A Dissertation Report

On

Determinants of Liquidity of Commercial Bank in Bangladesh

Supervised by:

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MBA Program

Department of Business Administration

Faculty of Business & Entrepreneurship

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Letter of Transmittal

Date: January 01 , 2021

Md. Arif Hassan
Assistant Professor
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Subject: Submission of a dissertation report.

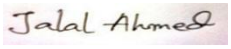
Dear Sir,

With great pleasure, I am submitting this dissertation report on "**Determinants of Liquidity of Commercial Bank in Bangladesh**".

This report is aimed to identify the factors having most impacts on the Liquidity of Bangladeshi commercial banks. To prepare this report, I have used different regression models using strongly balanced panel data directly acquired from annual reports of specific Banks. The data analysis was done through SPSS software. The manual work was limited to the wording and explanation of software-generated results. I have concentrated my best effort to achieve the objectives of the report and hope that my attempt will serve the purpose. The practical knowledge and experience collected during dissertation report preparation are going to massively help in my future professional life.

I would request your kind consideration to excuse me for any mistake that may occur in the thesis paper despite my best effort. Also, if you wish to enquire about any aspect of my dissertation report, I would gladly answer your queries.

Yours faithfully,



Jalal Ahmed
ID: 193-14-3096
Department of Business Administration
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Certification from Supervisor

This is to certify that **Jalal Ahmed**, Student ID: 193-14-3096, Major in Accounting, Department of Business Administration, Daffodil International University, has successfully prepared a thesis report entitled **"Determinants of Liquidity of Commercial Bank in Bangladesh"** under my supervision as a partial requirement of MBA program.

He has to prepare a thesis paper afterwards under my supervision and guidance. He has tried his level best to do this successfully. I think it will help him in near future to build a career.

I wish his success in every step.

Md. Arif Hassan

Assistant Professor

Department of Business Administration

Faculty of Business & Economics

Daffodil International University

Dedication

I dedicate this effort to my Parents & Teachers who provide me with the guidance and encouragement during the completion of this report.

Acknowledgement

All praises to the gracious and almighty creator for giving me physical & mental strength, and blessings to complete the report in time along with maintaining due diligence.

I would like to express my deep and sincere gratitude to my supervisor Md. Arif Hassan (Assistant Professor, Department of Business Administration, Daffodil International University) for his continuous support and intellectual insight in preparing this report. His motivational encouragement & strict guidance in preparing this report have had a remarkable reflection on my work. Without his in-depth knowledge sharing, detailed review, constructive criticism and excellent advice, such an important task like this would have never got a perfect shape.

In conclusion, I would like to extend my sincere thankfulness to all of them around me, whoever has helped me out of their capability. I believe this experience will allow me to furnish some good work in future in light of these and, therefore, to be of benefit to mankind.

LIST OF ABBREVIATION

MBA: Masters of Business Administration

NBL: National Bank Limited

LIQD: Liquidity

CAPA: Capital Adequacy

ASQ: Asset Quality

MGTQ: Management Quality

NIM: Net Interest Margin

GDP: Gross Domestic Product

ROA: Return on Assets

ROE: Return on Equity

CEA: Cost of Operating Expense to Asset

CFC: Cost of Financing Cost

CMD: Capital Market Development

INF: Inflation

SIZE: Bank Size

TLA: Total Loan to Total Asset

Abstract

Maintaining sufficient liquidity is one of the major areas of concentration for banks to operate efficiently. Holding excess liquidity or shortage in liquidity both can be caused to a problem for banks. In Bangladesh, commercial banks often face a problem of huge liquidity surplus. The present study attempts to empirically estimate and quantity the impacts of various bank-specific and macroeconomic factors that may impose credible impacts on the liquidity level of the banks. A regression analysis using balanced panel data of 20 commercial banks listed on the capital market of Bangladesh from 2012 to 2016 is conducted to serve this purpose.

In this study, on the reported ratio of total liquid assets to the total asset has been used as the dependent variable while bank some specific factors such as: asset quality, capital adequacy, bank size, management quality, profitability, capital market development, gross domestic product growth rate etc. have been used as an independent variable. The study finds that capital adequacy, bank size, profitability, a total asset to the total loan have a significant impact on the liquidity. On the contrary asset quality, management quality, return on asset, return on equity, inflation does not significantly affect the liquidity of the commercial banks in the context of Bangladesh.

This study recommends that banks should be careful while increasing capital and assets in the short- run to handle the current excess liquidity problem. The overall results of this study provide a new view for understanding the impact in the liquidity and liquidity management of the commercial bank industry in Bangladesh.

Keywords: Liquidity, Capital, Commercial Bank, Bangladesh

Table of Contents

CHAPTER 1: INTRODUCTION

The bank plays a major role in all modern financial systems. To operate it successfully, we seek attention to the bank's liquidity levels and liquidity management that may have a greater impact on the profitability of the bank. Banks are naturally fragile if they do not meet short term financial obligations of their clients. For which liquidity and liquidity management has become a very important issue to the regulatory body of the bank.

By liquidity transformation banking sector plays the most dominant role in the financial system of a country. The expertise works in asset and liability as to the most influential determinant of the performance of the individual bank and the banking sector. Efficient asset management and liability management is required for obtaining profit and improving a firm's value by meeting some constraint in the bank industry. Wuryandani (2012) states that adequate liquidity, sufficient capacity, and low risk are some of the most important constraints that the banks are required to handle for its operation. A bank which is a supplier of liquidity to market is also exposed to substantial liquidity risk. Risk of getting unable to meet the short term obligation is termed as liquidity risk.

According to Good hart (1987), an illiquid bank is not far away different from an insolvent bank. Bank's insufficiency to handle the liquidity problem and to meet the withdrawal requests from the depositors who deposited earlier on the bank may impact negatively on the confidence of the public. The loss of public trust in the sector might be lead to the corruption effect where the poor performance of one bank badly affects the other banks of the industry. In the most adverse situation, financial erases is followed by contamination effect where substantial affect in the flow of funds the creditor to the debtor occurs.

Efficient banking operation depends heavily on the managing optimum level of liquidity. Malik and Rafique (2013) view that several aspects such as size, characteristics, nature and degree of complication of actions of a bank determine the optimum level of liquidity. Combination of debt management approach and asset management approach is commonly used to accomplish the liquidity in banks. Holding excessive liquidity is not also a good

indication for banks. High liquidity can unfavorably affect profitability. Moussa (2015) has found that there has a significant negative relationship between profitability and liquidity of commercial banks.

According to Greuning and Bratonovic (2004), defined importance for liquidity management is mandatory for every bank and they state that bank should include a strategy of funding, the risk limits in different types of investments, rules concerning liquidity management of assets and liabilities through various currencies and rules regarding gathering liquidity in the emergency on the money market. Net long term financing and short term financing should be adopted according to the policy of authority board.

In a study Diamond and Dybvig (1983) argues that banks contribute in the financial by liquidity creation through transforming liquid liabilities (deposits) into illiquid assets (loans). Banks become exposed to insolvency as well as it can be also explaining that funding liquidity risk when maturity mismatch between assets and liabilities works.

Sudirman (2015) states that banking products with relatively shorter placement period than the period of lending to the public are the major source of assets and liabilities maturity mismatch, Shorter placement period of funds refers to the fact that funds can be withdrawn by the depositors at any time on their demand and when they are due, while depositors funds as a total deposit are circulating in the form of illiquid loans there has a big problem that huge scale withdrawal from depositors leads to liquidity shortage for a bank to pay the depositors.

Commercial banks have a great impact on our country economy. According to Chowdhury (2002), more than 90% of the total assets of the banking assets belong to commercial banks in Bangladesh. He also quotes that the commercial banking industry of Bangladesh is a combination of a state-owned bank, a foreign bank that the commercial banking and the huge companion among these banks increase the importance of performance assessment of the banking industry. In Bangladesh, most of the academic researches on banking industry have focused mainly on the profitability of banks (See Siddique and Islam, 2001, Akhter and Mahmud 2014, Samad, 2008, 2015).

Siddique and Islam (2001) find that in terms of profitability commercial banks are giving pleasing profitability. In a study using the data of the period (1999-2002) Samad (2008) found validity for efficient hypothesis for bank profitability. In a recent study, Samad (2015)

tries to explore the determinants of the profitability of commercial banks of Bangladesh using the panel data of 42 banks over the period 2009-2011. This study shows that liquidity risk, credit risk, capital risk and bank efficiency significantly impact the profitability of the present Bangladeshi banking industry.

Many researchers conduct a study on the liquidity of the commercial banks of Bangladesh have dealt with the difference of the liquidity management in the conventional and Islamic banks (See Islam and Chowdhury (2009), Akhter and Rahman. 2013. The studies conducted by Islam and Chowdhury (2009) and Akhter and Rahman (2013) state that Islamic banks manage liquidity better than conventional and banks do.

In our country, many of study was conducted about bank profitability, performance analysis and risk assessment of the banking industry. As well assign our country, there has a few numbers of the study conducted the factors affecting liquidity in the Bangladeshi commercial bank? This study tries to fill this research gap. In this context, the intension of this study is therefore to analyze the relationship between different bank-specific and macroeconomic factors on the liquidity of a sample of commercial banks operating in Bangladesh. The ratio of liquid asset to the total asset is used as a proxy for the liquidity of a bank in this study. By adding the empirical evidence on the major factors which can explain the liquidity of the Bangladeshi commercial banks, this study aims to provide valuable information to the different parties including researchers, bank management, regulators and investors.

1.1 RATIONALE OF THE STUDY

Banking sector plays a dominating role in the financial system of Bangladesh. The banking industry in Bangladesh begins after independence with 6 nationalized commercial banks, 2 government-owned specialized banks and 3 foreign commercial banks are operating in Bangladesh. In Bangladesh, scheduled banks refer to the banks which get a license to operate under the Bank Company Act, 1971. In recent time scheduled banks of Bangladesh are facing the problem of huge liquidity surplus which harms the operational efficiency of the bank. Figure 1 shows the surplus liquidity of the scheduled banks of Bangladesh for the 2016-2017 fiscal years.

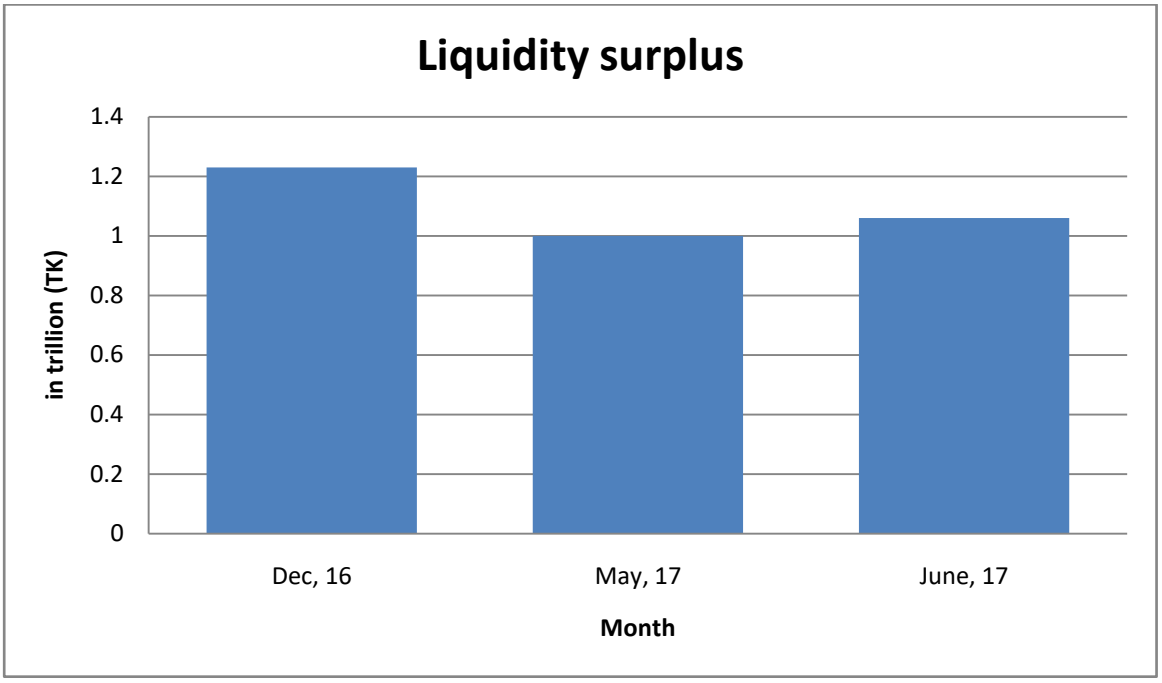

Figure 1. Surplus Liquidity on the Scheduled bank on Bangladesh.

On Figure 1, a trend is evident in the banking sector excess amount of liquidity in recent times in Bangladesh. Here liquidity surplus data is gathered from the Financial Express journal published on august 10, 2017 according to the source of Bangladesh Bank. Total surplus liquidity of the scheduled banks was at Tk.1.06 trillion as of end June 2017 which was Tk.1.00 trillion at the end of May 2017. The Surplus liquidity on December, 2016 has 1.23 trillion which was too much alarming sign for the banking industry. On a study, Valla et al., 2006; state that holding an excessive amount of liquidity has a negative impact on bank performance basically on profitability.

For that reason to find out the determinants of liquidity which affect liquidity more significantly. If the external and internal factors affecting the bank liquidity can be identified it will help the management of the banks to make more informed decision about liquidity management.

1.2 STUDY OBJECTIVES

The main objective of this study is to identify the factors affecting the liquidity position of commercial Banks of Bangladesh.

Specific objectives of this study include the following:

1. To identify the bank-specific determinates of the liquidity position of commercial banks of Bangladesh.
2. To identify macroeconomic factors that affect the liquidity of Bangladesh commercial banks.
3. To provide some recommendation and policy guidelines based on the empirical results.

1.3 LIMITATIONS OF THE STUDY

The researcher has to conduct this study at the time of a pandemic that is known as Covid 19 (Coronavirus Disease 2019). Due to this pandemic, data collection became a challenging issue, that's why the researcher has to rely on the online sources of different bank organization to ensure health issues. As the research has to conduct the study within a timeframe, the research could not select a large sample.

CHAPTER 2: LITERATURE REVIEW

Being one of the most important concerns of a bank, liquidity imposes a significant portion of academic literature on Banking. In recent study Nikolaou (2009) which is retrieved in 2015 defines liquidity as the unrestricted flow of funds between an agent of a financial system, with a specific focus on the flows among the markets, commercial banks and central bank. Yeager and Seitz (1989) state that liquidity indicated how capable any financial institution is to meet its all authentic demand for funds.

Academic literatures on banking argue that are the main providers of liquidity to the economy (Berger and Bouwman, 2009; Diamond and Dybvig, 1983). But they are exposed to the liquidity risk as maturity transformation function of banks them inherently illiquid (Bonfim and Kim, 2013). On this paper we are not trying to provide literature about all aspects of liquidity, just trying to provide the literature.

Liquidity gap approach and liquidity ratio approach are two commonly used techniques to measure the liquidity position of banks. Liquidity gap approach is more data-intensive and confusing as there is a lack of standard way of estimating inflows and outflows. Therefore, Researchers feel Comfortable to use liquidity ratio as it is more standardized (Yeager and Seitz, 1989. Vodova, 2012).

Valla et al. (2006) examine that the liquidity measures of banks of England and found that profitability, loan growth, GDP and monetary policy interest rate hurts bank's liquidity is negatively related with the internal factors mainly profitability and loan growth. External factors namely monetary policy interest and GDP also has a slight negative relation with the liquidity of banks.

A study on the impact of interest rate on liquidity and risk measures of the European banks reveal that interbank rate and bank size positively influence the level of liquidity while risk-free interest rate has a negative impact on the liquidity (Lucchetta),

Akhter and Mahmud (2014) have tried to find a relation between profitability and liquidity in commercial banks in the context of Bangladesh banking industry. They found that there has no significant relationship between profitability and liquidity. Academic literature on the liquidity of the commercial banks of Bangladesh mainly has dealt with the difference in liquidity management in the conventional and Islamic banks (See Islam and

Chowdhury (2009). Another study conducted by Islam and Chowdhury (2009) state that Islamic banks manage liquidity better than conventional and banks do.

In such study, Bunda and Desquibet (2008) examine on the panel data on bank liquidity risk for a sample of commercial banks in new emerging markets and discover that bank liquidity is positively affected by the supply of liquid assets, inflation rate and capital adequacy. In contrast, Profitability, bank size and financial crises have a negative association with liquidity.

Vodova (2011) examine the determinants of bank liquidity in the Czech Republic, it shows empirical evidence that some internal variables namely capital adequacy, non-performing loan, and interbank interest rate positively affect bank liquidity over liquidity level of the bank. This study also states that GDP and Inflation hurt the liquidity of the bank.

A study conducted on the defining the determinants of government-owned public banks of Germany reveals that liquidity lag value has a positive influence over the bank liquidity while bank size and profitability negatively affects the bank liquidity (Rauch et al. 2010).

In another study, Moussa examined the determinants of liquidity on the bank, a case on Tunisia, state that financial performance, capital adequacy, a growth rate of GDP, inflation rate have a significant impact on bank liquidity while bank size, total loans to total assets ratio financial costs to total credits ratio, total deposits to total assets ratio does not have a significant impact on the liquidity of bank.

In another study by Munteanu (2013) a wide range of variables is examined to identify their determining capacity of liquidity in Romanian banks. A data panel of the sample containing 27 Romanian banks for 9 years is used in this study. The result shows the evidence of the positive influence of capital adequacy, efficiency and the inflation rate over the banks' liquidity. In contrast, Asset quality as measured by the ratio of impaired loan to total loan and the interest rate has a negative impact on the liquidity level of banks.

In another study which tries to identify the relationship between the capital structure of banks and the bank's liquidity creation Lei and Song (2013) conduct a study using a sample of 209 banks during the period 1988 to 2009 in panel data framework. The study shows a negative influence of bank on liquidity creation banks, This Study also provides evidence in the support of financial fragility-crowding out hypothesis. The hypothesis states bank will supervise its borrowers more intensely when the capital structure of a bank is fragile or it can

be stated weak and the bank will increase lending and end up with more liquidity. Holding greater capital makes a bank's capital structure less fragile which leads the bank to avoid excess liquidity creation. It can be stated more capital more liquidity management it works.

CHAPTER 3: METHODOLOGY

This report is a quantitative and descriptive type of research which tries to identify determinants of liquidity of commercial bank in Bangladesh. The main focus is to define the factors that affect the liquidity of the bank and try to make a recommendation about this study. The nature of the data mostly secondary, collected from different sources. All the secondary data collected from the annual financial statement of the bank. The secondary data is also collected from the websites of Bangladesh Bank, from other published documents.

Accounting information and financial statement are obtained from individual bank database for each year include in the report. This source provides data from the period 2015 to 2019. All of them have been consolidated data from the financial statement of the bank on the 31st of December of each year and are amount calculated in TAKA. To complete this study, we gather 20 public listed commercial bank among five years 2015-2019. For this study, I take every year data 2015-2019 which is relevant to the study.

This study uses "**SPSS Statistic 23**" software to run the regression model and graph on the report. The researcher has to run the linear regression based on excel sheet data to analyze the data.

CHAPTER 4: VARIABLES CONSTRICTION AND HYPOTHESIS DEVELOPMENT

The dependent variables and independent variables used in this study described below in short here.

4.1 DEPENDENT VARIABLE

In this research Ratio of Total Liquid Assets to Total Asset (LIQD) has been used as a dependent variable. This ratio is used here as a proxy for liquidity. The higher value of the ratio (LIQD) indicates higher liquidity. LIQD tells us about the capacity of general liquidity shock absorption of a bank. Total liquid assets include cash, balance with other banks and financial institutions, money at call and on short notice and short-term investments in shares and securities.

Vodova (2011) suggests if market liquidity is similar for all banks in the sample, the greater the portion of the liquid asset in total assets, the greater the ability for a bank to absorb liquidity shock. He also argues that the higher value of this ratio also indicates inefficiency as holding more liquid assets involve huge opportunity cost for the band.

4.2 INDEPENDENT VARIABLE

The study has used thirteen variables as independent variables which include ten internal factors and three external factors. Capital Adequacy, Asset Quality, Management Quality, Size and Profitability, Return on Assets, Return on equity, Total Loan to Total Asset, CEA, CFA are the ten internal factors considered in this study. Three External factors used here are namely Inflation, Capital Market Development and Gross Domestic Product Growth (GDP Rate).

Asset quality is measured here by the ratio of total non-performing loan to total loan. According to Berrios, (2013) Non-performing loans or impaired loans are those loans which have a high probability of being the default. It suggests the rise in non-performing loans leads to a calamity in the banking system. The previous studies show evidence of the effect of impaired loans on the bank's liquidity. Joseph et al. (2012) find that the bank's liquidity has a negative association with a non-performing loan. In contrast, Malik and Rafique (2013)

show the empirical evidence of a positive relationship between non-performing loan and liquidity.

In the hypothesis of "risk absorption" indicates higher capital may improve the liquidity creation ability of banks. It has been argued by Allen and Gale (2004) that liquidity creation exposes banks to risk. On the other hand, Coval and Thakor (2005) state that banks' risk-bearing capacity is expanded by bank capital as it absorbs risk. In contrast, Heuvel (2007) shows that higher capital requirements create an interruption in increasing the amount of asset a bond can hold issuing deposits which can lead to the lower liquidity for the bank based on this argument, higher capital ratios may lead banks to have more liquidity. In this study, Capital Adequacy is measured by a total capital ratio (Total equity/Total Asset). Hovarth et al. (2012) studied that a study of Czech banks between 2000 and 2010. They observed that have a negative relationship between the creation of liquidity and bank capital. Purohit and Mazumdar (2003) define management quality as a parameter to measure the ability of the management of the bank to efficiently employ its resources the confirm maximization of earning and reduction of costs. On this study, the ratio of total interest expense to total deposit is used as a proxy for management quality. The lower the value of the ratio, the higher the management quality as deposits can be brought in a lower rate through efficiency in the management of the banks.

Net Interest Margin (NIM) is used as a profitability indicator in this study. Net interest margin is the difference between the interest received and the amount of interest is paid to depositors and others. Owolabi et al, (2011) show that profitability has a negative impact on liquidity. This association suggests that more profitability leads to less liquidity. In contrast Sideman (2014) argues that profitability is one of the major sources of the creation of liquidity and shows empirical evidence of a significant positive relationship between liquidity and profitability in the context of Indonesian banks. In another study of Bangladeshi banks, Akhter and Mahmud (2014) find no significant relationship between their two variables.

Bank size designates the value of the total asset in the balance sheet of a bank. Delectate et al, (2011) show the evidence of the positive effect of bank size on bank liquidity. They argue that the liquidity level of banks increase with the bank size but also start to decline a little when bank size reaches a certain sufficient level. Berger and Bowman (2009) also argue that smaller size banks lead to having a lower level of liquidity. In this

study, the natural logarithm of the total asset value is used as a proxy for bank size. The researcher expects that a positive relationship between bank size and bank liquidity.

Return on assets (ROA) is the major ratio, it indicates the profitability of banks. In contrast, it also indicates indirectly the liquidity of bank as a proxy for better management efficiency. It deals with the ability of bank management to produce income by operating company assets at their removal. It further indicates the efficiency of the management of a company in generating a net income from all the resources of the institution Khrawish, (2011). Higher ROA shows that the company is more efficient in operating its resources.

Return on Equity (ROE) is the measures of the ability of a bank to generate its income or profit by using its capital or fund. ROE indicate the ability of the bank to operate its funds to produce profits Yilmaz (2013). It also indicates profitability, on this study ROE as the dependent variable also provides to influence to compare the results to other findings in this study.

Total Loan to Total Assets is the ratio that seeks to identify how much percentage of loan provided from the entire assets of the bank. It can be stated that we can assume that if they give much more loan to their customer they will face liquidity problem for the time maturity of the loan. The higher the loan the lower the liquidity on the bank have to face.

Total operating expense to total assets is used as a proxy of Cost of operating Expense to assets CEA. Operating expenses include personal expenses and other expenses to operate the bank. On this study, CEA shows the percentage of operating expenses compared to total assets on banks. It also helps the study to compare results to another study. It can be assumed higher the ratio of CEA, the lower the liquidity. CFC is another independent variable in this study to analyze the result of this study. It concludes that a bank made financial expenses to create the loan by accumulating deposits and other sources due to loans supplied in the money market and the capital market by bank. CFC shows the share of financial expenses to make the loan. CFC ratio is used as Total Interest Expense to Total Loans. CEA and CFC used in the study of Moussa (2015), empirical study in Tunisia on about bank liquidity. The inflation rate is one of the three macroeconomic variables used here in this study. Previous studies (reference) find two conflicting results when the impact of inflation on liquidity is measured. Sudirman (2014) states that there is a positive association between the inflation rate and liquidity of banks. On the other hand, Malik and

Rafique (2013) provide empirical evidence of a negative relationship between these two variables of the inflation rate and bank liquidity.

Gross domestic product (GDP) refers to the monetary value of all products and services produced in the territory of a country. This is the most important macroeconomic factor for a country as it shows the level of economic activity of a country. Valla et al (2006) provide empirical evidence of a negative relationship between GDP growth in real terms and bank liquidity. Painceira (2010) argues that banks tend to have less liquidity in the period of the economic boom. In this study GDP growth in the real term is used as one of the independent variables. The researcher expects a negative relationship between GDP growth and liquidity in the context of Bangladeshi banks.

Capital market development is the last independent variable as a macroeconomic factor used here in this study. The ratio of market capitalization to GDP has been used here as a proxy for capital market development. The higher the value of the ratio the greater development in the capital market happens. It indicates investor will more preference on invest money in the capital market rather than depositing on the bank account. It may lead to the reduction of the liquidity in banks as banks' mandatory liquidity requirement is subject to the amount of deposit. Bank needed to keep a specific amount of money to maintain liquidity restriction. Though the result of the study of Sudirman (2014) shows a positive relationship between liquidity and capital market development, the researcher expects this relationship to be negative in the context of Bangladesh.

Here the all variables impact given below by creating table formation.

Table-1: Measurement and Expected impact of variables

Variables	Notation	Measurement	Expected Impact
Liquidity	LIQD	Total liquid asset / total asset	
Asset Quality	ASQ	Total Non- Performing Loans/Total Loans	+/-
Capital Adequacy	CAPA	Total Capital/ Total Asset	+/-
Management Quality	MGTQ	Total Interest Expense/ Total Deposit	+/-

Profitability	NIM	Net Interest Income/Average Earning Asset	+/-
Bank Size	SIZE	Natural logarithm of Total Asset	+
Return on Asset	ROA	Net Income / Total Asset	+/-
Return on Equity	ROE	Net Income / Total Capital	+/-
Total Asset to Total Loan	TLA	Total loan / Total Asset	+/-
Cost of Operating expense to asset	CEA	Total Operating Expense / Total Asset	+/-
Cost of Financing Cost	CFC	Total Interest Expense / Total Loan	+/-
Inflation	INF	Inflation rate	+/-
Capital Market Development	CMD	Market Capitalization/GDP	-
Gross Domestic Product Growth	GDP	The growth rate of gross domestic product	-

4.3 HYPOTHESIS DEVELOPMENT

This study aims to examine how significant the bank specifies factors and macroeconomic factors in explaining commercial banks liquidity in Bangladesh. Total Liquid asset to Total Asset has been used as banks liquidity indicator which is the dependent variables of this study. Bank specific factors include asset quality, capital adequacy, management quality, bank size and profitability, Return on Assets, Return on Equity, CEA, CFA, Total asset to total loan (TLA) while macroeconomic factors include inflation, capital market development, and gross domestic product growth rate. In this research, the following hypothesis is tested to find any significant relationship between the explanatory variables and the dependent variable.

1. Asset Quality

H0: Asset Quality has no significant effect on bank liquidity.

Hl: Asset Quality has a significant effect on bank liquidity.

2. Capital Adequacy

H0: Capital adequacy has no significant effect on bank liquidity.

Hl: Capital adequacy has a significant effect on bank liquidity.

3. Management Quality

H_0: Management quality has no significant effect on bank liquidity

H_1: Management quality has a significant effete on bank liquidity

4. Profitability

H_o: profitability has no significant effect on bank liquidity

H_1: profitability has a significant effect on bank liquidity

5. Bank Size

H_0: Bank size has no significant effect positive on bank liquidity

H_1: Bank size has a significant effect positive on bank liquidity

6. Return on Assets (ROA)

H_0: ROA has no significant effect positive on bank liquidity

H_1: ROA has a significant effect positive on bank liquidity

7. Return on Equity (ROE)

H_0: ROE has no significant effect positive on bank liquidity

H_1: ROE has a significant effect positive on bank liquidity

8. Total Loan to Total Asset (TLA)

H_o: TLA has no significant effect on bank liquidity,

H_1: TLA has a significant effect on bank liquidity

9. Cost of operating expense to Asset (CEA)

H_o: CEA has no significant effect on bank liquidity,

H_1: CEA has a significant effect on bank liquidity

10. Cost of Total Interest Expense to Total Loan (CFC)

H_o: CEC has no significant effect on bank liquidity,

H_1: CEC has a significant effect on bank liquidity

11. Inflation

H_o: Inflation has no significant effect on bank liquidity,

H_1: Inflation has a significant effect on bank liquidity,

12. Capital Market Development

H_0: Capital market development has no significant negative effect on bank liquidity.

H_1: Capital market development has a significant negative effect on bank liquidity.

13. Gross Domestic Product Growth

H_o: Gross domestic product growth has no significant negative effect on bank liquidity.

H_1: Gross domestic product growth has a significant negative effect on bank liquidity.

CHAPTER 5: EMPIRICAL ANALYSIS

5.1 DESCRIPTIVE STATISTICS

Descriptive statistics are results that are used to review and describe data. The word "data" refers to the information or source that has been gathered from an experiment, a survey, a historical record, etc. Descriptive statistics is the modification of quantitatively relating the main features of a collection of information.

Table-2: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error
LIQD	100	8.6259	29.3079	17.1591	4.6510	.385	.241
ASQ	100	-.1702	9.5251	1.2609	1.2883	4.352	.241
CAPA	100	3.2383	13.8527	7.9118	2.0097	.162	.241
MGTQ	100	2.7419	11.1432	7.3230	1.7771	-.123	.241
NIM	100	-.7201	5.7371	2.5268	1.3873	.018	.241
SIZE	100	10.92733	11.89188	11.27173	.181442	1.090	.241
CEA	100	1.4098	4.47027	2.4194	.7538	1.029	.241
CFC	100	3.2770	14.0535	9.0090	2.2948	-.203	.241
TLA	100	46.6704	75.40453	64.0179	7.2948	-.700	.241
ROA	100	-3.1721	2.3347	.8637	.57724	-3.363	.241
ROE	100	-97.9551	25.89412	10.15436	11.920250	-7.681	.241
INF	100	5.68	7.54	6.5240	.66662	.340	.241
GDP	100	6.01	7.11	6.4500	.40106	.461	.241
CMD	100	19.73	26.32	23.3140	2.59345	-.262	.241
Valid N (list wise)	100						

Table 2 Shows N (100) is the number of valid observations for the variable – Asset quality, Capital adequacy, Management quality, Profitability, Bank size, Return on assets. Return on Equity, Total Loan to Asset, CEA, CFC, Inflation, Gross Domestic Product Rate, Capital market development.

Mean shows mathematical mean through the observations. The mean is more sensitive to excessively large or small values.

Standard Deviation is the measure of the square root of the variance. It measures the widespread on the quantitative set of observations. The higher the standard deviation is, the more spread out the observations are.

By applying this formula in SPSS, the std. deviation of LIQD, ROE and TLA is very high, as those minimum and maximum value have a big difference between those, Minimum is the smallest value of the variable. Maximum is the largest value of the variable.

On this table 4 provides summary statistics for the variables that are used in the analysis of determinants of Liquidity. The LIQD rate shows a positive mean of 17.1591% and 4.6510% standard deviation with positive skewness. The liquid asset is 17.1591% of total assets with a high standard deviation. The equity (CAPA) is, on average, 7.9118% of asset which also have a positive skew. Profitability (NIM), on average, is 2.5268% of assets with a standard deviation of 2.5268%. Return on Equity (ROE) has significantly large standard deviation 11.920250% which indicate individual bank companies have different equity structure. ROE has negative skewness.TLA shows a mean of 64.0179% which indicate bank has an average loan to asset with negative skewness. GDP and inflation have a positive skewness in this analysis.

5.2 REGRESSION ANALYSIS

Regression analysis is conducted to see the relationships between two or more variables. It is a statistical process which uses technique and analyzes several data and variables. It focuses on the independent and dependent variable that how a dependent variable changes when an independent variable fluctuates or changes. In this study variables representing specific internal factors are both cross-sectional and time-variant but the variables representing external factors are only time-variant. The data collected are transformed into panel data by including external variables for each cross-sectional unit (bank). To test for the empirical evidence of the hypothesis regarding the causes of bank liquidity.

The regression equation on this empirical study is

$$LIQDit = \alpha + \beta_1 ASEQit + \beta_2 CAPAit + \beta_3 MGTQit + \beta_4 NIMit + \beta_5 SIZEit + \beta_6 CEAit + \beta_7 CFCit + \beta_8 TLAit + \beta_9 ROAit + \beta_{10} ROEit + \beta_{11} INFit + \beta_{12} GDPit + \beta_{13} CMDit + \epsilon it \ldots\ldots\ldots\ldots\ldots\ldots (1)\ i = 1,2,3,\ldots\ldots..,N$$

Where i refers to an individual company, t refers to time, ϵ represents the error term here and β indicate the beta coefficient of the relative independent variable and is the observation of a specific company in a particular year.

Here, regression analysis was performed with all variables included and the results are examined and explained.

Table-03: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.664[a]	.441	.357	3.729

a. Predictors: (Constant), CMD, ROA, TLA, CEA, ASQ, SIZE, CAPA, INF, NIM, MGTQ, ROE, GDP, CFA

Table 3 shows that, the value of correlation coefficient, R is.664. The value of R ranges from 0 to 1, where 0 means no relationship and 1 means a perfect positive relationship. Here, the value of R= .664 means there is a relatively strong relationship between the dependent and independent variables.

The measured value of the coefficient of determination R Square = .441. It indicates how much of the total variation in the dependent variable can be explained by the independent variables. Here, 44.1% of the variation of Liquidity (LIQD), the dependent value, is explained by the commercial banking industry, the independent value. In this case, 44.1% can be explained.

The value of adjusted R^2= .357 tells the percentage of variation of variables in the regression model if one more variable had to include. If we add one more, the regression model will explain 35.7% of values of the variables.

Table-4: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	945.391	13	72.722	5.228	.000[b]
Residual	1196.232	86	13.910		
Total	2141.623	99			

a. *Dependent Variable:* LIQD

b. *Predictors:* (Constant), CMD, ROA, TLA, CEA, ASQ, SIZE, CAPA, INF, NIM, MGTQ, ROE, GDP, CFA

Table 4 indicates that the regression model predicts the dependent variable significantly well. In sum of squares, the Total variance is partitioned into the variance which can be explained by the independent variables (Regression=945.391) and the variance which is not explained by independent variables (Residual= 1196.232). Total variance has N-1 df. There are 14 coefficients, so the model has 14-1=13 df. The Error df is DF total minus the DF model, 99-13=86. Here higher the F score guess, lower the significance. A significance level of the model is .000, which is less than 0.05 ($p < 0.0005$), and indicates that, overall, the regression model statistically significantly predicts the outcome variable (i.e., it is a good fit for the data). So, the models reject the null hypothesis and accept the alternative hypothesis.

Table-5: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-52.101	51.849		-1.005	.318
	ASQ	-.539	.388	-.149	-1.388	.169
	CAPA	.691	.289	.299	2.397	.019
	MGTQ	.929	.783	.355	1.187	.238
	NIM	1.546	.548	.461	2.820	.006

	SIZE	8.752	2.948	.341	2.969	.004
	CEA	-.309	.863	-.050	-.358	.721
	CFC	-.903	.729	-.445	-1.238	.219
	TLA	-.367	.116	-.575	-3.162	.002
	ROA	.902	2.000	.112	.451	.653
	ROE	.001	.090	.003	.012	.991
	INF	-.090	1.768	-.013	-.051	.960
	GDP	-.178	3.150	-.015	-.056	.955
	CMD	-.029	.318	-.016	-.090	.928

a. Dependent Variable: LIQD

In table 5 indicates the analysis of the coefficient of the independent variable to the dependent variable.

The general form of B is to predict the dependent variable from independent variables. The table provides a regression model. T statistic and Significance level are used in testing whether a given coefficient is significantly affected dependent variable LIQD. All the independent/ control variable has significance level (p-value) above 0.05 reject the null hypothesis, on the other side have significance level (p-value) below 0.05 accept the alternative hypothesis.

The concept of the standardized coefficients comes into consideration when variables are measured in different units. Here LIQD, ASQ, MGTQ, CAPA, NIM, ROA, ROE, CEA, CFC, TLA are calculated on percentage. On the other side SIZE calculated on basis natural logarithm of an asset of the bank. For interpretation of the study, we consider unstandardized coefficients as well as standardized coefficients.

According to table 5, if 1 unit of ASQ changes, LIQD will changes negatively -.539 with estimated standard error on this variable .388 and the value of standardized coefficients beta -.149 means, 1 standard deviation in the independent variable ASQ results from -.149 decrease in the dependent variable LIQD with significance p-value .318 which has no significant impact on the dependent variable liquidity. Another independent variable CAPA

increases in 1 unit, LIQD will positively increase .689 with standard error .289 with p-value .019 which is below .05 have a significant impact on the LIQD. Here 1 unit changes in MGTQ, there LIQD will changes positively .929 with standard error .783, significance p-value is .238 has no significant impact on LIQD. In 1 unit changes on NIM, LIQD has positively changed 1.546 with standard error .548 and 1 standard deviation on NIM, LIQD increases .461 under standardized coefficients with significance p-value .006 which has a significant impact on the liquidity.

Independent variable CEA changes in 1 unit, LIQD changes negatively -.309 with standard error .863 of the variable with p-value .721. Another independent variable CFC changes 1 unit, LIQD changes -.903 with standard error .729 which has p-value .219. TLA changes in 1 unit, LIQD changes negatively -.367 with standard deviation .116 and standardized coefficients 1 standard deviation on the results -.575 decrease on LIQD with significance p-value .002 which is less than .05 and has a significant impact on the LIQD. 1 unit changes in ROA, dependent variable positively changes .902 with high standard error 2.00, standardized coefficients .112 changes in 1 standard deviation on the independent variable ROA, .112 increase standard deviation on LIQD with p-value .653 has no significant impact on the LIQD. ROE changes in 1 unit; LIQD changes .001 positively with standard error .090 and significance p-value .991.

On the three macroeconomic independent variables, INF changes in 1 unit, LIQD changes negatively -.090 with standard error 1.768 in independent variables and standardized coefficients -.013 which 1 unit standard deviation changes results from -.013 changes on LIQD with significance p-value .960 has no significant impact on the LIQD. GDP changes in 1 unit, LIQD changes negatively -.178 with significance p-value .955. Another macroeconomic independent variable CMD changes 1 unit, LIQD changes negatively -.029 which variable has standard error .318 with standardized coefficients -.016 which means 1 unit standard deviation changes in CMD, the standard deviation of LIQD decrease -.016 with significance p-value .928.

In the table, The coefficient for Capital Adequacy (CAPA), Profitability (NIM), Bank Size (SIZE), Total Loan to Asset (TLA) in our model as p-value, significance value, of those are -respectively .019, .006, .004, .002 less than .05 level.

And other independent variables Asset Quality(ASQ), Management Quality(MGTQ), CEA, CFA, Return on Assets (ROA,) Return on Equity (ROE), Inflation (INF), GDP Rate, Capital Market Development (CMD)doesn't have a significant impact on industry Liquidity(LIQD).

CHAPTER 6: FINDINGS

The significant variable of the model is bank size. The estimated model displays that there is a statistically significant positive relationship between bank size and liquidity in Bangladeshi banks. This outcome is consistent with the prior expectation of the researcher. This suggests the liquidity level of the bank increases if bank size increases and a decrease in bank size leads to a decrease in liquidity level. Berger and Bouwman (2009) also have similar findings.

Here we also found that TLA, Total Asset to Total loan has a significant impact on the bank liquidity. It means higher the loan amount means to cause the liquidity shortage on the bank. The management body of needed to handle the loan department more carefully and efficiently. It also indicates the efficiency of the credit department.

Net Interest Margin (NIM), profitability is a significant impact on bank liquidity. There has a positive impact on liquidity. It states that more profitability stable the liquid amount on the bank. If a bank tries to invest in the more lucrative investment, it needed to efficiently consider the liquid amount requirement and restriction. In the previous study of Sudirman (2014), in Indonesian bank found a positive relationship between NIM and liquidity of the bank.

Capital Adequacy (CAPA) shows a significant impact on commercial bank liquidity. Here indicates the higher the capital of a bank may lead to positive liquidity. But the excess amount of capital that lead to more liquid that increases more liquidity surplus which is hindering for economic development.

Two macro-economic variables, a proxy for capital market development (CMD) and Gross domestic product growth (GDP) is statistically in the estimated result. Both of these macro-economic variables have a negative relationship with the liquidity in Bangladeshi banks which is in line with the researcher's expectation. From the result, it is evident that higher capital market development and gross domestic product growth will lead banks to have less liquidity. This finding is consistent with the study of Valla et al. (2006) where they find a negative association between gross domestic product growth and liquidity in banks.

Among other independent variables used in this study proxy for asset quality of banks (ASEQ), a proxy for management quality of banks (MGTQ) and Return on Assets (ROA),

Return on Equity (ROA) are found to have a positive relationship with the liquidity of banks in Bangladesh. On the other hand, the empirical result shows a negative association between CEA, CFA, Inflation Rate (INF) and bank liquidity. It also needs to say that none of these variables has a statistically significant impact on the bank liquidity in the banking sector on the circumstances of Bangladesh.

CHAPTER 7: RECOMMENDATIONS & FUTURE SCOPE OF THE STUDY

7.1: RECOMMENDATIONS

In recent times the condition of commercial banks of Bangladesh has been facing the major problem of surplus liquidity. Based on the result of the empirical analysis the following issues should be considered by the bank management and the regulatory body of the banking industry of Bangladesh.

- Bank Size has been measured by total asset size of the bank in this study. The empirical analysis finds a significant positive impact of bank size on the liquidity level of the banks. Bank management should carefully observe the level of a liquid asset in the total asset and try to increase the portion of illiquid asset maintaining the minimum regulatory requirement of liquid asset.

- As capital has a significant positive impact on the liquidity and Bangladeshi banks are facing the problem of excess liquidity now, bank management should not consider increasing capital in the short term.

- Total loan to Total Asset used as a proxy of another banking management efficiency tool. Bank management should consider more attention on the loan or credit department. They must follow the construction and requirements to provide loan to customers. The regulatory body of Bangladesh bank needed to supervise and guideline to maintain a sufficient amount of liquidity and providing loan to sector-wise on the whole industry.

- Market capitalization to gross domestic product ratio has been used in this study as a proxy for capital market development. The findings of the result recommend higher capital market development will cause banks to have less liquidity. So, the present liquidity situation of the commercial banks of Bangladesh indicates lack of investors' trusts in the capital market. Rather than investing in capital market investors desire to

deposit in commercial banks as a safe investment. The regulatory body of the capital market of Bangladesh should try to convey back the investors' trust in the capital market. For healthy economy soundness of both capital market and banking system is too much important. Bangladesh Bank should also play a dynamic role here as a problem of surplus liquidity in the bank for the long term can bring the whole economy in hazard.

- The empirical analysis shows the growth of gross domestic product negatively affects the liquidity position of commercial banks in Bangladesh. Gross domestic product growth (GDP) is assisted by credit growth in the private sector. The lower demand for credit in the private sector is one of the main reasons for the recent liquidity surplus condition in the banks of Bangladesh. As a central bank Bangladesh Bank should take necessary steps to increase the demand for credit in the private sector.

7.2. FURTHER SCOPE OF THE STUDY:

In this study, the researcher has considered only 20 Bangladeshi commercial banks' financial reports. If someone has the opportunity to get a bigger sample, it might be possible to see a result that works in a wider range. As some banks websites are not up to date, it creates a hindrance in data-collection. If the Covid situation gets normal, the researcher expects that someone who is interested in this type of research may collect the financial reports from the bank both physically and online. Additionally, one can try to make comparison between the liquidity situation of Bangladeshi Commercial Banks with the Overseas' Banks.

CHAPTER 8. CONCLUSION

For the reliability of the banking system efficient liquidity management is a must option. Shortage in liquidity may generate a problem for the banks to meet their obligations to creditors and depositors. On the other hand, excess liquidity may affect the bank by adversely affecting the profitability of the bank. It is expected that the work in this report provides related and enduring information on the liquidity of the banking sector of Bangladesh in recent past years. In the present study attempted to identify the determinants of liquidity of 20 commercial banks of Bangladesh throughout 2015-2019 by using SPSS linear regression. It has been found that capital adequacy, bank size, profitability and total loan to asset affects the liquidity. On the contrary asset qualities, management quality, Return on assets, return on equity, CEA, CFA and inflation have not any significant impact on the liquidity of the commercial banks of Bangladesh.

Investors of the capital market of Bangladesh will also be benefitted from the findings of this paper as the study is conducted on all the listed commercial banks in the capital market. The empirical evidence suggests that profitability has a negative impact over liquidity but the impact is not statistically significant. So, investors in the capital market should not react much based on the liquidity position of banks.

The estimated result suggests that along with bank-specific factors macroeconomic factors also have a significant impact over the liquidity of the Bangladeshi commercial banks. Bank management and regulatory body of the banks must consider the macroeconomic factors like development in the capital market and GDP growth while considering policies for liquidity management in the commercial banks.

This study can be extended in two ways. Firstly, dynamic panel data framework can be applied to further test the significance of the factors affecting the liquidity of commercial banks; and secondly more macroeconomic variables like interest rate, financial distress can be introduced to increase the robustness of the model.

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Appendix

List of Banks Considered in the study

Number	Bank Name	Year
1	AB BANK	2015-2019
2	BANK ASIA	2015-2019
3	BRAC BANK	2015-2019
4	CITY BANK LTD	2015-2019
5	DHAKA BANK	2015-2019
6	DUTCH-BANGLA BANK	2015-2019
7	EASTERN BANK Ltd	2015-2019
8	FIRST SECURITY ISLAMI BANK LIMITED	2015-2019
9	IFIC BANK	2015-2019
10	JAMUNA BANK	2015-2019
11	JANATA BANK	2015-2019
12	MARCENTILE BANK LIMITED	2015-2019
13	MUTUAL TRUST BANK LTD	2015-2019
14	ONE BANK	2015-2019

15	PRIME BANK	2015-2019
16	PUBALI BANK	2015-2019
17	RUPALI BANK	2015-2019
18	SHAHJALAL ISLAMI BANK LIMITED	2015-2019
19	STANDARD BANK	2015-2019
20	UTTARA BANK	2015-2019

Data for Bank Variables and Macroeconomic Variables

Bank	Year	LIQD	ASQ	CAPA	MGTQ	NM	SIZE	CEA	CFC	TLA	ROA	ROE	INF	GDP	CMD
BRAC BANK	2015	20.06	2.14	9.29	8.48	5.52	11.1929	3.76	4	62.39	0.64	21.32	6.23	6.55	26.32
BRAC BANK	2016	19.67	1.69	8.85	8.98	5.16	11.2684	3.76	3.28	6.63	1.24	15.83	7.54	7.11	25.51
BRAC BANK	2017	16.64	2.59	9.89	9.28	5.32	11.3344	4.37	7.55	58.78	1.02	15.2	7.01	7.6	24.13
BRAC BANK	2018	20.03	2.4	7.48	5.48	4.86	11.3875	3.9	6.91	57.36	1.08	18.02	6.16	7.9	20.88
BRAC BANK	2019	23.15	2.22	6.36	3.63	4.53	11.4422	3.96	5.52	57.6	1.48	9.98	5.68	8.2	19.73
AB BANK	2015	15.65	0.63	9.23	9.07	2.46	11.2443	2.41	11.16	64.76	0.83	9.02	6.23	6.55	26.32
AB BANK	2016	12.43	1.13	8.24	8.84	2.41	11.3217	2.18	9.71	70.15	0.52	6.35	7.54	7.11	25.51
AB BANK	2017	12.25	1.24	7.3	7.8	3.16	11.4096	2.1	8.37	71.93	0.58	8.01	7.01	7.6	24.13
AB BANK	2018	11.54	0.96	8.22	7.77	1.91	11.4578	1.99	7.68	75.4	0.51	6.18	6.16	7.9	20.88
AB BANK	2019	13.25	1.3	7.67	6.58	1.21	11.5013	1.9	7.12	71.43	0.48	6.2	5.68	8.2	19.73
BANK ASIA	2015	22.59	2.24	9.29	9.24	3.02	11.1499	2.03	10.9	66.14	0.6	6.48	6.23	6.55	26.32
BANK ASIA	2016	19.95	1.45	8.82	8.38	2.29	11.2177	1.95	10.38	65.39	0.81	9.14	7.54	7.11	25.51
BANK ASIA	2017	14.72	1.32	9.02	7.65	2.11	11.265	2.2	8.97	65.12	0.09	12.12	7.32	7.6	24.13
BANK ASIA	2018	18.66	1.18	8.28	6.58	1.57	11.3535	1.99	8.05	61.6	1.13	13.64	6.16	7.9	20.88
BANK ASIA	2019	16.83	1.49	7.4	5.54	1.98	11.4063	1.9	6.37	65.34	0.65	8.72	5.68	8.2	19.73
CITY BANK LTD	2015	29.31	3.19	13.85	8.2	4.27	11.115	2.14	9.12	63.64	0.61	8.4	6.23	6.55	26.32
CITY BANK LTD	2016	27.51	2.66	12.33	8.04	4.05	11.169	2.24	9.87	61.58	0.33	2.69	7.54	7.11	25.51
CITY BANK LTD	2017	15.14	1.46	13.18	7.53	3.61	11.2478	3.33	7.65	65.84	0.96	7.32	7.01	7.6	24.13
CITY BANK LTD	2018	18.52	1.5	11.48	6.85	2.96	11.3308	2.95	6.87	66.77	1.68	14.62	6.16	7.9	20.88
CITY BANK LTD	2019	12.54	1.14	9.45	5.47	2.85	11.414	2.74	5.42	67.87	1.57	16.58	5.68	8.2	19.73

Bank	Year	LIQD	ASQ	CAPA	MGTQ	NM	SIZE	CEA	CFC	TLA	ROA	ROE	INF	GDP	CMD
DUTCH BANGLA BANK	2015	24.05	0.34	6.96	5.52	5.74	11.1929	3.9	7.55	58.78	4.48	21.32	6.23	6.55	26.32
DUTCH BANGLA BANK	2016	25.61	0.94	6.81	5.06	5.47	11.2684	4.37	6.91	57.36	4.08	15.83	7.54	7.11	25.51
DUTCH BANGLA BANK	2017	27.91	0.62	6.72	4.12	5.2	11.3344	3.96	5.52	57.6	1.02	15.20.	7.01	7.6	24.13
DUTCH BANGLA BANK	2018	25.44	-0.17	6.86	3.34	5.14	11.3875	3.76	4.1	62.39	1.24	18.03	6.16	7.9	20.88
DUTCH BANGLA BANK	2019	23.08	1.28	6.38	2.74	4.58	11.4422	3.76	3.28	62.63	0.64	9.98	5.68	8.2	19.73
DHAKA BANK	2015	19.43	1.86	7.32	9.87	2.9	11.1259	1.63	11.67	67.94	0.59	8.06	6.23	6.55	26.32
DHAKA BANK	2016	14.92	0.06	8.31	10.19	2.8	11.1614	1.91	11.8	69.1	1.37	16.45	7.54	7.11	25.51
DHAKA BANK	2017	15.51	0.52	8.12	8.71	2.24	11.2035	1.95	10.49	64.84	1.31	16.18	7.01	7.6	24.13
DHAKA BANK	2018	14.58	0.93	7.74	7.31	1.42	11.2485	1.85	8.57	66.69	0.86	11.1	6.16	7.9	20.88
DHAKA BANK	2019	15.64	0.18	7.34	6.03	2.21	11.3081	1.68	7.01	66.33	0.76	10.41	5.68	8.2	19.73
EASTERN BANK LTD	2015	18.28	0.78	11.73	9.69	3.83	11.1675	2.25	9.14	65.89	1.63	13.87	6.23	6.55	26.32
EASTERN BANK LTD	2016	12.53	0.76	11.73	8.46	3.7	11.1991	2.37	9.58	65.33	1.6	13.66	7.54	7.11	25.51
EASTERN BANK LTD	2017	12.69	1.51	11.67	7.88	2.8	11.2392	2.57	7.66	69.19	2.33	19.01	7.01	7.6	24.13
EASTERN BANK LTD	2018	14.45	1.65	10.84	7.77	2.29	11.2812	2.51	7.39	70.36	1.19	11.02	6.16	7.9	20.88
EASTERN BANK LTD	2019	14.3	1.4	9.81	5.75	2.12	11.3271	2.44	5.15	73.86	1.28	13.04	5.68	8.2	19.73
FIRST SECURITY ISLAMI BANK LIMITED	2015	18.87	0.48	4.4	9.38	1.46	11.1137	1.41	10.71	74.12	0.59	13.35	6.23	6.55	26.32
FIRST SECURITY ISLAMI BANK LIMITED	2016	17.68	0.38	4.08	10.46	2	11.2096	1.5	12.77	70.56	0.48	11.74	7.54	7.11	25.51
FIRST SECURITY ISLAMI BANK LIMITED	2017	17.9	0.42	4.22	9.46	2.76	11.3115	1.46	11.34	74.37	0.34	8.03	7.01	7.6	24.13
FIRST SECURITY ISLAMI BANK LIMITED	2018	21.64	0.45	3.89	7.99	2.76	11.4093	1.5	9.86	72.99	0.33	8.54	6.16	7.9	20.88
FIRST SECURITY ISLAMI BANK LIMITED	2019	20.46	0.57	3.67	6.95	2.11	11.4795	1.46	4.44	74.88	0.47	12.75	5.28	8.2	19.73
JANATA BANK	2015	16.89	8.93	3.24	6.71	1.54	11.7087	1.48	8.99	59.8	-3.17	-97.96	6.23	6.55	26.32
JANATA BANK	2016	19.64	0.02	6.32	7.15	0.43	1176862	1.51	11.94	48.82	1.64	25.89	7.54	7.11	25.51
JANATA BANK	2017	21.13	0.97	6.26	6.97	-0.45	11.7999	1.56	11.22	50.87	0.61	9.71	7.01	7.6	24.13
JANATA BANK	2018	15.8	0.64	7.15	5.98	-0.62	11.8399	1.6	9.7	50.68	0.68	9.47	6.16	7.9	20.88
JANATA BANK	2019	16.82	0.91	6.39	4.88	0.09	11.8399	1.7	7.72	52.07	0.33	5.23	5.68	8.2	19.73

Bank	Year	LIQD	ASQ	CAPA	MGTQ	NM	SIZE	CEA	CFC	TLA	ROA	ROE	INF	GDP	CMD
IFIC BANK	2015	15.65	2.08	6.08	8.3	2.85	11.8919	3.23	9.76	68.35	0.36	5.97	6.23	6.55	26.32
IFIC BANK	2016	24.04	-0.11	7.35	7.73	2.38	11.0598	2.89	9.95	64.17	1.22	16.55	7.54	7.11	25.51
IFIC BANK	2017	19.45	0.64	7.48	6.56	2.62	11.1273	2.85	8.16	65.65	1.3	17.32	7.01	7.6	24.13
IFIC BANK	2018	23.56	1.65	6.84	6.09	2.5	11.2015	2.47	7.12	69.51	0.58	8.55	6.16	7.9	20.88
IFIC BANK	2019	26.02	0.65	6.95	5.09	2.61	11.2571	2.59	5.77	70.54	0.79	11.37	5.68	8.2	19.73
JAMUNA BANK	2015	13.14	1.8	7.58	9.79	1.91	11.3016	1.91	14.05	50.47	1.01	13.33	6.23	6.55	26.32
JAMUNA BANK	2016	10.3	1.04	7.73	8.31	1.76	11.0408	2.34	11.78	59.45	0.99	12.87	7.54	7.11	25.51
JAMUNA BANK	2017	12.63	1.58	7.74	7.7	1.39	11.0612	2.18	11.17	56.49	0.97	12.49	7.01	7.6	24.13
JAMUNA BANK	2018	11.47	1.61	7.97	6.9	1.35	11.1458	2.35	9.27	61.65	1.15	10.44	6.16	7.9	20.88
JAMUNA BANK	2019	9.95	1.05	9.33	5.05	1.82	11.1567	2.34	6.04	69.92	1.06	11.35	5.68	8.2	19.73
PRIME BANK	2015	10.59	1.05	8.8	9.89	2.71	11.2284	2.17	10.9	69.3	1.13	12.88	6.23	6.55	26.32
PRIME BANK	2016	15.2	2.28	9.51	8.79	1.98	11.3769	2.3	11.16	64.77	0.83	8.73	7.54	7.11	25.51
PRIME BANK	2017	18.98	1.81	9.59	7.63	1.27	11.3901	2.34	10.23	59.57	0.88	9.14	7.01	7.6	24.13
PRIME BANK	2018	14.75	1.93	10.46	7.34	0.56	11.4088	2.51	9.23	61.1	0.86	8.2	6.16	7.9	20.88
PRIME BANK	2019	17.62	1.78	9.82	5.41	1.43	11.4109	2.54	6.2	66.97	0.85	8.65	5.68	8.2	19.73
PUBALI BANK	2015	19.81	1.44	9.2	6.16	4.57	11.2855	2.81	7.69	62.43	0.83	9.06	6.23	6.55	26.32
PUBALI BANK	2016	21.8	1.57	8.53	10.05	3.16	11.3592	2.22	8.73	59.25	1.36	16	7.54	7.11	25.51
PUBALI BANK	2017	18.23	0.55	8.9	6.33	2.61	11.3956	2.58	8.21	59.75	1.25	14.04	7.01	7.6	24.13
PUBALI BANK	2018	20.11	0.71	8.47	5.22	3.1	11.4555	2.32	6.82	60.15	1.03	12.14	6.16	7.9	20.88
PUBALI BANK	2019	14.04	1.26	7.64	4.24	2.84	11.5061	2.32	5.14	63.49	0.43	5.69	5.68	8.2	19.73
STANDARD BANK	2015	18.96	0.56	8.68	9.48	2.77	11.9763	1.58	11.72	64.97	1.41	16.19	6.23	6.55	26.32
STANDARD BANK	2016	14.28	1.04	8.51	10.03	2.47	11.0382	1.62	11.9	67.94	0.84	9.86	7.54	7.11	25.51
STANDARD BANK	2017	11.72	1.97	8.24	8.8	3.17	11.0789	1.91	10.64	67.08	0.85	10.28	7.01	7.6	24.13
STANDARD BANK	2018	9.39	0.53	8.67	7.29	2.58	11.1216	1.95	8.52	69.14	1.21	13.91	6.16	7.9	20.88
STANDARD BANK	2019	11.21	0.79	8.23	5.69	2.7	11.1841	1.88	6.64	68.75	0.71	8.66	5.68	8.2	19.73

Bank	Year	LIQD	ASQ	CAPA	MGTQ	NM	SIZE	CEA	CFC	TLA	ROA	ROE	INF	GDP	CMD
ONE BANK	2015	20.96	0.42	8.66	7.96	3.65	10.9273	2.7	9.71	70.77	1.32	15.29	6.23	6.55	26.32
ONE BANK	2016	16.94	0.72	8.19	8.14	3.61	11.0111	2.92	9.26	74.21	1.24	15.19	7.54	7.11	25.51
ONE BANK	2017	15.28	0.73	7.87	6.86	4.36	11.0853	2.69	7.64	73.96	1.33	16.92	7.01	7.6	24.13
ONE BANK	2018	20.29	1.23	7.07	5.65	3.73	11.1877	2.28	6.93	69.32	1.21	17.18	6.16	7.9	20.88
ONE BANK	2019	19.35	0.95	6.7	5.53	2.86	11.2744	2.11	6.41	70.23	1.29	19.22	5.68	8.2	19.73
SHAHJALAL ISLAMI BANK LIMITED	2015	11.9	0.78	7.38	11.06	3	11.1268	1.45	11.4	73.43	1.3	17.66	6.23	6.55	26.32
SHAHJALAL ISLAMI BANK LIMITED	2016	21.99	0.27	8.55	11.14	2.84	11.1172	1.85	12.16	67.27	1	11.67	7.54	7.11	25.51
SHAHJALAL ISLAMI BANK LIMITED	2017	21.36	1.86	9.06	8.45	2.84	11.1124	2.13	9.64	66.68	0.58	6.38	7.01	7.6	24.13
SHAHJALAL ISLAMI BANK LIMITED	2018	18.49	0.45	8.89	6.35	3.21	11.1395	2.07	7.17	70.24	0.96	10.79	6.16	7.9	20.88
SHAHJALAL ISLAMI BANK LIMITED	2019	16.41	0.38	7.69	5.62	3.23	11.2234	1.88	5.68	73.54	0.47	6.09	5.68	8.2	19.73
UTTARA BANK	2015	14.01	1.17	7.95	6.92	1.67	11.0924	3.18	10.55	49.58	0.99	12.48	6.23	6.55	26.32
UTTARA BANK	2016	13.9	0.69	8.1	7.48	0.88	11.1209	2.87	12.81	49.07	1	12.33	7.54	7.11	25.51
UTTARA BANK	2017	10.79	1.22	8.69	6.38	1.89	11.1478	2.9	9.78	52.79	1	11.49	7.01	7.6	24.13
UTTARA BANK	2018	19.11	1.91	8.73	5.3	2.38	11.1796	3.22	8.54	50.13	1	11.45	6.16	7.9	20.88
UTTARA BANK	2019	23.49	0.58	8.26	4.33	2.63	11.2104	3.93	7.01	51.32	0.95	11.51	5.68	8.2	19.73
RUPALI BANK	2015	15.76	2.54	6.74	6.36	2.3	11.2382	1.77	9.58	52.41	0.7	10.42	6.23	6.55	26.32
RUPALI BANK	2016	20.72	0.49	5.49	6.69	0.62	11.3354	1.58	11.07	49.68	0.21	3.81	7.54	7.11	25.51
RUPALI BANK	2017	20.94	1.12	5.55	7.09	-0.59	11.4288	1.42	12.54	46.67	0.18	3.29	7.01	7.6	24.13
RUPALI BANK	2018	16.31	0.54	4.26	6.72	-0.72	11.479	1.59	11.95	47.37	0.08	1.84	6.16	7.9	20.88
RUPALI BANK	2019	25.8	0	3.54	5.47	-0.64	11.5245	2.17	8.7	52.82	-0.36	-10.24	5.68	8.2	19.73
MUTUAL TRUST BANK LTD	2015	12.12	0.81	5.19	9.31	1.05	10.9692	2.33	12.38	60.66	0.35	6.78	6.23	6.55	26.32
MUTUAL TRUST BANK LTD	2016	15.43	0.77	5.39	9.43	1.22	11.0051	2.56	13.36	58.86	0.57	10.52	7.54	7.11	25.51
MUTUAL TRUST BANK LTD	2017	11.76	0.55	5.82	8.12	1.96	11.0656	2.68	10.22	66.33	0.83	14.2	7.01	7.6	24.13
MUTUAL TRUST BANK LTD	2018	14.17	0.45	6.11	6.74	2.46	11.1645	2.58	8.18	66.81	0.94	15.3	6.16	7.9	20.88
MUTUAL TRUST BANK LTD	2019	14.55	0.76	5.94	5.72	2.84	11.2185	2.48	6.62	68.55	0.89	14.91	5.68	8.2	19.73

Bank	Year	LIQD	ASQ	CAPA	MGTQ	NM	SIZE	CEA	CFC	TLA	ROA	ROE	INF	GDP	CMD
MARCENTILE BANK LTD	2015	13.83	9.53	7.13	8.94	1.45	11.1879	1.86	11.3	60.58	0.89	12.47	6.23	6.55	26.32
MARCENTILE BANK LTD	2016	8.63	1.05	8.71	9.76	1.23	11.1617	2.16	12.09	67.25	1.36	15.66	7.54	7.11	25.51
MARCENTILE BANK LTD	2017	10.2	1.81	8.02	8.43	1.84	11.2282	2.17	9.71	69.33	0.69	8.64	7.01	7.6	24.13
MARCENTILE BANK LTD	2018	13.98	1.02	8.47	7.99	1.6	11.2643	2.22	9.33	68.9	0.76	9.01	6.16	7.9	20.88
MARCENTILE BANK LTD	2019	8.79	0.64	8.23	6.75	1.83	11.3118	2.81	6.83	75.17	1.09	13.21	5.68	8.2	19.73