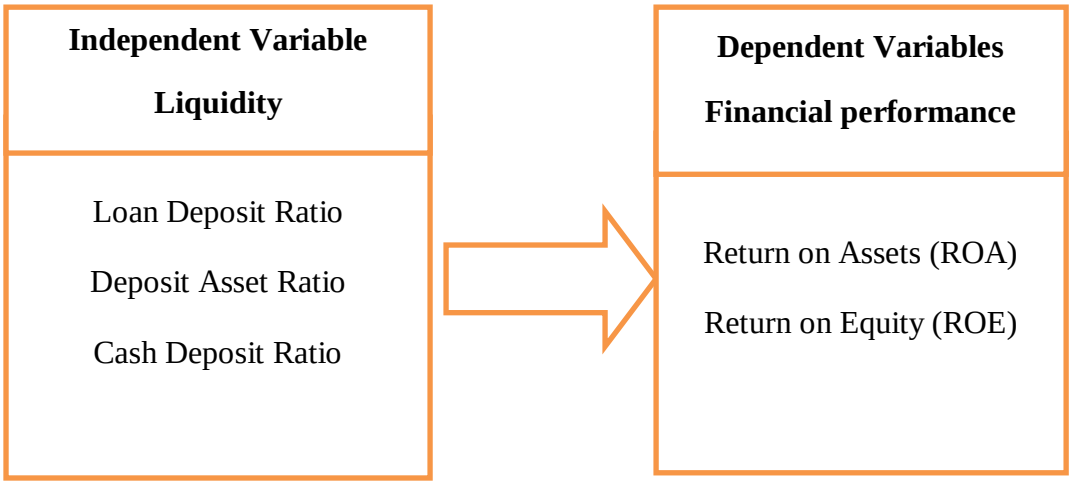
**Variables and Measures of Variables**

Based on previous literature specific to Sri Lankan commercial banks, this study identified five liquidity attributes that influence to the firm financial performance. Those are loan deposit ratio (loan and advances/total deposit), deposit asset ratio (total deposit/total assets), cash deposit ratio (cash and equivalents/total assets). Return on Assets (net income after taxes/total assets) and Return on Equity (net income after taxes/total equity capital) used to measure the financial performance in the study.

**Conceptual Model**

It is evident that there are several variables that influence the relationship between liquidity and financial performance of commercial banks listed in CSE. Therefore, the relationship between liquidity and financial performance of commercial banks may be analyzed well in simultaneous system than separately in line with this view, this study develops the following conceptual framework model for identifying the five liquidity measures which are considered important in affecting bank's financial performance.

Figure 1: Conceptual Model of the Study




**Techniques of Data Analysis**

The quantitative research approach is arrived at the findings of the research study. Under which, descriptive statistics, correlation analysis, regression analysis were used to analyze data for the years from 2012/2013 to 2016/2017 for the sample of 12 listed commercial banks in CSE, the total 60 commercial banks observations.

**Research Model**

The study focuses on regression analysis to examine the effect of liquidity on financial performance of banking sector in Sri Lanka. The study regressed Financial performance ratios as the measurement of financial performance against independent variables. Research models are,

$ROA=\beta_0+\beta_1 LDR+\beta_2 DAR+\beta_3 CDR+\varepsilon_i$
$ROE=\beta_0+\beta_1 LDR+\beta_2 DAR+\beta_3 CDR+\varepsilon_i$

Where,

| | |
|---|---|
| β0 | =Intercept |
| β1 | =Population Slope |
| ROA | = Return on Asset |
| ROE | = Return on Equity |
| LDR | = Loan Deposit Ratio |
| DAR | = Deposit Asset Ratio |
| CDR | = Cash Deposit Ratio |

## DATA ANALYSIS & RESULTS

**Descriptive Statistics Analysis**

Table represents descriptive statistics which are mean, minimum, maximum and standard deviation of all independent variables which are Loan Deposit Ratio (LDR), Deposit Asset Ratio(DAR), Cash Deposit Ratio(CDR) and dependent variable Return on Assets(ROA) and Return on Equity(ROE).

Table 1: Descriptive Statistics

**Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| Loan Deposit Ratio | 60 | .09 | 9.05 | 1.1832 | 1.18703 |
| Deposit Asset Ratio | 60 | .02 | .85 | .6592 | .18371 |
| Cash Deposit Ratio | 60 | .00 | .08 | .0247 | .01845 |
| Return on Assets | 60 | .00 | .06 | .0138 | .00993 |
| Return on Equity | 60 | .01 | .39 | .1258 | .06634 |
| Valid N (listwise) | 60 | | | | |

Source: Data Analysis

According to the table 1 mean value of ROA for the sample is 0.0138 percent ranging from zero percent to 6 percent. The mean value of ROA implies that nearly 1.4 percent of returns are received on total assets. According to the mean value of ROE for the sample is 13 percent ranging from one percent to 39 percent. The mean value of ROE implies that nearly 13 percent of returns are received on total equity.

**Correlation Analysis**

Correlation analysis shows the relationship between variables. In this study the correlation co-efficient analysis was under taken to find out the relationship between corporate governance attributes and capital structure.The significance of the correlation was tested at the different levels of significance and detailed results of correlation analysis were reported in

Table 2: Correlation Matrix

| Correlations | | | | | | |
|---|---|---|---|---|---|---|
| | | Loan Deposit Ratio | Deposit Asset Ratio | Cash Deposit Ratio | Return on Assets | Return on Equity |
| Loan Deposit Ratio | Pearson Correlation | 1 | | | | |
| | Sig. (2-tailed) | | | | | |
| Deposit Asset Ratio | Pearson Correlation | -.174 | 1 | | | |
| | Sig. (2-tailed) | .183 | | | | |
| Cash Deposit Ratio | Pearson Correlation | -.159 | .362** | 1 | | |
| | Sig. (2-tailed) | .225 | .004 | | | |
| Return on Assets | Pearson Correlation | .453** | -.264* | -.367** | 1 | |
| | Sig. (2-tailed) | .000 | .042 | .004 | | |
| Return on Equity | Pearson Correlation | .451** | .100 | -.010 | .444** | 1 |
| | Sig. (2-tailed) | .000 | .447 | .939 | .000 | |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | | | | |
| *. Correlation is significant at the 0.05 level (2-tailed). | | | | | | |

According to the above table there is a significant positive moderate relationship between deposit asset ratio and cash deposit ratio thus from the depositing money bank will retain the more cash with the counters of the banks. Then the 45.3% moderate significant relationship between the return on assets and loan deposit ratio of the industry as well as moderate positive relationship between the return on equity and loan deposit ratio. Moreover there is a negative moderate 1% level

significant relationship between the cash deposit ratio and the return on assets of the organization.

To test the research hypothesis SPSS program is used to conduct simple regression analysis and the results are explained in following paragraphs.

**Regression Analysis**

Table 3: Model Summary - ROA

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .550[a] | .303 | .266 | .00851 |

a. Predictors: (Constant), Loan Deposit Ratio, Cash Deposit Ratio, Deposit Asset Ratio

According to above regression analysis of dependent variable ROA with other independent variables like Loan Deposit Ratio (LDR), Deposit Asset Ratio(DAR), Cash Deposit Ratio(CDR) were tested and results found that there association between dependent and independent variables are statistically insignificant.R square indicates that 30.3 percent of changes in ROA can be explained by the independent variables.

Table 4: ANOVA - ROA

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | .002 | 3 | .001 | 8.115 | .000[b] |
| | Residual | .004 | 56 | .000 | | |
| | Total | .006 | 59 | | | |

a. Dependent Variable: Return on Assets

b. Predictors: (Constant), Loan Deposit Ratio, Cash Deposit Ratio, Deposit Asset Ratio

It can be concluded that this regression model is reasonably fit to the data. Since F value of 8.115 and model significant is 5% level. According to the analysis it indicates that the regression model as whole is statistically insignificant and this study could not ascertain any significant impact of liquidity measures like Loan Deposit Ratio (LDR), Deposit Asset Ratio(DAR), and Cash Deposit Ratio(CDR) on bank financial performance measured by Return on Assets (ROA).

Table 5: Coefficients - ROA

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .017 | .005 | | 3.766 | .000 |
| | Deposit Asset Ratio | -.005 | .007 | -.098 | -.811 | .421 |
| | Cash Deposit Ratio | -.145 | .065 | -.270 | -2.240 | .029 |
| | Loan Deposit Ratio | .003 | .001 | .393 | 3.451 | .001 |

a. Dependent Variable: Return on Assets

Then the coefficients of variables table identify the significant of individual's variables. Thus in what extend the DAR, CDR and LDR are significant to explain the financial performance of the banks. According to the above table results, CDR is significant at 5% level to explained the banks' financial performance then LDR is significant at 1% level to explained the banks' financial performance

Table 6: Model Summary - ROE

**Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|---|---|---|---|---|
| 1 | .486[a] | .236 | .196 | .05950 |

a. Predictors: (Constant), Loan Deposit Ratio, Cash Deposit Ratio, Deposit Asset Ratio

According to regression analysis of dependent variable ROE with other independent variables, it represents 23.6% variation in ROE is represented by selected independent variables in this study. Other 76.4% are represented by variables which didn't consider in this study.

Table 7: ANOVA - ROE

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | .061 | 3 | .020 | 5.781 | .002[b] |
| | Residual | .198 | 56 | .004 | | |
| | Total | .260 | 59 | | | |

a. Dependent Variable: Return on Equity
b. Predictors: (Constant), Loan Deposit Ratio, Cash Deposit Ratio, Deposit Asset Ratio

According to the above table F value is 5.781 and model is significant at 5% significant level. It can be concluded that this regression model is reasonably fit to the data.

Table 8: Coefficients - ROE

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .050 | .032 | | 1.584 | .119 |
| | Deposit Asset Ratio | .067 | .046 | .184 | 1.460 | .150 |
| | Cash Deposit Ratio | -.001 | .453 | .000 | -.001 | .999 |
| | Loan Deposit Ratio | .027 | .007 | .483 | 4.053 | .000 |

a. Dependent Variable: Return on Equity

According to the above table results, LDR is significant at 0.01 level to explained the bank's financial performance.

**HYPOTHESIS TESTING**

According to the above results it can be summarized the results of the hypothesis testing as

Table 9: Testing Hypothesis

| No | Hypotheses | Results | Tools |
|---|---|---|---|
| H1 | There is a significant relationship between LDR and Financial performance | Rejected | Regression |
| H2 | There is a Significant relationship between DAR and Financial performance | Accepted | Regression |
| H3 | There is a significant relationship between CDR and financial performance | Accepted | Regression |

**CONCLUTION, LIMITATIONS AND RECOMMENDATIONS**

This study attempted to investigate the impact of liquidity financial performance of listed commercial banks in CSE in Sri Lanka by focusing on certain ratios over five years. Twelve listed commercial banks have been selected to undertake the research and carried out simple regression analysis to test the hypothesis. Research found that there is a significant effect of

liquidity on financial performance of commercial banks in Sri Lanka.

There are some limitations in this study like usage of secondary data, considering about five years and twelve numbers of commercial banks for this research. To mitigate these limitations future researchers can expand their sample size, can consider about other leasing and financing companies as the sample. On the other hand they can consider about primary data sources for the purpose of data collection. Not only that but also they can consider about other liquidity measurement attributes to identify the effect of financial performance.

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