LIQUIDITY MANAGEMENT AND PROFITABILITY ANALYSIS OF PRIVATE COMMERCIAL BANKS IN BANGLADESH

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Abstract

This study aims to embody the liquidity management scenario of private commercial banks in Bangladesh along with profitability analysis. Firstly some private commercial banks were selected and divided them into three generations based on their establishment. Secondly deposit, advance, profit, AD ratio & profit growth were considered as parameters to calculate several techniques to analysis the liquidity and profitability. Finally this paper also represents the regulatory issues, statistical analysis and the liquidity surplus or deficit scenario of the banks. The study concluded that proper liquidity management can increase the profitability of the Banks if other factors move positively. This research is conducted by considering the banking condition of Bangladesh and it proves that excess liquidity reduces the profitability. Finally this study indicates that how proper liquidity management helps to increase the banks' profitability.

Keywords: Liquidity, profitability, liquid asset, cushion, credit

INTRODUCTION

Liquidity means how quickly an asset can be converted into cash or the marketability (capability to convert an asset to cash very easily) of the assets to meet the short term financial obligations. There are two types of assets such as liquid & illiquid. Firstly, liquid assets which can be converted into cash very quickly in the market. Secondly, assets that cannot be converted into cash very easily are known as illiquid. Liquid asset is much safer for the investors than illiquid assets because it is much easier for the investors to obtain the money from the investment. Commercial Banks maintain their liquidity position through their treasury division by interbank transactions (borrowing and lending) with other financial entities. At the interbank transaction, Banks usually conduct the call money transactions, Repo (Repurchase Agreement), reverse Repo, buy or sell the money market securities.

Profitability refers to the net income of the company (Bank) where company's revenues exceed its expenses. Income is generated from the activities of the companies (Banks) and expense is the cost of resources which are used to generate profit. Profitability is the main objective of the companies. Businesses cannot survive in the market for the long run without profitability. So evaluating past profitability, calculating current profitability and foretelling future profitability is very important for the company. Revenue and expense are shown at the income statement which refers to the profitability of the company while cash inflow & cash outflow are shown at cash flow statement which refers to the liquidity of the company.

It has negative or inverse relationship between liquidity and profitability because huge liquidity position decreases the profitability of the bank and vice-versa. But in some cases, liquidity problem can create a panic to the depositor and banks can fall under trouble of repayment of deposited money. It is a great example of banking liquidity crisis in 2007 at the USA market. At the liquidity shortfall banks cannot increase the advance position to increase the profitability. So that banks try to manage the liquidity position very efficiently. To increase the profitability banks go to the risky investment because there is a positive relationship between higher risk and higher return. On the other hand, higher risk endangers the liquidity of the banks. When interest rate is lower, the liquidity position of any bank is higher and higher liquidity position indicates the availability of capital base. Liquidity surplus can be occurred if there is huge money at hand with too few investments in real sectors. As a result of economic depression fund usually is invested in bad ventures and bad ventures cannot repay the money of the banks because they do not do well in the business and banks suffer from liquidity position at hand for further investment or repayment of the depositors' money.

Generally banks lend mostly at illiquid assets which cannot be converted in cash very easily but banks encourage collecting fund at short term basis which fund is cost free (current

account) or lower cost bearing (savings account or special notice account).Ensuring own liquidity position under all conditions is the main dispute to the banks. Now a day, most of the banks try to increase their efficiency for managing asset and liability of the banks, shortly said liquidity position. So they go to the large investment at securities and advances which can be securitized to recover borrowed funds. In 2013, political factor was fully liable for non-robust investment at real sector. So business houses discouraged to increase their existing investment and go to the new investment. Banks could not increase their advance position at that critical time of investment and they suffered from huge liquidity problem which decreased the profitability of the banks because we know that liquidity and profitability are inversely related. At that time projected private sector's credit growth rate was 16.50% which mentioned at the first half yearly monetary policy of 2013-14. Unfortunately real private sector credit growth was 11.10%. So it is easily affirmed that Banks & other financial institutions have excess liquidity which reduced the profitability.

Objectives of the Paper

There are several objectives of preparing this paper which are shown below:

- To explore advance, deposit & profit of several commercial banks (generation based) of our country.
- To analyze the numerical data of the selected banks by using some ratios and statistical measures.

Recap of this study unifies as follows. Second part of this study reviews the literature, part three discusses the methodology of the study, part four shows the whole discussion and finally part five concludes the research.

LITERATURE REVIEW

There are several research works on liquidity and profitability management of the commercial banks internationally. Many studies have shown that liquidity problem decreases the profitability. Other studies explain that available liquidity increases the profitability. At the literature review I will deliver the most important and appropriate theories of the several researchers where different researchers provide different explanations about this topic. Some of these researchers try to define liquidity only or profitability and some try to create the relationship between liquidity & profitability or differentiation between them.

According to Archer and D'Ambrosio, "liquidity means cash and cash availability, and it is from current operations and previous accumulations that cash is available, to take care of the claims of both the short-term suppliers of capital and the long-term ones".

Shim and Siegel (2000, pp.46-47) told that accounting liquidity is the company's capacity to liquidate maturing short-term debt (within one year). Maintaining adequate liquidity is much more than a corporate goal. It is a condition for the company that without which it could not be reached the continuity of the business. Solvency and liquidity are two concepts that are closely related and reflect upon the actions of company's working capital policy. A low liquidity level may lead to increase the financial costs and result in the incapacity to pay its obligations.

Another research was conducted by Chandra in 2001, normally a high liquidity is seen as a sign of financial strength. However, some authors like AssafNeto believe that a high liquidity can be as undesirable as a low one. This would be a consequence of the fact that current assets are usually less profitable than fixed one. Money invested in assets generates less revenue than fixed assets, thus representing an opportunity cost.

According to AssafNeto (2003, p.22), the greater the amount of funds invested in current assets, the lower the profitability, and by the same time the less risky is the working capital strategy. In this situation, the returns are lower in the case of a greater financial slack, in comparison to a less liquid working capital structure. Conversely, a smaller amount of net working capital, while sacrificing the safety margin of the company, by raising its insolvency's risk, positively contributes to the achievement of larger return rates, since it restricts the volume of funds tied up in assets of lower profitability. This risk-return ratio behaves in a way that no change in liquidity occurs without the consequence of an opposite move in profitability.

However, Hirigoyen (1985) argues that mid-term and long-term relationship between liquidity and profitability could be positive, meaning that low liquidity would lead to lower profitability due to a greater need for loans and low profitability would not generate sufficient cash flow, thus forming a vicious circle. A company with low liquidity and high profitability will have to increase its lending, resulting to increased financial costs. This would certainly lead to increasing interest rates, given that resources cheap are depleting rapidly. In addition, enlarging the level of the debt, company's credit risk increases, causing increasing interest rates charged by their financiers. Under these conditions, the company must plan to obtain from suppliers more time, resulting in the acquisition of more expensive materials. Also, the enterprise will not be able to enjoy discounts offered by anticipating financial payments instead bear interest and late payment penalties for various bills, taxes and others. After all this process liquidity problems might get bigger. Moreover, a firm that has low profitability and high liquidity does not generate sufficient resources to finance expansion of its working capital needs, acquiring new assets, overdue loans, etc. And finally the liquidity turns out to become lower. Thus Hirigoyen, profitability and solvency are a necessary condition for the existence of a healthy company and both of them are the subject to the strategy adopted in the medium and long term.

Concepts and definition

Liquid Assets of a Bank

Liquid asset is one kind of asset which can be converted into cash very hurriedly and which has negligible impact to the price. Liquid assets are generally regarded in the same light as cash because their prices are relatively stable when they are sold on the open market. For an asset to be liquid it needs an established market with enough participants to absorb the selling without materially impacting the price of the asset. There also needs to be a relative ease in the transfer of the ownership and the movement of the asset. Liquid assets include most stocks, money market instruments and government bonds. The foreign exchange market is deemed to be the most liquid market in the world because trillions of dollars exchange hands each day, making it impossible for any one individual to influence the exchange rate. Cash and other financial assets that banks possess that can easily be liquidated and paid out as part of operational cash flows. Examples of core liquidity assets would be cash, government bonds and money market funds. Banks typically use forecasts to anticipate the amount of cash that account holders will need to withdraw, but it is important that banks do not over-estimate the amount of cash and cash equivalents required for core liquidity because unused cash left in core liquidity cannot be used by the bank to earn increased returns.

- Cash in hand: Amount of money of a bank, which stay in hand of that bank to meet recent needs. Generally, bank keeps enough money in hand. As a result liquidity risk is minimized.
- Items in the process of collection: Some amount of money which keeps in the process of making cash.

Figure 1 Liquid Assets of a Bank

Cash in hand

Items in the process of collection

Reserve in Bangladesh Bank

Balance with other banks
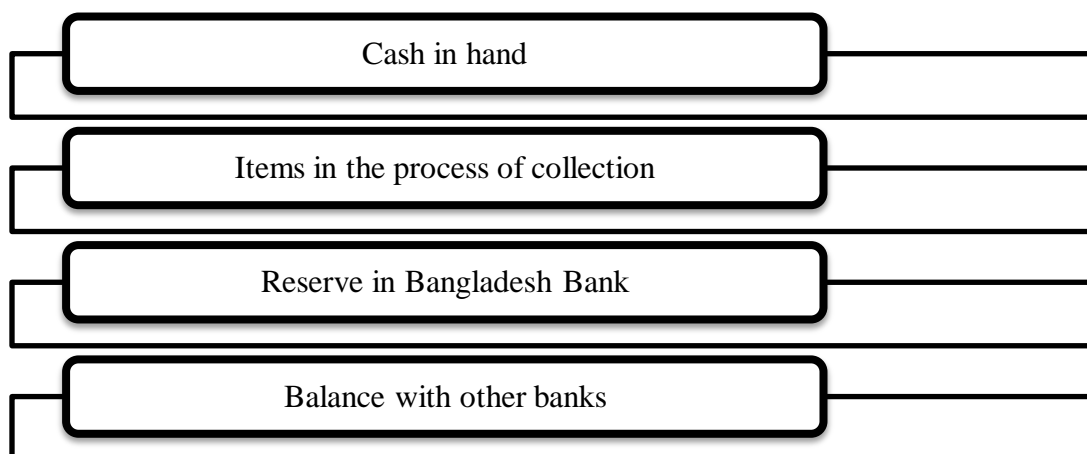
- Reserve in Bangladesh Bank: Every schedule bank has reserve requirement where every bank keeps 5% money on his total capital to the Bangladesh Bank. If a bank needs of money, he can withdraw money from Bangladesh Bank's reserve amount.
- Balance with other banks: Every commercial bank has an account in other commercial banks such as customer. If a bank needs of money, he can withdraw money from his account. As a result liquidity risk is minimized.

Distinctiveness of Liquid Assets

There are three characteristics involved in the liquid assets which are ready market, stable price and reversible.

Figure 2 Characteristics of Liquid Assets
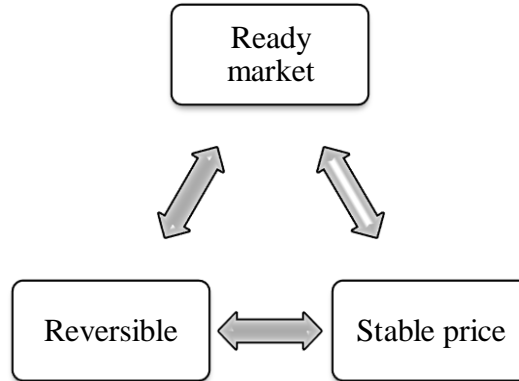
a) Ready Market: It is one kind of market where liquid assets can be sold or converted in cash without delay.

b) Stable Market: Liquid asset must have a reasonable stable price so that no matter how quickly the asset must be sold or how large the sale is the market is deep enough to absorb the sale without a significant decline in price.

c) Reversible: The seller can recover the original investment amount with little risk of loss.

Liquidity Cushion

A bank maintains reserve fund by holding money market instruments and highly liquid investments in other sectors. By retaining cash reserves in money market instruments, urgent demands of the customers on cash can be fulfilled by immediately sale of these securities.

Liquidity crisis

Liquidity crisis means negative financial situation of the banks or lack of cash flow of the banks. Liquidity crisis arises when a solvent bank does not have enough liquid assets (i.e. cash or easily cash convertible assets) at hand for meeting its urgent short-term financial obligations such as repaying deposit amount, repaying loan amount, paying bills and paying stakeholders. A bank is announced bankruptcy when it does not solve the problem of liquidity. An insolvent bank can also have liquidity crisis but it can be mitigated by taking urgent effective actions which will not prevent its business ultimate bankruptcy. Liquidity crisis of the whole economy creates by reducing the number of lending in the economy or impede making loans altogether and on the other hand some companies do not meet their financial obligations because of availability of fund at hand.

Liquidity management& open market operation

Banks have to be required to keep a certain portion of their assets in the form of relatively riskless instruments which is made for the monetary control purposes. Every bank has to maintain the level of minimum reserve requirement with central bank and central bank holds the right to change this requirement. It affects directly on the level of liquidity and the price of shortterm funds of the banks. Minimum reserve requirement is one of the tools of open market operations of the central bank by which the level of liquidity of the banks is manipulated by buying and selling of the shortterm instruments. When the buying of treasury bills & treasury bonds is increased, the yields of these securities will fall and relatively other securities will be attractive.

Figure 3 Open Market Operations

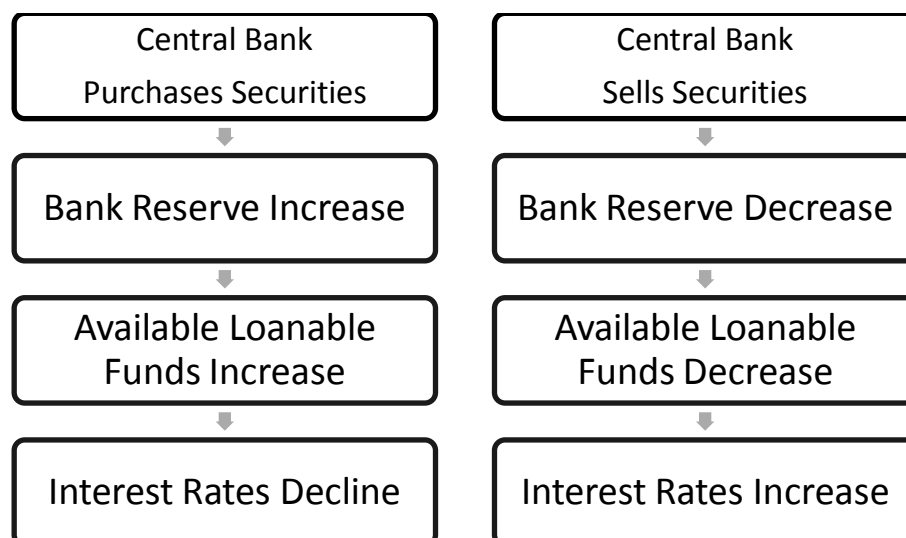| Central Bank Purchases Securities	Central Bank Sells Securities
Bank Reserve Increase	Bank Reserve Decrease
Available Loanable Funds Increase	Available Loanable Funds Decrease
Interest Rates Decline	Interest Rates Increase

Fig.4 shows the process of open market operations of the central bank. Securities purchased and securities sold are the two processes of open market of operations. When central bank purchases securities from the market, the reserve requirement of the banks is increased. So the loanable fund in the market is also increased and the credit facilities are decreased. As a result the rate of interest will be decreased drastically. On the other hand, when central bank sells securities to the market, the reserve requirement of the banks is decreased and then the loanable fund of the banks is also decreased. So the rate of interest in the market will be increased rapidly with the reducing of loanable fund in the market.

Types of Liquidity

There are several types of liquidity in banking sectors which are immediate liquidity, short-term liquidity, long-term liquidity, contingent liquidity, economic cyclical liquidity.

Figure 4 Types of Liquidity

Immediate liquidity

Short-term liquidity

Long-term liquidity

Economic cyclical liquidity

Contingent liquidity
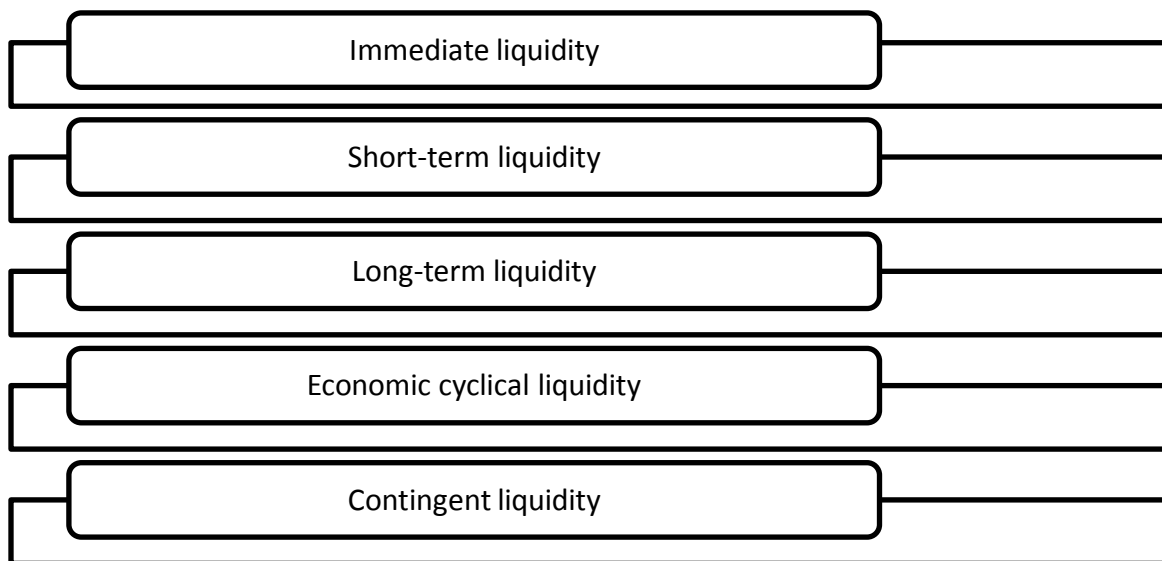
- Immediate liquidity: When cash money is needed to pay in cheques to demandable customers, it is called immediate liquidity.
- Short-term liquidity: Short-term liquidity is used to meet the monthly liquidity requirements. Based on the types of clients and on the seasonal variability, the necessity of these types of liquidity can vary.
- Long-term liquidity: Long-term liquidity is required to meet the cash demand for replacement of fixed assets, retirement of the redeemable preferred shares or debentures and to acquire new fixed assets and technical know-how.

- Contingent liquidity: It arises depending on the happening of some unexpected events. It is difficult to guess this unexpected situation but not impossible though the amount cannot be exactly predicted. Contingent liquidity is also required to face the adverse situations created by big bank robbery, fraud, arson or other accidents.

- Economic cyclical liquidity: Based on good or bad economic situation, the supply of bank deposit and the demand for loan varies. Due to this variation, the liquidity demand also varies. But it is very difficult to identify the extent of such variation. Generally, difficult national and international events such as political instability, war, the pressure created by the different interest groups relating to the banking activities are the causes of economic cyclical liquidity needs.

The demand and supply of liquidity

Every commercial bank needs enough liquid assets to meet the immediate financial needs of the customers and bank collects funds to fulfill the demand of the customer. There are two types of sources to squash the demand of spendable funds of the banks and sources are withdrawal deposited money from the account and credit requests from the customers which may be in the form of new loan request, renewals of expiring loan agreement or drawing upon existing credit facilities. Other sources of liquidity demand include paying off previous borrowings such as loans the bank may have received from other banks or from the central bank. Similarly payment of income taxes or cash dividend to the shareholders rises to the demand for spendable fund. The most important source for a bank is receipt of new customer deposits, both from newly opened accounts and from new deposits placed in existing accounts. Another important component in the supply of liquidity for the banks comes from customers repaying their loans which provide fresh funds to meet new liquidity needs of the banks. On the other hand, bank can generate funds from selling marketable securities such as treasury bills & treasury bonds, from the investment portfolio. Banks can increase the flow of liquidity in from of revenues generated by selling non deposit services and from borrowing from the money market through treasury division.

Liquidity Risk

Liquidity risk occurs in the bank when the financial obligations of the customers are not fulfilled within the required time period or inability to meet its obligations when they come due without incurring unacceptable losses. Liquidity risk also arises from the failure to identify the changes of the market conditions that affect the ability to liquidate the assets quickly and with least loss in value. There are several sources to arise the liquidity risk if the banks which are identified

below: Unexpected change in cost of capital, abnormal behavior of financial markets, risk arises from the secondary sources, macroeconomic imbalances.

Regulatory issues: Central Bank's Liquidity Management

Liquidity management of the central bank is defined as the scaffold of the bank reserves requirement in order to control the price especially short term interest rates for stability the price level of the economy. Central Bank is the lender of last resort for the commercial banks as well as the government of the country. All scheduled banks are required to maintain a minimum reserve as cash form with the central bank (Bangladesh Bank) which is called Cash Reserve Requirement (CRR) and reserve maintained as government securities such as treasury bills and treasury bonds which is Statutory Liquidity Reserve (SLR). Every schedule bank of our country has to maintain Cash Reserve Ratio (CRR) and Statutory Liquidity Reserve (SLR) on Total Deposit amount of the bank with central bank. Now CRR is 6.50% for Conventional Banks and Islamic Banks but SLR is 13.00% for Conventional Banks and 5.50% for Islamic Banks which was 19.00% & 11.50% accordingly before. SLR requirement was changed by Bangladesh Bank's DOS Circular No.-01, dated 19/01/2014 and the effective date was 1st February, 2014.

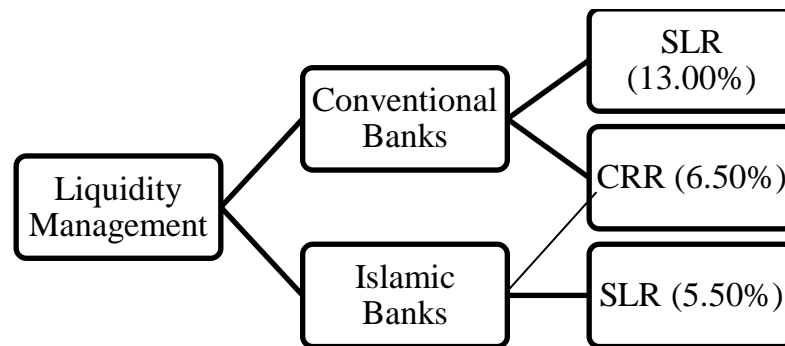Figure 5 Liquidity requirements of commercial banks

Table 1 Last few years SLR & CRR rate

Year	SLR	CRR
2005	16.00%	4.50%
2006	18.00%	5.00%
2007	18.00%	5.00%
2008	18.00%	5.00%
2009	18.00%	5.00%
2010	18.50%	5.50%
2014	13.00%	6.00%
2014	13.00%	6.50%

Table 1 shows SLR and CRR level from 2005 to 2014. In 2005, SLR was 16.00% which was lower than 2006-2009 but in 2010 it was 18.50% which was the highest. In 2014, SLR requirement is reduced to 13.00%. Actually central bank separates the theme of SLR and CRR. Before that CRR was included with SLR amount but after 2014 CRR and SLR are calculated separately. On the other hand, the level of CRR was almost stable over the year although it was 4.50% in 2005, after that it was increased to 5.00% and lastly it is amended to 6.50%. At present, SLR requirement is 13.00% and CRR is 6.50%.

After 2012 our economy suffered from huge liquidity problem because private and public credit growth was declined level. At that time the political situation of the country was fully unrest and economy faced a critical path with minimum level of investment in real sector. On the other hand government failed to take positive action to increase the real sector investment. So central bank decided to separate SLR and CRR requirements. In this process, bank has to maintain SLR in the form of cash, foreign exchange reserve, and government securities. CRR is maintained at cash form with Bangladesh Bank. Any bank can maintain whole 13.00% (Conventional Banks) of SLR requirement by purchasing Treasury bills and Treasury bonds.
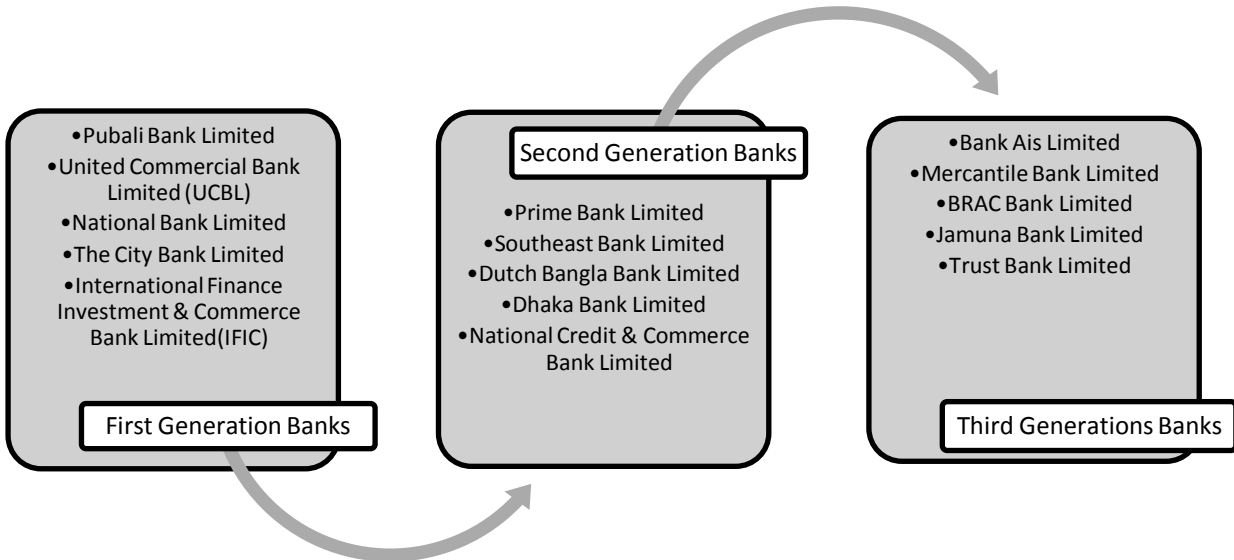
METHODOLOGY

Methodology refers to the indispensible part of the study and practices of collecting information and arranging it in terms of the relevant issues of the study. I have collected data from several sources such as primary source and secondary source. Primary data was collected from the officials of the selected banks through face to face and telephonic conversation. Data are collected from observing the financial statements from 2011 to 2013 of the selected banks. I try to identify all the elements of the liquidity as well as profitability and prepare this paper.

Data

Deposit, advance & profit position, Advance Deposit Ratio (AD Ratio), number of branches of these banks are considered to conduct this study. Three fiscal years such as 2011, 2012, 2013 are considered for deposit, advance & profit position, Advance Deposit Ratio and 2012, 2013 are considered for number of branches.

All the amount of deposit, advance, and profit are totally consolidated. Depend on this information I have tried to compare among three generation banks' liquidity and profitability position by considering other factors such as AD ratio, changes the number of branches. Tabular method, graph analysis, ratio analysis and statistical technique have been used at this research work where required.

Figure 6 List of selected private commercial banks

First Generation Banks
- Pubali Bank Limited
- United Commercial Bank Limited (UCBL)
- National Bank Limited
- The City Bank Limited
- International Finance Investment & Commerce Bank Limited (IFIC)

Second Generation Banks
- Prime Bank Limited
- Southeast Bank Limited
- Dutch Bangla Bank Limited
- Dhaka Bank Limited
- National Credit & Commerce Bank Limited

Third Generations Banks
- Bank Ais Limited
- Mercantile Bank Limited
- BRAC Bank Limited
- Jamuna Bank Limited
- Trust Bank Limited

EMPIRICAL STUDY

Theoretical analysis

Bangladeshi banking system is denominated by the commercial banks although there are some specialized banks, finance companies, leasing companies as well as insurance companies. Among all these banks, some are listed with Bangladesh Bank (central bank) and few are not listed. Bangladesh Bank is the chief regulatory authority of the banking sector. Other than central bank, there are 4 State Owned Commercial Banks, 5 specialized banks, 39 Private Commercial Banks, 9 Foreign Commercial Banks. There are some non-listed finance institutions such as Grameen Bank, Samabai Bank, Ansar-VDP Bank, and Karmasansthan Bank. After 1971, State Bank of Pakistan was renamed Bangladesh Bank and started its journey as the Central Bank of Bangladesh. At that time there were only 14 local commercial banks and 3 foreign banks in our country. All banks were nationalized rather than foreign banks. Main revolution at the banking sector in our country was occurred after 1981s when central bank gave the licenses to private banks. After that private sector banking business flourished slowly yet second generation banks had started their business. Although banking business was grown rapidly after 1995 when second and third generation banks started their journey. At present, the financial institutions in Bangladesh under the banking system are:

- Bangladesh Bank (Central Bank)
- Commercial Banks (Conventional Banks)
- Islamic Shariah based commercial Banks

- Foreign Commercial Banks
- Specialized Banks
- Finance Companies
- Insurance Companies
- Leasing Companies
- Non-schedule Banks

Company Background

Initially Pubali Bank Limited was started as Eastern Mercantile Bank Limited in the then East Pakistan by some Bengali entrepreneurs in 1959. After the liberation war of Bangladesh this Bank was nationalized as per the policy of the then Government and renamed as Pubali Bank. In 1983, this Bank was denationalized as private bank and changed as Pubali Bank Limited. Now it has 427 branches all over the nation and it is one of the largest commercial banks of our country.

In 1983, United Commercial Bank Limited (UCBL) emerged its banking business as private commercial bank for the purpose of developing our economic and after that it has been able to establish itself as one of the best banks in Bangladesh. It has 139 branches through the country. This bank is committed to provide customized & innovative product and service by efficient Management. From the begging of the establishment this bank has been participating in the development of trade, commerce and industry of our country by investing in network expansion and new technology adoption to have competitive advantage.

National Bank Limited (NBL) was incorporated in 1983 as first private sector bank in Bangladesh. It is one of the largest private sectors Bank with glorious financial performance. Now there are 175 branches under this bank's network and all branches are automated with computer network. From the very beginning, NBL has been playing a vital role in the development of the national economy. NBL was the first domestic bank in Bangladesh which established agency arrangements with Western Union to facilitate the expatriate Bangladeshi nationals for sending safe remittance and it was also the first domestic bank to host international Master Card in our country.

The City Bank Limited is one of the oldest and largest banks in Bangladesh which was established in 1983. It has five divergent units such as business unit, branch unit, risk unit, operation unit and support to provide the all kinds of services to the customers. There are 94 online branches, 1 SME service centers and 11 SME/Agribranchs all over the country. Rather than traditional banking the bank has more than 200 ATMs and more than 1000 sharing ATMs to facilitate the customers to withdraw money, show balance and others urgent services.

International Finance Investment and Commerce Bank Limited (IFIC Bank) was incorporated in 1976 as a joint venture between the Government of Bangladesh and private sector's sponsors with the objective of working as a finance company within the country and setting up joint venture banks/financial institutions aboard. It was converted to private commercial bank in 1983. At present, the Government of Bangladesh holds 32.75% of total share capital of this bank, 11.31% is held by the directors and sponsors and the rest is held by the general public.

Prime Bank Limited was started its activities in 1995 by reputed personalities of Bangladesh. It offers all sorts of corporate and personal banking services which covers all the rules & regulations of Banking Company Act. Different types of products and services including corporate banking, retail banking right from industry to agriculture and real state to software are offered by this bank.

Southeast Bank Limited was launched in 1995 with a dream and a vision to become a forerunner banking institution of the country and contribute significantly to the development of our country's economy. This bank is operated by efficient management team. They always encourage the employees to work together for achieving the ultimate goal of the bank. There is a commitment to the customer to provide quality and excellence service which is the trademark of their identity

Dutch-Bangla Bank Limited (DBBL) was started its operation in Bangladesh as joint venture basis. From the very begging of establishment this bank focuses on financing high-growth manufacturing industries in Bangladesh. DBBL is one of the largest donors of Corporate Social Responsibility (CSR) in Bangladesh. It is the first bank in Bangladesh which is fully automated. This bank has the largest ATM network in Bangladesh. Consumer feels confidence on this bank because of technological advancement and larger donation on several social activities.

Dhaka Bank Limited was established in 1995 as public limited company. This bank has 78 Branches including 2 Islamic Banking Branches, 3 SME Service Centers, 1 Offshore Banking Unit, 1 Kiosk along with 6 Branches under Dhaka Bank Securities Limited across the country. The Bank offers the full range of banking and investment services for personal and corporate customers by backing innovative technology. Excellence in Banking is their commitment to the customers. At present, this bank offers the full range of online banking services.

National Credit and Commerce Bank Limited was started its journey in 1985 as an investment company. The main objective of the company was to assemble resources from within and invest them in such a way for the development of the industry and play a vital role in the formation of capital market of this country. This bank was converted into a private

commercial Bank in 1993 to serve the people of the nation from a bigger platform. Its various deposit & credit products have designed for both corporate and individuals who feel coziness in doing business with this Bank.

Bank Asia Limited was started its services with a vision to serve the people with modern and innovative banking products and services at affordable charge. Being parallel to the cutting edge technology the Bank is offering online banking with added delivery channels like ATM, Tele-banking, SMS and Net Banking and as part of the bank's commitment to provide all modern and value added banking services in keeping with the very best standard in a globalize world. Bank Asia has been actively participating in the local money market as well as foreign currency market without exposing the Bank to vulnerable positions.

Mercantile Bank Limited was incorporated in 2000 as a new commercial bank to provide efficient banking products & services to the clients and for contributing to the socio-economic development of the country. This Bank provides a broader range of financial services to its retail customers and corporate clients.

BRAC Bank Limited is a scheduled commercial bank in Bangladesh which was established as private commercial bank in 1999 under the Banking Companies Act, 1991 but it started its activities in 2001 because it faced some legal obligation of high court of Bangladesh. The main objective of this bank is to provide all sorts of banking products and services and contribute to the development of Bangladesh. BRAC Bank aims to set standard as the market leader in Bangladesh by providing efficient, friendly and modern fully automated online service on a profitable basis. Within this short period of time it has created a unique image in the mind of the people by contributing in the development of the country.

Jamuna Bank Limited (JBL) is a Banking Company which was registered under the Banking Company Act, 1991 of Bangladesh and started its operation in 2001. The Bank provides all kinds of support to trade, commerce, industry and overall business of the country and contributes to the development of the nation. At present the Bank has real-time online banking branches across the country by modern and innovative IT support. Besides traditional delivery points, the bank has ATMs of its own, sharing with other partner banks and consortium throughout the country.

Trust Bank Limited is one of the leading private commercial banks in our country. It was established in 2000 as public limited company. The bank has 83 branches, 7 SME centers, 134 ATM Booths and 65 POS in 55 Branches throughout the country. The bank was sponsored by the Army Welfare Trust (AWT). There are several modern corporate and consumer financial products and services offered to the clients. Customers can now deposit or withdraw money

from any Branch of Trust Bank nationwide without needing to open multiple accounts in multiple Branches.

Data Analysis

The banking sector of Bangladesh can be classified in four generations. First generation banks were started their businesses between1982 to 1990, second generation banks were incorporated between 1991 to 2000, third generation banks were licensed in the period of 2001 to 2010 and forth generation banks were started businesses after 2013. First generation, second generation and third generation banks are considered to conduct this study. Firstly I present all the information in a table and finally graphical presentation is conducted based on this information.

Table 2 Deposit, advance & profit position of the banks (generation basis)

Generations (Banks)	Deposit			Advance			Profit		
	2013	2012	2011	2013	2012	2011	2013	2012	2011
First	73979	63363	55002	65825	57595	47487	3013	2941	2967
Second	73697	66320	54675	58366	54982	47770	2905	2767	2831
Third	60596	51541	43987	45549	39905	36984	2118	1910	1859

(BDT in crore)

Table 2 shows the yearly position of total deposit, advance, and profit of the selected banks. First column shows the generation basis banks' names, second column shows the deposit position of the banks over the three years, third column is for the advance position of the banks and last column represents the profit position of the banks. We see that the deposit & advance position show increasing trend over the year but profit position is not same. Above all information is shown at several graphs:

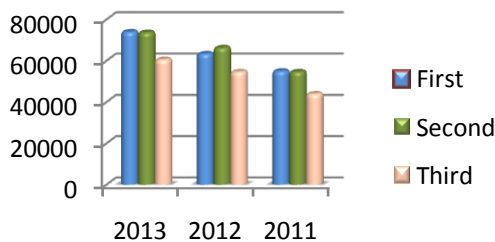Figure 7 Deposit position of the Banks
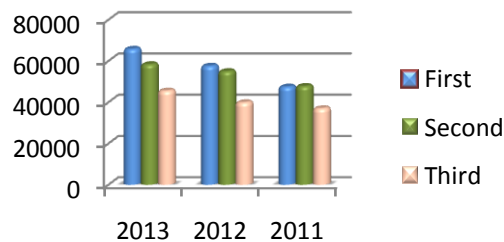
Figure 8 Advance position of the Banks
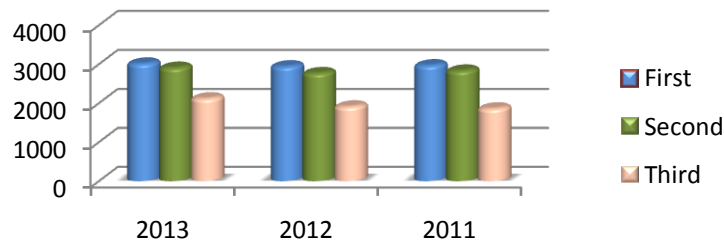
Figure 9 Profit position of the Banks

Figure 7 shows the deposit position of three generation banks. If we see the situation of first generation banks, we can easily imagine that the deposit position is increasing over the year and second, third generation banks' deposit illustrates the same trend. First generation banks' deposit position is highest compared to the other generation banks over the years. Fig.8 shows the advance position of three generation banks. If we see the situation of the first generation banks, we can easily imagine that the advance position is increasing over the year and second, third generation banks' advance illustrates the same trend. First generation banks' advance position is highest compared to the other generation banks over the years. Fig.9 shows the profit position of three generation banks. If we see the situation of third generation banks, we can easily imagine that the profit position is increasing over the year but first &second generation banks' profit is not same as third generation banks because profit position of first &second is minimum in 2012.Third generation banks' profit position is highest compared to the other generation banks over the years.

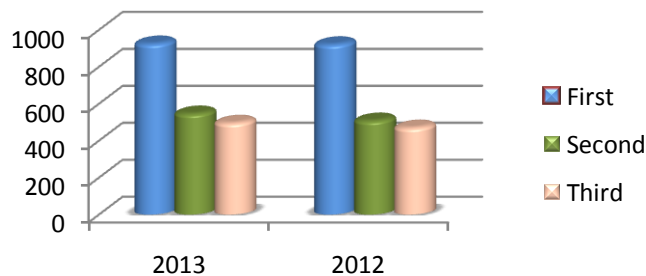Figure 10 Number of branches of the Banks

Figure 10 shows the number of branches of three generation banks. First generation banks have highest numbers of branches and third generation banks have lowest number of branches. So first generation banks earned highest profit over the years because there is a positive relationship between numbers of branches with the profit position of the banks.

Ratio Analysis

Figure 11 illustrates AD ratio (generation based) of the banks where first generation banks' AD ratio is the highest among all. In 2013, first generation banks' position is highest and third generation banks' position is the lowest. In 2012, first generation banks' position is highest and then second generation banks & third generation banks'. In 2011, third generation banks' AD ratio is minimum and second generation banks' position is maximum. Overall analysis, it is easily identified that first generation banks were very aggressive at lending business and these banks broke the roles of central bank because banks cannot cross the limit of AD ratio which is fixed at 85% on total deposit position of the banks. Compared other generation banks, third generation banks were much more complied with the role of central bank. Fig.12 illustrates the year based AD ratio of the banks. From this bar chart it is understood that banks were very aggressive in 2011 because AD ratio at that time was 86% which is highest among three years. In 2013, AD ratio position is lowest compared other years.

Figure 11 AD Ratio (generation based) of the Banks   Figure 12 AD Ratio (year based) of the Banks
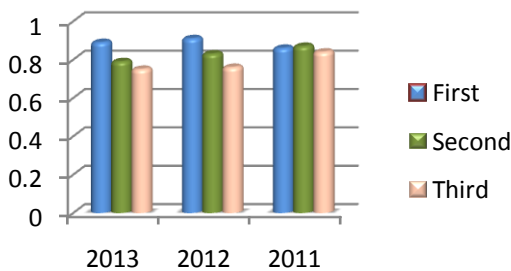
Figure 13. Liquidity gap

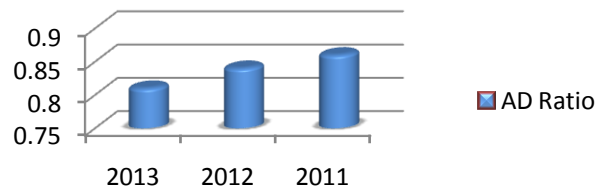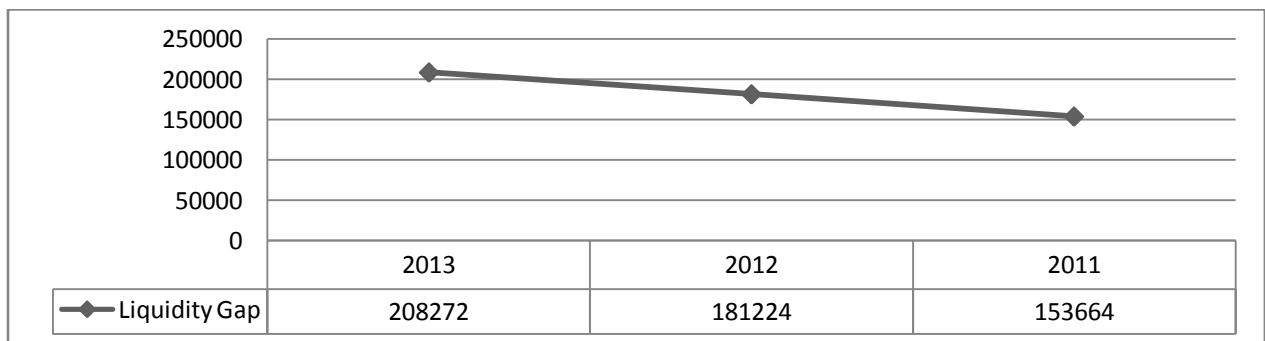|	2013	2012	2011
Liquidity Gap	208272	181224	153664

At liquidity gap analysis, deposit position of the banks is considered. At that time the liquidity position was increasing very rapidly. So that it can be easily understood that banks carried huge amount of money at hand and liquidity gap was increasing year to year.

Estimating liquidity needs

Various kinds of experiments were made in estimating the quantum of liquidity for a particular period. For that reason, bank fund managers estimate liquidity demand based on their past experiences and knowledge. Among all these methods, the sources and uses of fund approach is mostly used.

The sources and uses of fund approach

The more the deposits are, the more the liquidity will be. In other words, deposits will increase if loans decrease. The less the deposits are, the less the liquidity will be. In the other words, liquidity decreases with the increase in loans. The following table 3 shows the imaginary sources and uses of fund: First generation banks

Table 3 The sources and uses of fund approach: First generation banks

(BDT in crore)

Period	Deposit level	Advance level	Changes in deposit	Changes in Advance	Liquidity surplus/deficit
2013	73979	65825	10161	8230	2386
2012	63363	57595	8361	10108	-1747
2011	55002	47487			

Firstly in 2012, there was negative liquidity balance because first generation banks' managers were required to employ 2012 year's balances in profitable investments. On the other hand, banks suffered with huge liquidity position and they would manage the cheapest source to fulfill the deficit liquidity in years 2013.

The following table 4 shows the imaginary sources and uses of fund: Second generation banks

Table 4 The sources and uses of fund approach: 2nd generation banks

(BDT in crore)

Period	Deposit level	Advance level	Changes in deposit	Changes in Advance	Liquidity surplus/deficit
2013	73697	58366	7377	3384	3993
2012	66320	54982	11645	7212	4433
2011	54675	47770			

Secondly, there was positive liquidity balance in 2012 & 2013 and second generation banks suffered with surplus liquidity position and they would manage the cheapest source to fulfill the deficit liquidity over the years.

The following table 5 shows the imaginary sources and uses of fund: Third generation banks

Table 5 The sources and uses of fund approach: 3rd generation banks

(BDT in crore)

Period	Deposit level	Advance level	Changes in deposit	Changes in Advance	Liquidity surplus/deficit
2013	60596	45549	9055	5644	3411
2012	51541	39905	7554	2921	4633
2011	43987	36984			

Finally, third generation banks' liquidity position was same as second generation banks in 2012& 2013 because there was positive liquidity balance over the years and third generation banks suffered with surplus liquidity position and they would manage the cheapest source to fulfill the deficit liquidity.

Statistical Analysis

Several statistical tools are used to analyze the liquidity management and profitability analysis of private commercial banks in Bangladesh, using Correlation, Regression analysis, ANOVA and F-distribution and T-distribution.

Regression Model-01 (First generation Banks): Advance and Profit

Here I use simple regression technique; profit and advance position are considered as variables. Profit is considered as dependable variable and advance is independent variable. In this model, all values are provided by SPSS software. I input the total amount of advance and profit of first generation banks in SPSS software and have got several outputs such as variables entered, model summary, ANOVA, coefficient which are given at the appendix. Total amount of advance and profit of 2011 to 2013 are considered to this statistical analysis. Thereafter, I am going to the explanation of these outputs.

Value of R:

In appendix table 02, the value of R is 0.584 that indicates that the variable advance is positively related to the profit position of the first generation banks.

Value of R square:

Here the value of R square comes 0.341 from table 02 in appendix, meaning that 34% changes in profit is happening for the changes of the advance position. In addition, the least part (1- 0.341) = 0.659 is changed by other factors which are not considered.

Adjusted R square:

From the accepted data, the value of adjusted R square is -0.318 from table 02 in appendix. it shows that how much dependent variable (profit) is changed for the changing of independent variable (advance).

Standard Error of estimate:

Here the value is 41.85843 from table 02 in appendix that shows the amount of variability of predicted result and the actual result acquired from the real observation.

Regression Sum of Square (SSR):

SSR value comes 906.538 from table 03 in appendix showing the extent to which we are able to minimize the error through using the multiple regression tools.

Error Sum of Square (SSE):

Here Residual SSE value comes 1752.129 from table 03 in appendix showing the extent to which error is remaining after the regression and can be minimized with the increment of the profit (dependent variable).

Total Sum of Square (SST):

In this observation, the value is 2658.667 (table 03 in appendix) that comes after adding the SSR 906.538 and SSE 1752.129.

Degrees of Freedom (df):

 Here, SST has (n-1) degrees of freedom, SSR has p (number of independent variable) degrees of freedom and SSE has (n-p-1) degrees of freedom. Hence, the mean square due to regression (MSR) is SSR divided by p and the mean sum of square due to error (MSE) is SSE divided by (n-p-1). Here, 1 is degrees of freedom for the numerator and 1 is degrees of freedom for the denominator.

F-test:

If H_0 is accepted, MSR provides an unbiased estimate of σ^2, and the value of MSR or MSE becomes larger. To determine how large values of MSR/MSE must be to reject H_0, we make to use of the fact that if H_0 is true and the assumptions about the regression model are valid, the sampling distribution of MSR/MSE is a F-distribution with p degrees of freedom in the numerator and (n-p-1) in the denominator. The summary of F-test is given below:

F=MSR/MSE= 0.517 (table 03 in appendix)

With a level of significance α= 0.10, the tabulated value shows that one df in the numerator and one df in the denominator, F = 1.844. With 0.517<1.844, we accept the null hypothesis and alternative hypothesis is rejected. So there is no significant relationship exists between profit & advance.

Moreover, the p-value (sig.) = 0.603 from table 03 in appendix also indicates that we can accept H_0 because the P-value is higher than α=0.05.

Regression analysis:

Regression analysis measures the nature of the relationship between dependent variable and independent variable. It describes that the relationship is positive or negative between variables.

Regression equation: Ŷ = a + bX

Ŷ = 2841.617 + 0.002X (from table 04 in appendix)

The regression equation describes that there is positive relationship between profit and advance.

Dependent variable (Ŷ): Profit

Independent variable (X): Advance

If advance = zero then Ŷ= 2841.617. Here, Ŷ= 2841.617 from table 04 in appendix, which is Ŷ, intercept. It shows that profit of the banks will be 2841.617 if the banks will have no advance.

Now, the value of b or slope of X is 0.002, it means if the volume of advance increases by BDT 1 then the profit from advance of the banks will increase for BDT 0.002 assuming all other variables are constant.

T-test:

The calculated value of t is 15.346 from table 04 in appendix and tabular value is 3.078 at 1 df of area 0.01 which is less than calculated value of t. hence, the null hypothesis is rejected and alternative hypothesis is accepted and concludes that there is a positive relationship between profit and advance of the banks.

Regression Model-02 (Second generation Banks): Advance and Profit

Value of R:

In appendix table 06, the value of R is 0.352 that indicates that the variable advance is positively related to the profit position of the first generation banks.

Value of R square:

Here the value of R square comes 0.124 from table 06 in appendix, meaning that 12.40% changes in profit is happening for the changes of the advance position. In addition, the least part (1-0.124) = 0.876 is changed by other factors which are not considered.

Adjusted R square:

From the accepted data, the value of adjusted R square is -0.752 from table 06 in appendix. It shows that how much dependent variable (profit) is changed for the changing of independent variable (advance).

Standard Error of estimate:

Here the value is 91.41292 from table 06 in appendix that shows the amount of variability of predicted result and the actual result acquired from the real observation.

Regression Sum of Square (SSR):

SSR value comes 1182.345 from table 07 in appendix showing the extent to which we are able to minimize the error through using the multiple regression tools.

Error Sum of Square (SSE):

Here Residual SSE value comes 8356.322 from table 07 in appendix showing the extent to which error is remaining after the regression and can be minimized with the increment of the profit (dependent variable).

Total Sum of Square (SST):

In this observation, the value is 9538.667 (table 07 in appendix) that comes after adding the SSR 1182.345 and SSE 8356.322.

Degrees of Freedom (df): Here, SST has (n-1) degrees of freedom, SSR has p (number of independent variable) degrees of freedom and SSE has (n-p-1) degrees of freedom. Hence, the mean square due to regression (MSR) is SSR divided by p and the mean sum of square due to

error (MSE) is SSE divided by (n-p-1). Here, 1 is degrees of freedom for the numerator and 1 is degrees of freedom for the denominator.

F-test:

If H_0 is accepted, MSR provides an unbiased estimate of σ^2, and the value of MSR or MSE becomes larger. To determine how large values of MSR/MSE must be to reject H_0, we make to use of the fact that if H_0 is true and the assumptions about the regression model are valid, the sampling distribution of MSR/MSE is a F-distribution with p degrees of freedom in the numerator and (n-p-1) in the denominator. The summary of F-test is given below:

F=MSR/MSE= 0.141 (table 07 in appendix)

With a level of significance α= 0.10, the tabulated value shows that one df in the numerator and one df in the denominator, F = 1.844. With 0.141<1.844, we accept the null hypothesis and alternative hypothesis is rejected. So there is no significant relationship exists between profit & advance.

Moreover, the p-value (sig.) = 0.771 from table 07 in appendix also indicates that we can reject H_0 because the P-value is higher than α=0.05.

Regression analysis:

Regression analysis measures the nature of the relationship between dependent variable and independent variable. It describes that the relationship is positive or negative between variables.

Regression equation: $\hat{Y} = a + bX$

$\hat{Y}$ = 2593.054 + 0.004X (from table 08 in appendix)

The regression equation describes that there is positive relationship between profit and advance.

Dependent variable ($\hat{Y}$): Profit

Independent variable (X): Advance

If advance = zero then $\hat{Y}$= 2593.054. Here, $\hat{Y}$= 2593.054 from table 08 in appendix, which is $\hat{Y}$, intercept. It shows that profit of the banks will be 2593.054 if the banks will have no advance.

Now, the value of b or slope of X is 0.004, it means if the volume of advance increases by BDT 1 then the profit from advance of the banks will increase for BDT 0.004 assuming all other variables are constant.

T-test:

The calculated value of t is 4.029 from table 08 in appendix and tabular value is 3.078 at 1 df of area 0.01which is less than calculated value of t. Hence, the null hypothesis is rejected and

alternative hypothesis is accepted and concludes that there is a positive relationship between profit and advance of the banks.

Regression Model-03 (Third generation Banks): Advance and Profit

Value of R:

In appendix table 10, the value of R is 0.988 that indicates that the variable advance is positively related to the profit position of the first generation banks.

Value of R square:

Here the value of R square comes 0.976 from table 10 in appendix, meaning that 97.60% changes in profit is happening for the changes of the advance position. In addition, the least part (1-0.976) = 0.024 is changed by other factors which are not considered.

Adjusted R square:

From the accepted data, the value of adjusted R square is 0.952 from table 10 in appendix. It shows that how much dependent variable (profit) is changed for the changing of independent variable (advance).

Standard Error of estimate:

Here the value is 29.97829 from table 10 in appendix that shows the amount of variability of predicted result and the actual result acquired from the real observation.

Regression Sum of Square (SSR):

SSR value comes 36749.969 from table 11 in appendix showing the extent to which we are able to minimize the error through using the multiple regression tools.

Error Sum of Square (SSE):

Here Residual SSE value comes 898.698 from table 11 in appendix showing the extent to which error is remaining after the regression and can be minimized with the increment of the profit (dependent variable).

Total Sum of Square (SST):

In this observation, the value is 37648.667 (table 11 in appendix) that comes after adding the SSR 36749.969 and SSE 898.698.

Degrees of Freedom (df):

Here, SST has (n-1) degrees of freedom, SSR has p (number of independent variable) degrees of freedom and SSE has (n-p-1) degrees of freedom. Hence, the mean square due to regression (MSR) is SSR divided by p and the mean sum of square due to error (MSE) is SSE divided by (n-p-1). Here, 1 is degrees of freedom for the numerator and 1 is degrees of freedom for the denominator.

F-test:

If H_0 is accepted, MSR provides an unbiased estimate of σ^2, and the value of MSR or MSE becomes larger. To determine how large values of MSR/MSE must be to reject H_0, we make to use of the fact that if H_0 is true and the assumptions about the regression model are valid, the sampling distribution of MSR/MSE is a F-distribution with p degrees of freedom in the numerator and (n-p-1) in the denominator. The summary of F-test is given below:

F=MSR/MSE= 40.892 (table 11 in appendix)

With a level of significance α= 0.10, the tabulated value shows that one df in the numerator and one df in the denominator, F = 1.844. With 40.892>1.844, we reject the null hypothesis and alternative hypothesis is accepted. So there is a significant relationship exists between profit & advance.

Moreover, the p-value (sig.) = 0.099 from table 11 in appendix also indicates that we can reject H_0 because the P-value is higher than α=0.05.

Regression analysis:

Regression analysis measures the nature of the relationship between dependent variable and independent variable. It describes that the relationship is positive or negative between variables.

Regression equation: $\hat{Y} = a + bX$

$\hat{Y} = 691.713 + 0.031X$ (from table 12 in appendix)

The regression equation describes that there is positive relationship between profit and advance.

Dependent variable ($\hat{Y}$): Profit

Independent variable (X): Advance

If advance = zero then $\hat{Y}$= 691.713. Here, $\hat{Y}$= 691.713 from table 12 in appendix, which is $\hat{Y}$, intercept. It shows that profit of the banks will be 691.713 if the banks will have no advance.

Now, the value of b or slope of X is 0.031 from table 12 in appendix, it means if the volume of advance increases by BDT 1 then the profit from advance of the banks will increase for BDT 0.031 assuming all other variables are constant.

T-test:

The calculated value of t is 3.468 from table 12 in appendix and tabular value is 3.078 at 1 df of area 0.01 which is less than calculated value of t. Hence, the null hypothesis is rejected and alternative hypothesis is accepted and concludes that there is a positive relationship between profit and advance of the banks.

CONCLUSION

Profit position of first & second generation's banks was lower in 2012 than other years but third generation banks' profit position was in increasing trend. If we see the deposit and advance position of all banks then we can easily imagine that deposit & advance position of all banks were increasing. We know that profit position moves positively with the positive movement of advances of the commercial banks but in 2012 first & second generation banks did not prove this theory. There were several reasons behind this occurrence. Among all these; unrest political situation, higher amount of default loan, decrease of loan rate, decrease the investment scope and lack of emerging investor were the main reasons for decreasing the profit position of the banks of first & second generation. On the other hand, first generation banks held the highest advance deposit ratio and third generation banks held the lowest advance deposit ratio.

Second & third generation banks were expanding very fast than first generation banks because the number of branches was increasing very faster of two generation banks. Other site, increasing trend of profit was negative of first & second generation banks in 2012 but third generation banks held the positive situation. In 2013 all banks of three generations kept positive growth. At the liquidity gap position, 2013 held the highest position. There was negative liquidity balance in 2012 because first generation banks invested more than deposit collection.

Better liquidity management depends on the market condition, internal regulations and implementation of these regulations. If banks want to increase the profitability, liquidity should be managed very efficiently. This research is conducted by considering the banking condition of Bangladesh and it proves that excess liquidity reduces the profitability. Several techniques have been used to find out this truth.

RECOMMENDATIONS

The management of liquidity is the most vital problem of the commercial banks. Few liquidity management techniques are explained below:

- Short term investment should be balanced with short term funds and long term investment should be balanced with long term funds but most of the commercial banks do not do this accurately because of unstructured financial market and unhealthy competition among the banks. To minimize this risk banks should balance the maturity of the deposit and advance as well as confirm fair competition to create structured financial market.

- Banks can arrange the repayment schedule at installment basis properly. It minimizes the bank's risk in loan repayment.

- There are lopsided and lack of close observations to deposit &advance behavior of the large customers. So banks need to ensure the precise supervision on deposit and advance position which helps to manage the liquidity position with very well manner.

- Front desk service has to be provided by very efficient and well behaved bank officials and then the clients will unwearyingly wait before the desk without any complains to the higher authority of the banks about the unavailability of money for settlement. So that it does not create bad impression in the mind of the general public about the service of the bank.

- If banks create regular better linkage with banks, they can obtain usual and inclusive information from the banks with detail amplifications regarding liquidity and others. Collected information will help to understand and report about the bank's liquidity position.

- To overcome the urgent liquidity crisis, banks should create good relationship with the money market players. Banks have to take effective actions to sell government securities such as treasury bills & treasury bonds and manage call money transactions whenever required. If banks walk at this way, they can collect necessary funds and solve the liquidity crisis. Banks can avoid liquidity crisis timely or handle more efficient way which sell government securities with more fidelity, sincerity and immovability.

- If the management and board of the bank are skilled and experienced of both deposits and advance by professionally, bank can avoid many problems not to speak the liquidity. If advance is not recovered in the right time with right amount, liquidity crisis hasto arise. The advance portion of the banks can be converted into debenture and it can be sold in the market. By this way liquidity can be managed by managerial strategy. By ensuring

advance recovery and advance conversion chance, liquidity crisis can be avoided or minimized. So banks need to recruit experienced and trained bank personnel.

Banks can increase the profitability by following these suggestions:

- Banks should find new lending sectors which can help to improve the profitability.
- Bangladesh Bank should increase the lending rate to the borrowers and decrease the deposit rate.
- The productivity of manpower should be increased.
- Bangladesh Bank should apply the new roles to manage the liquidity of the banks.
- Non-interest expenses of the banks should be minimized.

LIMITATIONS OF THE RESEARCH

The research is conducted on fifteen private commercial banks out of fifty six banks. So this research cannot give clear cut idea about the whole picture of banking sector of Bangladesh. There are several limitations other than this such as:

- Only three years' data are not sufficient to conduct this study because it does not represent the whole performance of the financial market.
- Bank officials are reluctant to give the all information.
- All liquidity ratios and profitability ratios are not considered because sufficient information.
- Only deposit, advance & profit position are considered which is not sufficient to analysis the liquidity management of the banks.

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APPENDICES

Table - 01

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Advance[a]	.	Enter

a. All requested variables entered.

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Advance[a]	.	Enter

b. Dependent Variable: Profit

Here, profit is dependent variable and advance is considered as independent variable. If advance is changed by one BDT then profit also changes by one BDT.

Table – 02

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.584[a]	.341	-.318	41.85843

a. Predictors: (Constant), Advance

Table – 03

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	906.538	1	906.538	.517	.603[a]
	Residual	1752.129	1	1752.129		
	Total	2658.667	2			

a. Predictors: (Constant), Advance

b. Dependent Variable: Profit

Table – 04

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2841.617	185.164		15.346	.041
	Advance	.002	.003	.584	.719	.603

a. Dependent Variable: Profit

Table - 05

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Advance[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Profit

Here, profit is dependent variable and advance is considered as independent variable. If advance is changed by one BDT then profit also changes by one BDT.

Table - 06

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.352[a]	.124	-.752	91.41292

a. Predictors: (Constant), Advance

Table - 07

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1182.345	1	1182.345	.141	.771[a]
	Residual	8356.322	1	8356.322		
	Total	9538.667	2			

a. Predictors: (Constant), Advance

b. Dependent Variable: Profit

Table - 08

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2593.054	643.608		4.029	.155
	Advance	.004	.012	.352	.376	.771

a. Dependent Variable: Profit

Table - 09

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Advance[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Profit

Here, profit is dependent variable and advance is considered as independent variable. If advance is changed by one BDT then profit also changes by one BDT.

Table - 10

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.988[a]	.976	.952	29.97829

a. Predictors: (Constant), Advance

Table - 11

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	36749.969	1	36749.969	40.892	.099[a]
	Residual	898.698	1	898.698		
	Total	37648.667	2			

a. Predictors: (Constant), Advance

b. Dependent Variable: Profit

Table - 12

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	691.713	199.451		3.468	.179
	Advance	.031	.005	.988	6.395	.099

a. Dependent Variable: Profit

Table - 13

(Fig in BDT in crore)

Generations (Banks)	Deposit		
	2013	2012	2011
First	73,979.00	63,363.00	55,002.00
Second	73,697.00	66,320.00	54,675.00
Third	60,596.00	52,541.00	43,987.00
Total	208,272.00	182,224.00	153,664.00

Table - 14

(Fig in BDT in crore)

Generations (Banks)	Advance		
	2013	2012	2011
First	65,825.00	57,595.00	47,487.00
Second	58,366.00	54,982.00	47,770.00
Third	45,549.00	39,905.00	36,984.00
Total	169,740.00	152,482.00	132,241.00

Table - 15

(Fig in BDT in crore)

Generations (Banks)	Profit		
	2013	2012	2011
First	3,013.00	2,941.00	2,967.00
Second	2,905.00	2,767.00	2,831.00
Third	2,118.00	1,910.00	1,859.00
Total	8,036.00	7,618.00	7,657.00