

BANKING SECTOR'S PERFORMANCE IN BANGLADESH- AN APPLICATION OF SELECTED CAMELS RATIO

by

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ABSTRACT

Banking sector plays an important role in the economic development of a country specially for Bangladesh, a sound and efficient banking system is one of the most important precondition to achieve economic development. At present, a total of 47 banks(4 SCBs, 4 DFIs, 30 PCBs and 9 FCBs) having 7246 branches are operating in Bangladesh with Tk. 4411.98billion total assets and Tk. 3329.08 billion deposits. The performance of 4types of banks needs to be compared with each other as well as the overall performance of banking sector needs to be compared with other countries. Quantitative comparison can be done on the basis of CAMELS ratio.

CAMELS ratios mainly indicate the adequacy of the risk based capital, non-performing loan position, liquidity gap analysis, liquidity ratio, inter-bank dependency, return on assets (ROA), return on equity (ROE), net interest margin (NIM), credit growth, credit concentration, single borrower exposure, foreign exchange exposure, market risk and management questionnaire, etc. The study compares the 4 types of bank's time series performance on the basis of selected CAMELS ratios.

The study also attempts to find out correlation of different ratios and also attempted to find out the relationship between different ratios and GDP contribution by financial intermediaries. The results found is very interesting which varies significantly to each other.

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Abbreviation Used

ALM	Asset Liability Management
AML	Anti-Money Laundering
BB	Bangladesh Bank
BOD	Board of Director
CAMELS	Capital Adequacy, Asset Quality, Management Soundness, Earnings, Liquidity, Sensitivity to Market Risk
CBSP	Central Bank Strengthening Project Cell
CEO	Chief Executive Officer
CRAR	Capital to Risk Weighted Assets Ratio
CRGM	Credit Risk Grading Manual
CRM	Credit Risk Management
CY	Calendar Year
DFIs	Development Financial Institutions
e.g	For Example
etc.	and so on
EIR	Expenditure Income Ratio
EWS	Early Warning System
FCBs	Foreign Commercial Banks
FEX	Foreign Exchange
FRBSF	Federal Reserve Bank of San Francisco
FSRP	Financial Sector Reform Program
FSSA	Financial System Stability Assessment
GDP	Gross Domestic Product
FSSA	Financial System Stability Assessment
ICC	Internal Control & Compliance
ICT	Information & Communication Technology
IRC	Interest Rate Change
IMF	International Monetary Fund
i.e	that means
MRA	Micro-credit Regulatory Authority
NBFIs	Non-Bank Financial Institutions
NIM	Net Interest Margin
NPL	Non-Performing Loan
NOM	Net Operating Margin
PCBs	Private Commercial Banks
Qtr	quarter
ROA	Return on Assets
ROE	Return on Equity
RWA	Risk Weighted Assets
SCBs	State-Owned Commercial Banks
SEC	Security Exchange Commission
SLR	Statutory Liquidity Reserve
Tk.	Taka (Currency of Bangladesh)

CHAPTER-ONE INTRODUCTION

1.1 Prelude

Banks are very old form of financial institution that channel excess funds from surplus unit to deficit unit in consideration of a price called Interest. Banking business definitely established on a relationship of Debtor-Creditor between the surplus unit called depositors and the bank and between the deficit unit called borrowers and the bank. Here, opportunity cost of money works as interest is considered the price of the credit. For the development of an economy, bank furnishes a huge contribution and modern economy can not be imagined without the services of bank. Economic development of a country requires a well organized, smooth, easy to reach and efficient saving-investment process. The function of a single bank is not limited to its geographical region only rather it has reached beyond the border of the country. So, banking business has been shaped as global business and the rest other business greatly depends on the strength of banking business performance.

In a view of IMF, "the recent financial crisis showed many weaknesses within the on hand financial system across the world, which triggers many issues linking to the protection of Banking institutions against probable future non-expected risks associated with periods of insecurity" [International Monetary Fund, 2009]. Demyank & Ifterkhar said "The weaknesses or incompetence of supervisory authority also emerged due to the failure to protect such a massive economic disaster. The crisis of 2007 also highlights the "strange" role in the formation of 'Bubbles'" [Demyank & Ifterkhar, 2009, The Turner Review, 2009]. Freund argued that "The financial crisis of 2007 resulted a huge dropped in world economic growth and massive unemployment for which more or less all the countries suffers from a sense of insecurity" [Freund, 2009].

Banks regulatory authorities are directly liable to evaluate the performance of each banking business to find out any flaw. Regulatory authority should have to sense any upcoming difficulties regarding the performance of all banks. For this purpose, regulatory authority asked for specific statements highlighting the performance of financial operation on which the evaluation of performance is done. Regulatory required statements supplies most of the information reflecting the performance. Despite, onsite inspection is also required to find out the accuracy and to judge qualitative performance of the banking company. Bank's soundness and performance can be summarized by the CAMELS ratios.

1.2 Statement of the Problem

A single bank is highly connected with other banks for payment system and other functions of bank. The failure of a single bank not only affects its shareholders and depositors rather it affects rest other banks and even all rest other business. The failure of a single bank creates an economic turmoil situation and is regarded as a disaster for the economy. The recent global recession is also an example of economic disaster that occurred for the failure of banking business. So, the government of any country must have a high concern about the performance of all banks. To supervise and regulate the performance of banking business, there is a supervisory authority called central bank in each country. The supervisory authority creates smooth and efficient atmosphere for fund flow and payment system. Supervisory

authority measures the performance and assess the strength and weakness of banks and takes necessary actions.

The banking sector of Bangladesh compared to its economic size is moderately bigger than many other economies of equal level of development and per capita income. There are forty-seven commercial banks operating in this small economy. Although over the last thirty years, the country achieved noticeable success regarding the access to banking services, in 1972 population per branch was 57,700 and in the year of 2010, it was 20,162 per branch. The statistics indicates that getting banking services is not a significant problem for the country. Being the central bank of the country, Bangladesh Bank is responsible to regulate, monitor and supervise all the banks operating in the country. Bangladesh Bank perform both onsite and offsite supervision of banking operation. For offsite supervision, Bangladesh Bank has to rely on various financial statements and other documents as specified by Bangladesh Bank sent by all the scheduled banks. Bangladesh Bank measures the performance of all individual banks usually based on CAMELS ratio.

CAMELS ratios mainly indicate the adequacy of the risk based capital, credit growth, credit concentration, single borrower exposure, non-performing loan position, liquidity gap analysis, liquidity ratio, inter-bank dependency, return on assets (ROA), return on equity (ROE), net interest margin (NIM), foreign exchange exposure, market risk and management questionnaire, etc. But, no detailed study has yet been done for the ordinary people, students, researcher to confer the overall knowledge of CAMELS rating systems in the context of Bangladesh. This study unveils all the ratios needed to determine the CAMELS rating of a bank in Bangladesh and shows the calculation procedures of CAMELS rating system in a complete format.

Banking sector in Bangladesh is divided into four categories that are State-owned Commercial Banks (SCBs), Specialized banks/Development Financial Institutions (DFIs), Private Commercial Banks (PCBs) and Foreign Commercial Banks (FCBs). It is essential to know which type of banks performance is appreciable and where the supervisory authority should pay greater concern to create a congenial banking environment. In this study, the analysis of category wise bank performance is also done on the basis of some selected CAMELS ratio. An effort has been given to compare the performance of the above mentioned category banks.

Banking sector of Bangladesh is needed to compare with some developed and emerging country to analyze the performance of banking sector in Bangladesh. In this study, banking sector of Bangladesh will be compared with some developed and emerging economy.

How the fluctuation of different ratios affects the net interest income of banks will also be analyzed in this study.

It is also important to know how different ratio affects GDP of the country.

1.3 Rationale of the Study

Bangladesh Bank (BB), as central bank, has the statutory task of regulating and supervising the banking system of Bangladesh. To play this vital role, BB assesses the overall performance of the banking system to find out strength and weakness as a whole, as

well as the safety and soundness of each individual banking company. Bangladesh bank conducts its offsite supervisory function mainly based on CAMELS rating. Presently Risk Based Supervisory activities are also executed from the end of the Central Bank with a view to helping the banks so that they might keep pace with the modern, diversified, most complicated, vulnerable, and most competitive banking environment. Notable, the Risk Based Ratings derived from risk based supervisory activities and inspections are reflected in the Management Component of CAMELS rating in order to focus on Management Efficiency in managing multiple issues of the banking business.

CAMELS ratios are used as a supervisory tools to find out the overall position of an individual bank so that Bangladesh Bank can take necessary actions where it is necessary. The study will present all the related issues with CAMELS. All the ratios will be summarized so that anyone can have the clear concept about each component of CAMELS. Since CAMELS rating result is kept confidential, stakeholders of a bank are not aware about the actual performance of a banking company. So, a detailed discussion of CAMELS rating system is required for the mass people.

Moreover, all the scheduled banks operating in Bangladesh are categorized into four types. The performance of each type needs to be analyzed to focus the strengths and weaknesses which are to be done in this study. It will help the regulatory authority, stakeholders and mass people to think and to concentrate about the required strategy to safe guard their interest.

Banking sector contributes greatly in the economic development of a country. So, it is also important to know how different ratios of all banks affect GDP.

1.4 Objectives

The study will help to show how CAMELS rating is applied by Bangladesh Bank to assess the performance of an individual bank in a complete format. Specific objectives of the study are:

- To study the category wise performance of all scheduled banks operating in Bangladesh on the basis of selected CAMELS ratio.
- To compare the performance of Banking sector in Bangladesh with some selected developed and emerging countries on the basis of selected CAMELS ratio.
- To analyze how the fluctuation of different ratios affects the net interest income of banks.
- To analysis the co-relation between different ratios with financial intermediaries contribution in GDP.

1.5 Methodology

Secondary time series data is used in this study to analyze the trend of performance by banking sector in Bangladesh. A statistical technique 'Correlation' is used to find out the impact of different ratios on GDP contribution by financial intermediaries. Sources of data are Bangladesh bank, Bangladesh Bureau of Statistics, Central Bank of Different countries, World Bank etc. Another important source of data is through the reference to the library and analysis of different previous studies, articles, paper etc.

1.6 Limitations of the Study

The study of this kind is generally encountered with some limitations. Unavailability of data is a major problem. Data accuracy can not be ensured as mainly secondary data collected from Annual Report, Various Financial Stability reports, Economic trends is used in this study. However, repeated and sincere efforts have been given to ensure the accuracy of the data used in this study.

CHAPTER-TWO LITERATURE REVIEW

2.1 CAMELS rating system

There is no uniform or recognized definition of CAMELS Rating. But it might be stated in the following manner in general sense:

- CAMELS is a technique to assess the financial soundness and operating performance of the banks;
- It provides meaningful and concise information about the condition of banks;
- This system serves as a supervisory tool to help identify those banks that are having problems and require close supervision;
- A tool to categorize the banks on the basis of their financial health as
 - Sound Bank (Rating 1 or 2),
 - Early Warning Bank (Rating 3 or 4),
 - Problem Bank (Rating 5).

It is basically a very effective tool of supervisory system of Central bank.

Components of CAMELS Rating:

Components of CAMELS rating are-

- C – Capital Adequacy
- A – Asset Quality
- M – Management (Efficiency)
- E – Earning (Capacity)
- L – Liquidity (Management)
- S – Sensitivity to Market Risks

2.2 Evolution of CAMELS Rating

Evolution of CAMELS rating is summarized in two parts:

2.2.1 Worldwide CAMELS Rating Evolution

Federal Reserve System of United States implemented The Uniform Financial Institutions Rating System (UFIRS) in 1979 in the US banking institutions. UFIRS was recommended worldwide later on. UFIRS was known internationally as CAMELS rating system globally.

According to Deyoung et al, "The CAMELS focuses on the evaluation of performance of the financial institutions by examining its balance sheet, as well as, profit and loss statement on the basis of each components, thus observing the institution's dynamic aspect" [Deyoung et al, 2001]. Doumpou & Zopounidis said that " In the new globalize financial system, as with all new financial markets and products, the banks' economic situation can rapidly change than in the past. As a result of the new situation, supervisory authorities were led towards changing their way of approach and assessment, paying more emphasis on ways to overcome and manage risks" [Doumpou & Zopounidis, 2009]. As a result of this new situation that was created through the development of the financial system,

a further area of assessment was added, that of the initial S, indicating market risk. This took place in 1995 by the US Federal Reserve (Fed) and the Comptroller of the Currency (Hafer, 2005), who replaced CAMEL with CAMELS and added a management assessment system scale from 1 (optimum) to 5 (worse) for risk management.

2.2.2 CAMELS Rating Evolution in Bangladesh

Like other developed countries, BB introduced CAMEL Rating System in 1993 as an integral part of Offsite Supervision System. In the light of BBSMS (Bangladesh Bank Supervisory Monitoring System) Report, Mr. James G. Piscos, Bank Supervision Advisor of the FSRP (Financial Sector Reform Program), prepared the "Manual for Ratio Analysis and CAMEL Rating System" to determine CAMEL Rating of banks and to prepare analytical Offsite Supervision Report (an analytical report prepared on the basis of findings under CAMEL/CAMELS Rating System)

Initially offsite supervision report was prepared on half-yearly basis for all banks. Subsequently in 1999, Board of Directors of BB advised to prepare the reports of State-owned Commercial Banks (SCBs) on quarterly basis. Due to the emergence of banking sector and changes in the economic scenario, BB Management updated the previously practiced CAMEL based Supervision System to "Guidelines for Determination of CAMELS Rating for the Banking Companies" which was developed by supervision consultant Ms. F. P. Santos employed under the Central Bank Strengthening Project Cell (CBSP).

The new system was approved by the Governor on 26.01.2006. The revised rating system was first exercised on June '06 to evaluate the performance of banks as of 30/06/2006.

In the new system, Sensitivity to Market Risks has been added to the previously practiced system to observe how the banks manage the market risks such as interest rate risk, foreign exchange risk, commodity prices, equity prices etc. Because, these market risks can cause loss for the banks if they are not managed/mitigated properly. Moreover, evaluation system of other components has also been revised with a great extent of change. However, a sincere effort has been made to cover all these issues in the report.

2.3 Comparison between CAMEL & CAMELS Rating System

An additional component i.e. "S or Sensitivity to Market Risk" has been incorporated in the previously practiced CAMEL Rating System. Moreover, evaluation system of the rest five components (C, A, M, E & L) have also been redefined. Risk Based Rating that is Core Risks Ratings have been specially emphasized. However, a comparative position of CAMEL and CAMELS rating system is summarized below from the view point of practitioners (See Table-2.1):

Table-2.1: Difference between CAMEL and CAMELS.

SI #	CAMELS	CAMEL
01.	Market Risks like Interest Rate Risks, FEX. Risk, Equity Prices, Commodity Prices are considered.	Market risks were considered in the evaluation process.
02.	Implementation of Core Risks Management Guidelines and Core Risks Rating are specially weighted.	There was no scope to take into consideration of the issues relating to core Risks.
03.	Provision to use Questionnaire for observing different issues, not covered by the ratios, especially management issues through on-site inspection.	No scope to use questionnaire.
04.	More Objective.	More Subjective.
05.	Use of more number of ratios to measure different aspects.	Relatively lesser number of ratios was used.
06.	Consideration of prescribed level of weight for both ratio results and questionnaire.	There was no system to consider weight.
07.	Special emphasis on Gap analysis/Maturity mismatch.	No scope of considering Gap Analysis.
08.	Loan exposure to a single sub-sector as well as prescribed limit of loan exposure favoring a single borrower is also taken into accounts.	No scope of considering loan exposure to a single sub-sector and a single borrower.

2.4 Predictability of CAMELS rating System

CAMELS Rating System is a very fruitful and widely used supervisory technique for the Central Bank not only in Bangladesh but also all over the world. With the help of this technique, it is possible to go for through diagnosis of financial health and soundness of banks, their problems, weaknesses etc. It is also possible to advise the banks to take steps to overcome the problems/weaknesses detected, to take the desired extent of supervisory concern from the end of Central Bank to mitigate/reduce the same.

Hirtle and Lopez (1999) studied the predictability of past CAMEL ratings in examining financial institutions' current performance. They find the usefulness of CAMEL rating as measure of summarizing the banks soundness [Hirtle and Lopez 1999].

Recently, the case of Lehman Brothers is being examined by analyzing its financial particulars of the last five years (2003-2007) using the CAMELS ratios. Lehman Brothers is the largest investment bank in USA and is declared as bankrupt forever during the recent economic recession. The impact of its bankruptcy is huge on the world economy. Research results from the case study showed that "its credits were found as bad and doubtful while its management appeared to be unwilling and unable to reverse its declining course. Also, the management was not complying with the rules based on CAMELS ratio set by the supervisory authorities and the risk management procedures of Lehman and Brothers is

regarded as unsatisfactory proportionally to its size. Finally, the bank also seems to be in danger against risks or unstable conditions" [A.G. Christopoulos, February, 2011].

So, it has been proved that the predictability of CAMELS rating is still beyond question. The Supervisory / regulatory authority should give due importance while rating the banks and financial institutions. At the same time, the Supervisory / regulatory authority has to be more prudent in making bound the banks and financial institutions to follow the rules and regulations set by the CAMELS rating prediction.

CHAPTER-THREE

COMPONENTS DETAILS OF CAMELS RATING SYSTEM AND CALCULATION PROCEDUTRE

3.1 Technique of Assigning Ratings:

Under the CAMELS rating system, banking companies should be assigned two sets of ratings:

Performance ratings: The performance ratings comprise six (6) individual ratings that address each of the CAMELS components; and

An overall composite rating: It is a single rating that is based on a comprehensive assessment of the overall condition of the banking company.

Both the ratings are expressed by using a numerical scale of “1” to “5” in ascending order of supervisory concern. That is, “1” represents the best rating, while “5” indicates the worst rating.

3.2 Performance Rating:

The six aspects of CAMELS performance encompass: Capital Adequacy, Asset Quality, Management, Earnings, Liquidity and Sensitivity to market risk. Each of these component areas is to be evaluated on a numerical scale of “1” to “5.” A "1" indicates the highest rating, the strongest performance, best risk management practices and least supervisory concern. A "5" is the lowest rating, indicating the weakest performance, inadequate risk management practices, and the highest degree of supervisory concern.

The following is a description of the gradations being utilized in assigning performance ratings for the six components (See Table-3.1).

Table 3.1: Interpretation of Different Ratings.

Rating “1”	Indicates strong performance.
Rating “2”	Indicates above average performance which means sound and relatively safe operations.
Rating “3”	Indicates performance that is flawed to some degree.
Rating “4”	Indicates unsatisfactory performance. If left unchecked, such performance could threaten the solvency of the banking company.
Rating “5”	Indicates very unsatisfactory performance, in need of immediate remedial attention for the sake of the banking company’s survival.

[Y. Trautmann, 2006]

3.3 Components of CAMELS Rating System

Capital Adequacy:

Capital adequacy enables a bank to meet any financial unfavorable situation due to credit risk, market risk, interest rate risk, FX risk. Capital adequacy protect the interest of

depositors of a bank. Capital adequacy is determined with on the basis of some ratios. Among these ratios, Capital to Risk Weighted Assets (CRAR) is most important. In this ratio, capital is determined against total risk weighted assets.

A banking company is expected to maintain capital commensurate with the nature and extent of risks to the institution. Capital adequacy also focuses the ability of management to follow the Core Risk Management Guidelines and other Bangladesh Bank regulations and legislation. The effect of credit, market and other risks on the banking company's financial condition is considered when evaluating the adequacy of capital. The types and quantity of risk inherent in an institution's activities will determine the extent to which it may be necessary to maintain capital at levels above required regulatory minimums in order to properly reflect the possible adverse consequences that these risks may have on the banking company's capital.

Asset Quality:

The main source of risk of any bank's operation is derived from its quality of assets in which main portion consists of loans and advances. The present and prospective credit risk is associated with the loans and advances. Other source of credit risk is off balance sheet exposure. As per Bangladesh Bank's Credit Risk Grading Manual (CRGM), as well as the regulations relevant to credit quality, the evaluation of asset quality is done by taking into account of the adequacy of general and specific provisioning for loan losses and then the exposure to counterparty, issuer, or borrower default is weighted under actual or implied contractual agreements. Here, NPL to total loan ratio gets the highest weights.

Management Soundness

The ability of management is reflected by the management soundness. The competence of management and personnel, policies and procedures, internal control system all are judged by applying different ratios to determine the management soundness. Other financial service activities of banks are also reflected in determination of management soundness.

Earnings

In banking operation, the sustainability and quality of earnings is more important than quantity of earnings. Inappropriate credit risk management adversely affects both quality and quantity of earnings. If a bank can achieve strong quality and quantity of earnings, then it will be able to pay a sustainable return to its shareholders. The capability to absorb any unexpected shock arising from different risks will also be increased for strong earnings and profitability of a bank. In CAMELS, the earnings and profitability is determined by using different ratios. Among these ratios, ROA, ROE and interest margin are important.

Liquidity

Liquidity solvency is one of the most important criteria for sound banking operation. If any bank faces liquidity crisis, there is a probable chance of bank run. So, in banking business, a certain portion of time and demand deposits has to be maintained as liquid assets. Liquidity ratio i.e. liquidity to total deposits is an important measures to determine liquidity of a bank.

Sensitivity to Market Risk

Changes in interest rate, commodity prices, FX rates and equity prices affect bank's earning capability. So, sensitivity to market risk measures how adversely the bank is affected due to these changes. Non-trading, foreign exchange operation and trading activities are the main source of market risk.

3.4 Overall Composite Rating

In assigning a composite rating for a banking company, consideration is given to the individual component ratings of the CAMELS. These components can be weighted and summed in order to quantify a composite rating. However, a composite estimate will probably need modification as a result of considering qualitative factors that may strongly influence the Inspectors' judgment.

Composite ratings may be distinguished as follows:

- ⇒ Composite 1 (Strong) – Banking companies in this group are basically sound in every respect. Any deficiencies are minor and can be handled in a routine manner by the banking company. Such a banking company is resistant to outside economic and financial disturbances and, as a result, gives no cause for supervisory concern.
- ⇒ Composite 2 (Satisfactory) – Rating '2' indicates bank is sound but may demonstrate modest weaknesses that are easily correctable. To the extent that remedial modifications could be handled in the normal course of the banking company's business, supervisory concern would be minor.
- ⇒ Composite 3 (Fair) – Rating '3' describe Banking companies' weaknesses from moderate to unsatisfactory in financial, operational and compliance. The rating '3' also indicates the vulnerability to adverse business environment and the possibility to deteriorate the condition. Banking companies that exhibit significant instances of non-compliance with legislation and regulations may also fall in this rating. Consequently, these banking companies give cause for supervisory concern. Here, more than normal supervision is required to tackle deficiencies. The overall strength and financial capacity of these institutions, however, are still such as to make failure only a remote possibility.
- ⇒ Composite 4 (Marginal) – Banking companies in this group have a number of serious financial weaknesses. Unless effective action is taken to correct these conditions, they could easily escalate into a situation that could impair future solvency. Banking companies in this category require close supervisory attention and a definitive plan for corrective action.

⇒ Composite 5 (Unsatisfactory) - This category is reserved for those banking companies in need of assistance or even takeover by BB. The volume and severity of the unsafe and unsound conditions are such as to require a major recapitalization effort. These situations would likely require BB financial support or takeover.

3.5 Calculation Procedure of Different Components

In calculation of different component ratings of CAMELS, a good number of ratios, questionnaire rating assigned through on-site inspection to the respective banks, Core Risks Rating are mainly considered. Moreover, qualitative judgment of the Analyst might be applied for this purpose, if deemed necessary. However, the calculation process of rating of six components presented in accordance with the concerned officer of Bangladesh Bank that is stated in below:

3.5.1 Capital Adequacy

Presently, a banking company is to maintain 10% of Risk Weighted Assets (RWA) or Tk. 200.00 crore whichever is higher as its minimum required capital. The banks have already been advised by the Central Bank to increase their capital up to Tk. 400.00 with a minimum Paid up capital of Tk. 200.00 crore which is to be achieved within 2011.

Table 3.2: Calculation procedure of Different Ratio in Capital Adequacy.

Ratios	Level (%)	Rating	Weight	Weighted Rating
1	2	3	4	5=3x4
CAPITAL ADEQUACY:				
Risk based Capital Ratio (Total Capital/RWA)			0.20	
Ratio of Tier 1 Capital / Risk weighted Assets			0.20	
Classified Loans / Total loans			0.10	
Total loans to a single subsector / Total loans			0.10	
Total loans to a single subsector / Total Capital			0.10	
Fund based loan to single borrower / Total Capital			0.05	
Non-fund based loan single borrower/Total Capital			0.05	
Actual Provision / Required Provision			0.10	
Net Income before Tax / Equity Capital			0.05	
Net Income after Tax / Equity Capital			0.05	
Total weighted Rating			1.00	XXXX

Source: BB Manual for Ratio Analysis and CAMEL Rating System (2006).

From the above table, total of weighted rating will be derived for the ratios which are considered under the component of Capital Adequacy.

Questionnaire Rating

A set of questionnaire has been developed for each component except Asset Quality. Questionnaire portion for Capital Adequacy mainly reflects whether the bank has any capital plan for increasing the capital base to keep pace with additional requirement over time and instructions from the Central Bank, whether the existing capital is sufficient for absorbing unanticipated loss, whether dividend paid is excessive relative to the volume of capital, whether Non-Performing Loans (NPL) is in the satisfactory level, whether loan loss provision is sufficient, Whether securities taken against loans have been properly appraised and inspected etc. are observed here. These things are tried to examine in the on-site inspection and on the basis of findings questions are marked with “X” or “Non-X”. Rating is derived on the basis of number of “Non-X” answers. Notable here, “X” represents the most favorable/desirable situations for the banks.

Table-3.3: Rating of the component of Capital Adequacy.

Weighted Rating (found from the previous Table)	Weight (2nd Phase weight)	Weighted Rating
Total Weighted Rating	70%	XXX
Questionnaire Rating	30%	XXX
Sum of Weighted Rating		XXXX

Sum of the weighted rating as calculated above will be the Rating of Capital Adequacy. If it is a fractional figure, then it will have to be rounded off.

3.5.2 Asset Quality

Asset quality mainly reflects the quality of the assets that the bank has created with taking deposits from general people i.e. percentage of NPL, Loan loss Provision, sectoral concentration of loans, Equity financing etc are observed here.

Table 3.4: Calculation procedure of Different Ratio in Assets Quality.

Ratios	Level (%)	Rating	Weight	Weighted Rating
1	2	3	4	5=3x4
Classified Loans / Total loans			0.40	
Classified loans to total loans / Industry avg. of classified loans to total loans			0.10	
Actual Provision / Required Provision			0.20	
Total loans to a single sub-sector / Total Capital			0.10	
Fund based loan to single borrower / Total Capital			0.05	
Non-fund based loan to single borrower / Total Capital			0.05	
Banking company's investment in shares and securities of a company / Paid up Capital of the Invested Company			0.05	
Banking company's investment in shares and securities of a company / Total Capital of the Invested Company			0.05	
Total weighted Rating			1.00	XXXX

Source: BB Manual for Ratio Analysis and CAMEL Rating System (2006).

There is no questionnaire here. So the sum of weighted rating is weighted with 100% to get the rating of Asset quality. If it is a fractional figure, then it will have to be rounded off.

3.5.3 Management

Management rating is derived from three sources which are Core Risks Rating, Average rating of five other components and questionnaire rating.

Table-3.5: Rating of the component of Capital Adequacy.

Items	Rating	Weight	Weighted Rating
Core Risks Rating		0.60	
Average of C, A, E, L & S		0.20	
Questionnaire Rating		0.20	
Sum of Weighted Rating			XXXX

Sum of the weighted rating, as calculated in the above table, will be the rating Management. If it is a fractional figure, then it will have to be rounded off.

Weight on six Core Risks Ratings has been assigned in the following manner (See Table 3.6)

Table-3.6: Weight on Core Risks Ratings.

S1 #	Segment of Core Risks	Percentage of weight
01.	Credit Risk Management (CRM)	0.16
02.	Asset Liability Management (ALM)	0.12
03.	Internal Control & Compliance (ICC)	0.12
04.	Foreign Exchange Risk Management (FEX. Mgt.)	0.08
05.	Anti-Money Laundering (AML)	0.06
06.	Information & Communication Technology (ICT)	0.06
Total		0.60

Source: BB Manual for Ratio Analysis and CAMEL Rating System (2006).

Questionnaire Rating

Questionnaire under Management reflects qualification and experience of the members of Board of Directors (BOD), relation between top management & Board, safety & soundness of policy specially lending policy, reviewing policies by the Board keeping the changing conditions in mind, succession plan, regularise the irregularities found in the inspection of BB and chartered Accountants of Audit firms, harmony between top management & employees, community/social activities that the bank is doing, drives & recovery of classified and written off loans etc. are considered for questionnaire rating.

3.5.4 Earnings

Under this component, Return on Assets (ROA), Return on Equity (ROE), Net Interest Margin (NIM), Net Operating Margin (NOM) along with some other ratios are observed.

Table 3.7: Calculation procedure of Different Ratio in Earnings.

Ratios	Level (%)	Rating	Weight	Weighted Rating
1	2	3	4	5=3x4
Net Income after tax / Total Assets (ROA)			0.20	
Net Income after tax / Equity Capital (ROE)			0.10	
Net Spread : Interest earned/Interest earning assets - Interest paid/Interest bearing liabilities			0.10	
Net Interest Margin : Interest Income-Interest Expense/ Gross Earning assets (NIM)			0.05	
Net Operating Margin : Interest Income+ Fee Income/ Total Assets - Interest Expenses/ All Funding Liabilities			0.05	
Total operating income /Total Assets			0.05	
Total operating expenses /Total Assets			0.05	
Net operating Income/ Total Assets			0.05	
Total operating expenses/Total operating income			0.05	
Interest on deposit / Total Expenses			0.05	
Interest on borrowings / Total expenses			0.05	
Total interest expense/Total operating income			0.05	
Interest income on loan / Total income			0.05	
Staff expenses / Interest + Operating Expenses			0.05	
Staff expenses / Total Operating income			0.05	
Total weighted Rating			1.00	

Source: BB Manual for Ratio Analysis and CAMEL Rating System (2006).

Questionnaire Rating

Questionnaire for Earnings mainly reflects whether the bank's ROE is greater than that of industry average, whether the rate of return on loans & advances is greater than that of industry average, whether profit is adequate to absorb anticipated loss & contingencies, consistent growth of profit over time, whether large amount of free reserve is held unnecessarily, whether sufficient percentage of profit is retained to improve core capital of

the bank, whether loans & investment has been made to generate satisfactory level of return with taking minimum risks, whether provision for loan loss has been allocated properly so that net income can not be over estimated etc. are observed here.

Table-3.8: Rating of the component of Earnings.

Weighted Rating (found from the previous Table)	Weight (2nd Phase weight)	Weighted Rating
Total Weighted Rating	70%	XXX
Questionnaire Rating	30%	XXX
Sum of Weighted Rating		XXXX

Sum of the weighted rating as calculated above will be the Rating of Earnings. If it is a fractional figure, then it will have to be rounded off.

3.5.5 Liquidity

The component of Liquidity represents the liquidity ratio a bank has maintained against requirement of SLR- 18% (Presently in force), size of Liquidity Gap or Maturity Mismatch, Size of Gap relative to the bank's core capital or SLR, whether the bank is Net Lender (NL) or Net Borrower (NB) etc.

Calculation procedure:

It may be mentioned here that the ratios considered under Liquidity are not weighted in the first phase. Consequently, arithmetic average of rating is calculated for determining the final rating of Liquidity as shown below:

Table-3.9: Rating of the component of Earnings.

Ratios	Level (%)	Rating
Liquidity Ratio		
First quarter gap / SLR required		
Second quarter cumulative gap / SLR required		
First qtr cumulative gap / Core Capital		
Second qtr cumulative gap / Core Capital		
Inter bank call loan status during the period under review	NL/NB	
Sum of Rating		xxx
Arithmetic Average of Rating		Sum of Rating / 6

Source: BB Manual for Ratio Analysis and CAMEL Rating System (2006).

Questionnaire Rating

Questionnaire of this component mainly reflects whether the bank has sufficient liquid assets to meet normal deposit withdrawal and credit needs as well as unusual & large

amount withdrawal, whether the deposit shows a positive trend, whether the bank has sizeable unutilized potential reserves, whether the bank has experienced liquidity pressure or crisis, whether the bank has adequate foreign currency relative to its foreign exchange commitments etc. are observed here.

Table-3.10: Rating of the component of Liquidity.

Weighted Rating (found from the previous Table)	Weight	Weighted Rating
Arithmetic Average of Rating	75%	XXX
Questionnaire Rating	25%	XXX
Sum of Weighted Rating		XXXX

Sum of the weighted rating as calculated above will be the Rating of Liquidity. If it is a fractional figure, then it will have to be rounded off.

3.5.6 Sensitivity to Market Risks

Under this component, it is observed that how the bank is responding to different market risks i.e. how it is managing/mitigating the market risks, how the bank is reducing the possible negative impact that may arise from market risks. The market risks which are considered here are-

- Interest Rate Risks
- Foreign Exchange Risk
- Commodity prices
- Equity prices, etc.

Calculation procedure

The ratios considered under Sensitivity to Market Risks are not also weighted in the first phase. Consequently, arithmetic average of rating is also calculated for determining the final rating of this component as shown below:

Table-3.11: Rating of Different Ratio of Sensitivity.

Ratios	Level (%)	Rating
First quarter gap x IRC* / Avg. qtrly earnings		
Second quarter gap x IRC / Avg. qtrly earnings		
Net foreign exchange position / Core capital		
Sum of Rating		xxx
Arithmetic Average of Rating		Sum of Rating / 3

* IRC: Interest Rate Change.

Questionnaire Rating

Questionnaire of these component basically reflects whether the bank measure size of the impact on earnings when it revises interest rate with a view to making adjustment with that of markets, impact on earnings (due to interest rate change) relative to quarterly earnings, through which currency most foreign exchange transactions are executed, Size of Gap specially of first quarter gap etc. are observed here.

Table-3.12: Rating of the component of Sensitivity to Market Risks:

Weighted Rating (found from the above Table)	Weight	Weighted Rating
Arithmetic Average of Rating	70%	XXX
Questionnaire Rating	30%	XXX
Sum of Weighted Rating		XXXX

Sum of the weighted rating as calculated above will be the Rating of Liquidity. If it is a fractional figure, then it will have to be rounded off.

3.6 Calculation Procedure of Composite Rating

After having calculated all the components ratings, composite rating is determined with a view to signifying the overall condition, financial soundness, degree of weakness, supervisory concern from the end of central bank etc. In case of Calculating Composite rating, components ratings are weighted in the following way:

Table-3.13: Calculation Procedure of Composite Rating.

Component	Rating	Weight	Weighted Rating
Capital Adequacy		0.20	
Asset Quality		0.20	
Management		0.25	
Earnings		0.15	
Liquidity		0.10	
Sensitivity to Market Risks		0.10	
Sum of Weighted Rating			XXXX

Source: BB Manual for Ratio Analysis and CAMEL Rating System (2006).

Sum of the weighted rating as calculated above will be the Composite Rating. If it is a fractional figure, then it will have to be rounded off.

3.7 Limitations of CAMELS Rating System

Though CAMELS rating is a very effective and widely used supervisory tool and the system has recently been upgraded by a supervision consultant of World Bank, this system has some limitations which are viewed, generally, from the end of Central Bank. The limitations often faced while determining the CAMELS rating of banks are:

- Complete reliance on data supplied by the banks.
- If data are furnished or inconsistent or seems inaccurate, scope to verify the same is limited.
- Somewhat inconsistencies in the ranges (which are used for assigning rating from 1 to 5) used for ratios.
- Unavoidable delay in determining CAMELS rating due not having core risks rating and other necessary information in time.

CHAPTER-FOUR BANKING SECTOR IN BANGLADESH

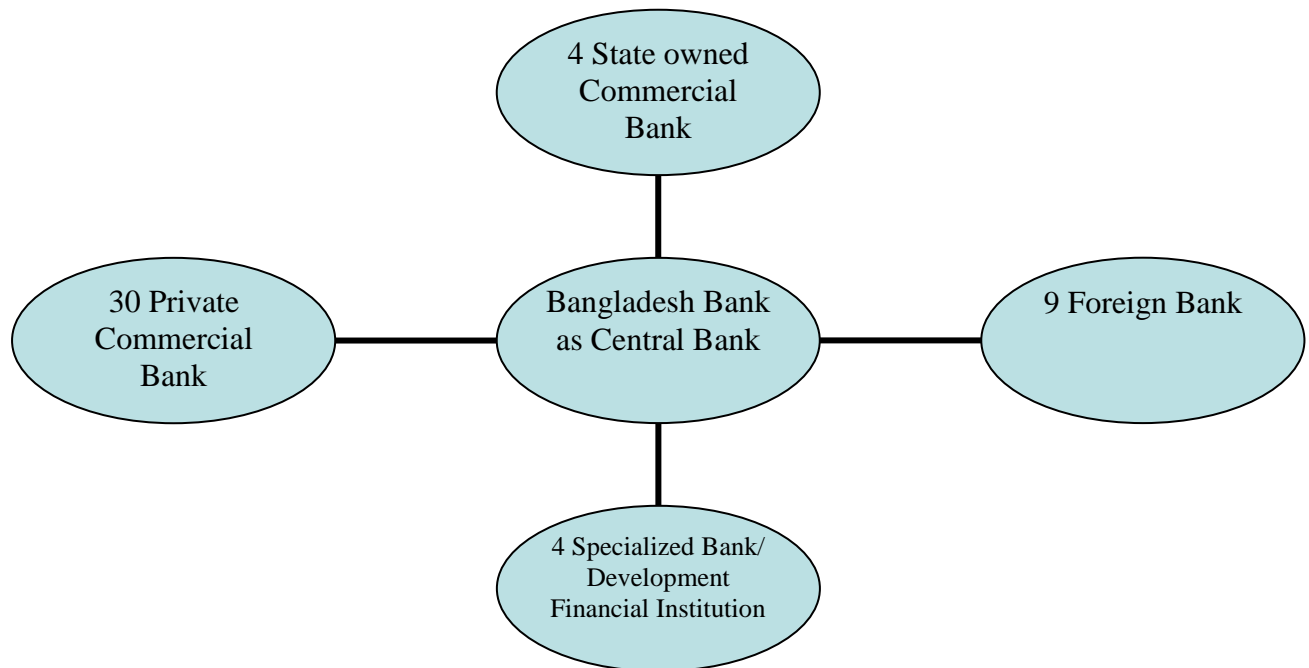
4.1 Financial System in Bangladesh

Financial System is the set of well organized institutional set up which helps to transfer excess funds from surplus unit to deficit unit. The financial system in Bangladesh includes Bangladesh Bank (the Central Bank), scheduled banks, non-bank financial institutions like leasing etc, Microfinance institutions (MFIs), insurance companies, co-operative banks, credit rating agencies and stock exchange. Banking sector occupies the lion portion share of financial system in Bangladesh. Bangladesh bank is authorized for regulating and supervising financial institutions in Bangladesh.

4.2 Banking sector in Bangladesh

Despite in recent years, many non-bank financial institution has been established, still the financial system of Bangladesh is mainly banking sector based. Banking sector consists of Bangladesh Bank as the central bank, four state-owned commercial banks, four specialized bank/development financial institutions, thirty private commercial banks and nine foreign commercial banks.

Figure-4.1: Banking sector in Bangladesh.



4.3.1 Bangladesh Bank

Bangladesh Bank, the central bank and main regulatory body for the country's financial system and monetary system, was established in Dhaka as an independent organization according to the Bangladesh Bank Order, 1972 (P.O. No. 127 of 1972) with was effective from 16th December, 1971 [Bangladesh Bank website]. Now, it has nine offices located at different division of the country among which two in Capital city namely Motijheel

and Sadarghat, two in Rajshahi division namely Bogra and Rajshahi and one is each of the rest five division namely Chittagong, Khulna, Sylhet, Barisal and Rangpur; total manpower stood at 5071 (officials 3914, subordinate staff 1157) as of end FY 2010.

4.3.2 Functions of Bangladesh Bank

Bangladesh Bank basically responsible for all the core functions that are done by all the monetary and financial sector regulators. Besides the core functions, Bangladesh Bank is also responsible for some other supporting functions. The functions of Bangladesh Bank are cited in below:

- To formulate and implement monetary and credit policies.
- To regulate and supervise and monitor financial intermediaries like banks and non-bank financial institutions.
- Currency issuance and circulation across the country.
- Payment system management.
- Holder and manager of FX reserve of the country.
- Bankers to the Government.
- To prevent money laundering.
- To implement Foreign exchange regulation Act.
- Preserve all credit information.

Besides this function, Bangladesh Bank also responsible for asset classification, loan concentration, setting up single borrower exposure limit, Licensing to the new bank and branch, impose penalty for non-compliances, intervention in the management for assistance if any bank face difficulties, prepare guidelines and issuance directives regarding banking operation, guidelines for core risk management, publication of different economic review etc.

Bangladesh bank monitors the performance of all schedule banks operating in the country through CAMELS rating system. The ratio used in CAMELS rating system reflects the performance. Based on this CAMELS rating performance analysis, Bangladesh Bank undertakes necessary initiatives. For this purpose, Bangladesh Bank depends mostly on historic data. Bangladesh Bank also introduced the risk based inspection system for the supervision of schedule banks. In a report of IMF 2010, it is stated that the supervision of commercial banks is still compliance based to see whether policy and procedures are followed for which it has to primarily rely on checklist and it lacks proper forward-looking qualitative judgment [IMF,2010].

4.4 History of scheduled/commercial Bank

4.4.1 State-owned commercial Bank

Bangladesh becomes independent after long nine months war. Before the liberation, most of the banking company were owned by the then west Pakistanis. So, the then Government of Bangladesh nationalised all the banks operating in Bangladesh except foreign Banks(Incorporated in abroad). All these banks were grouped into commercial banks through merger process. Among the six commercial banks, two banks namely Pubali bank and uttara bank were shifted to private sector in January, 1985 and another bank Rupali bank was incorporated as public limited company with effect from December, 1986. The rest three banks namely Sonali bank, Agrani bank and Janata bank were also transferred as public limited company in 2007. So, now there are four state owned commercial bank operating in Bangladesh.

In a report of IMF, it has been stated that the initial focus on state-led banking imitate the Government's lively quest of industrial policies to inspire growth. SCBs were considered as the proper means of generating savings that could be facilitate industrial finance to the sectors of the economy with the best growth prospects. SCBs major drawbacks is the lack of corporate governance and undue political pressure even in loan disbursements without proper analyzing the prospects of the borrower. Despite recently some measures has been undertaken but this legacy is still visible in high NPL ratios and frail solvency. The Government of Bangladesh has indicated its desire to divest of the state owned banks, and took an initiative in late 2008 to make them limited liability companies. The Ministry of Finance, in consultation with the SEC and BB allowed the banks to move their accumulated losses into capital surpluses based on the notion of Goodwill. The accumulated losses were converted in a Goodwill asset that will be amortized out of future profits. This accounting treatment is questionable and concerns remain regarding the true financial condition of these banks [IMF, 2010].

4.4.2 Specialized Bank/Development Financial Institutions (DFIs)

After liberation, two specialized bank operating in Bangladesh were also nationalized and renamed as Bangladesh Krishi Bank and Bangladesh Shilpa Bank. But Bangladesh Krishi bank was divided in 1987 and renamed as Rajshahi Krishi Unnayan Bank (RAKUB) for Razshahi Division to promote agricultural development in that region and Bangladesh Krishi bank for the rest of part of the country. In 1988, another specialized bank name Bank of Small Industries and Commerce Bangladesh Ltd. (BASIC) was established as private bank to promote small and medium entrepreneurship. In 1993, the then Government of Bangladesh took the control of BASIC and was declared it as a specialized bank. Bangladesh Shilpa Bank was merged with Bangladesh Shilpa Rin Sangsta(BSRS) in 2010 and renamed as Bangladesh Development Bank Limited(BDBL).

So, currently there are four specialized banks which are termed as Development Financial Institutions (DFIs) operating in Bangladesh.

4.4.3 Private Commercial Bank

Local private commercial bank started operation in the decades of 1980's. We can categorize local private bank in the following manner:

- First generation bank: Those established in the decades of 1980s.
- Second generation bank: These banks started operation in 1990 to 1995.
- Third generation bank: After 1998, these banks are established.

At present, there are thirty local private commercial banks operating in Bangladesh. PCBs dominate the banking sector of Bangladesh. More than fifty percent of total deposits and assets are covered by the PCBs. The performance of PCBs is much better than SCBs and DFIs in all respects. Client service innovation and banking service automation is one of the major reasons for their domination over the SCBs and PCBs. among the three generation of PCBs, third generation banks are more innovative and provide better client services through automation whereas first generation banks are little bit in backward position though they continuously improving their condition to compete in the market.

Bangladesh's PCBs have quickly occupy market share at the expense of the state-owned commercial banks (SCB) and presently grasp more than 59 percent of total deposits

whereas it is only 28 percent for the SCBs and PCBs assets coverage is 58% whereas it is only 29% in SCBs.

4.4.4 Foreign Commercial Banks (FCBs)

Before liberation, there were few FCBs operating in the country which were incorporated in abroad. Among those foreign banks, Standard chartered Grindlays Bank was merged with Standard Chartered Bank in 2003 and then American Express Bank further merged with Standard Chartered Bank in 2005. Credit Agricole Indosuez bank was renamed as Commercial Bank of Ceylon Ltd. in 2003. Currently, There are nine foreign commercial banks operating in Bangladesh.

Foreign Commercial Banks suffered for lack of wide spread branch network. Their operation is basically limited to capital city and some other municipal city corporation area.

4.5 Scheduled Bank according to the law

According to Bank Company Act, 2007, "All such banks operating in Bangladesh with different paid-up capital and reserves having a minimum of an aggregate value of Tk. 50 lacs and conducting their affairs to the satisfaction of the Bangladesh Bank have been declared as scheduled banks in terms of section 37(2) of Bangladesh Bank Order 1972. In terms of section 13 of Bank

Company Act, 1991, the minimum aggregate value was Tk. 20 crores. From 30th March, 2003, it was tk. 100 crores and from the 8th October 13, 2007, it has been raised at the minimum of Tk. 200 crores" [Bank Company Act, 2007] .

CHAPTER-FIVE RESULT ANALYSIS AND DISCUSSION

5.1 Industry total assets and liabilities:

As we have already mentioned that the banking sector of Bangladesh mainly consists of four categories of scheduled banks i.e. state-owned commercial banks (SCBs), Development finance institutions (DFIs), Private commercial banks (PCBs) and Foreign commercial banks (FCBs). There are 47 banks operating in Bangladesh as of June, 2010. These banks had a total number of 7246 branches. Bank branches rose from 6236 in 2002 to 7246 in June, 2010 owing mainly due to expansion of operation by the PCBs during the years. Structure of the banking sector with breakdown by type of banks is shown in below:

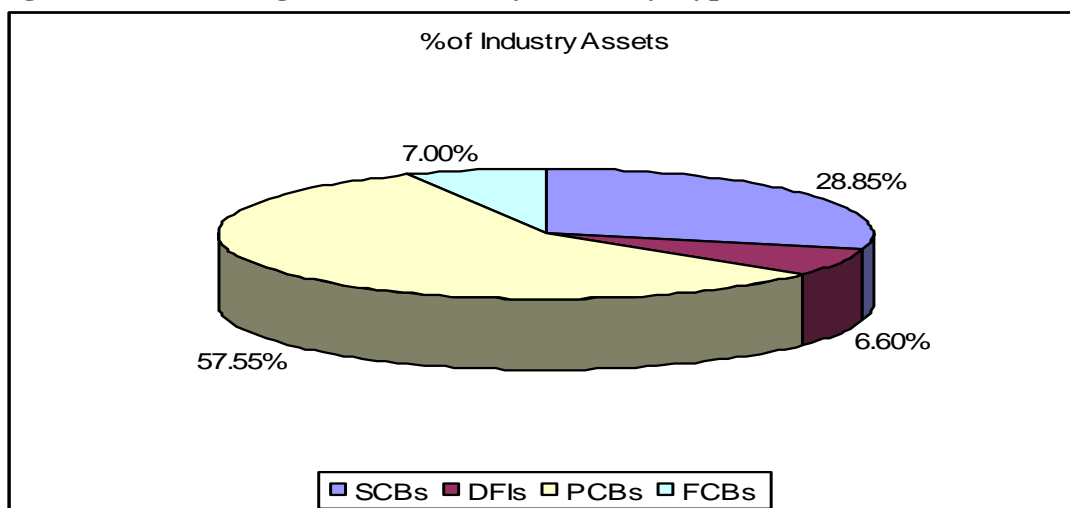
Table:-5.1:Total assets and deposits scenario by types of bank.

Bank types	2010 (June)					
	Number of Banks	Number of branches	Total Assets	% of Industry Assets	Deposits	(billion Taka) % of Deposits
SCBs	4	3394	1272.64	28.85	952.72	28.62
DFIs	4	1366	291.37	6.60	177.90	5.34
PCBs	30	2427	2539.27	57.55	1967.78	59.11
FCBs	9	59	308.70	7.00	230.68	6.93
Total	47	7246	4411.98	100	3329.08	100

Source: Bangladesh Bank (2010).

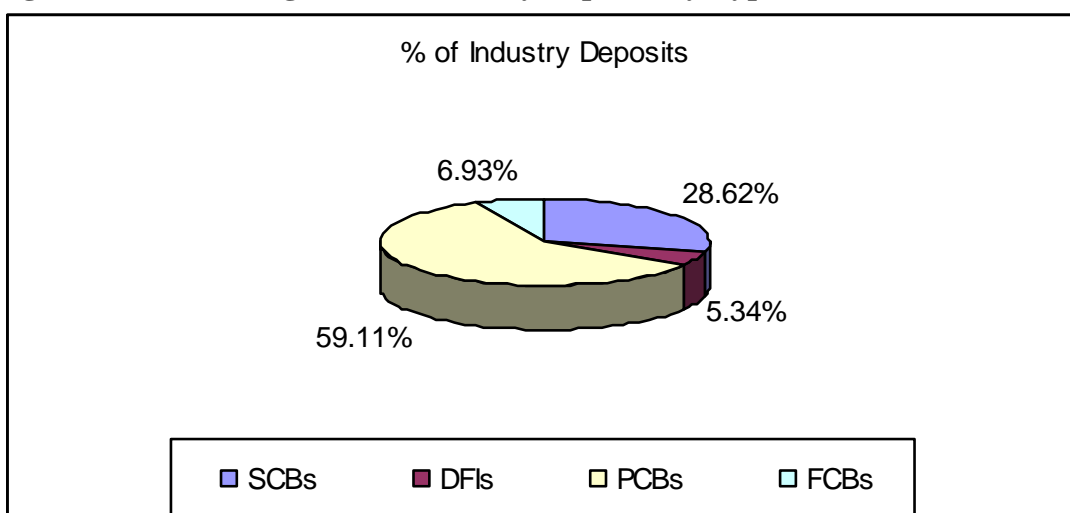
From the above table, it has been seen that 30 PCBs occupy the greater portion of industry assets which count near about 57.55% of the total industry assets. Despite PCBs are in the second position, their aggregate assets count for 28.85% which is equivalent to 1272.64 billion Taka. But significant is that per branch assets in case of PCBs is 1.046 billion taka where as it is only Tk.0.375 billion for per SCBs branch. However, FCBs stay in the pick considering the per branch assets having 5.232 billion Tk. The percentage of aggregate industry assets is shown below:

Figure-5.1: Percentage (%) of Industry Assets by Types of Banks.



Source: Bangladesh Bank (2010)

Figure-5.2: Percentage (%) of Industry Deposits by Types of Banks.



Source: Bangladesh Bank (2010)

On the other hand, the scenario of deposits is also similar to the aggregate assets. Here, we see that PCBs occupy the largest portion of the deposits in the industry. PCBs per branch deposits collection is Tk. 0.818 billion whereas SCBs per branch deposit collection is Tk. 0.281 billion. In respect of deposits collection, DFIs lag far behind comparing to other types of banks. DFIs per branch deposits collection is Tk. 0.130 billion. FCBs occupy the top position regarding per branch deposits collection that counts for Tk. 3.901 billion.

5.2 Performance of the Types of Banks Based on Different Components of CAMELS

CAMELS is used to measure overall performance of the banking system as well as to find out strength and weakness which ensures the safety and soundness of banking company. Performance of the types of banks regarding different components of CAMELS has been analyzed here in after.

5.3 Capital Adequacy

Presently, a banking company is to maintain 10% of Risk Weighted Assets (RWA) or Tk. 200.00 crore whichever is higher as its minimum required capital. The banks have already been advised by the Central Bank to increase their capital up to Tk. 400.00 with a minimum Paid up capital of Tk. 200.00 crore which is to be achieved within 2011.

5.3.1 Capital to Risk Weighted Assets Ratio (CRAR)

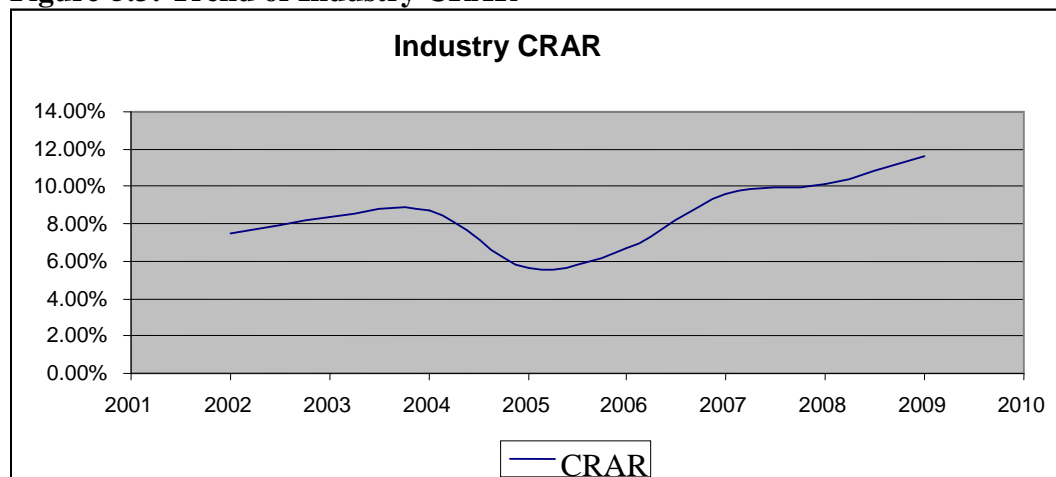
Table-5.2:Capital to Risk Weighted Assets Ratio(CRAR) by types of Banks. Percent(%)

Bank Types	2002	2003	2004	2005	2006	2007	2008	2009	June,2010
SCBs	4.1	4.3	4.1	-0.4	1.1	7.9	6.9	9	5.67
DFIs	6.9	7.7	9.1	-7.5	-6.7	-5.5	-5.3	0.4	-2.56
PCBs	9.7	10.5	10.3	9.1	9.8	10.6	11.4	12.1	8.69
FCBs	21.4	22.9	24.2	26	22.7	22.7	24	28.1	16.71
Total	7.5	8.4	8.7	5.6	6.7	9.6	10.1	11.6	7.91

Source: Bangladesh Bank (2002-2010)

From the table-5.2, we find that DFIs and SCBs are unable to meet the required capital over the period. Most of the time DFIs possessed negative capital adequacy due to provision shortfall, over burden expenditure and write off. The 4 SCBs also fails to meet the capital adequacy requirement. On the other hand, FCBs acquired 28.1% capital to its risk weighted assets in the year of 2008 which is the highest ever. However, FCBs achieved a very strong capital adequacy percentages over the period. PCBs dropped from 12.1% in the year of 2009 to 8.69% in June, 2010 which is not satisfactory. There is an ups and downs Of CRAR of the industry over the period.

Figure-5.3: Trend of Industry CRAR



Source: Bangladesh Bank (2002-2010).

The assets composition is basically based on banks' loans and advances. If the assets concentration is very high compared to capital base then it seems to be vulnerable to credit risk and it indicates danger when NPL is huge. A huge non performing loan has been one of the main problem of banks mainly for SCBs.

5.3.2 Cross Country Comparison

Cross country comparison shows that CRAR varies from 8.4% to 20.9% (See Table-5.3).

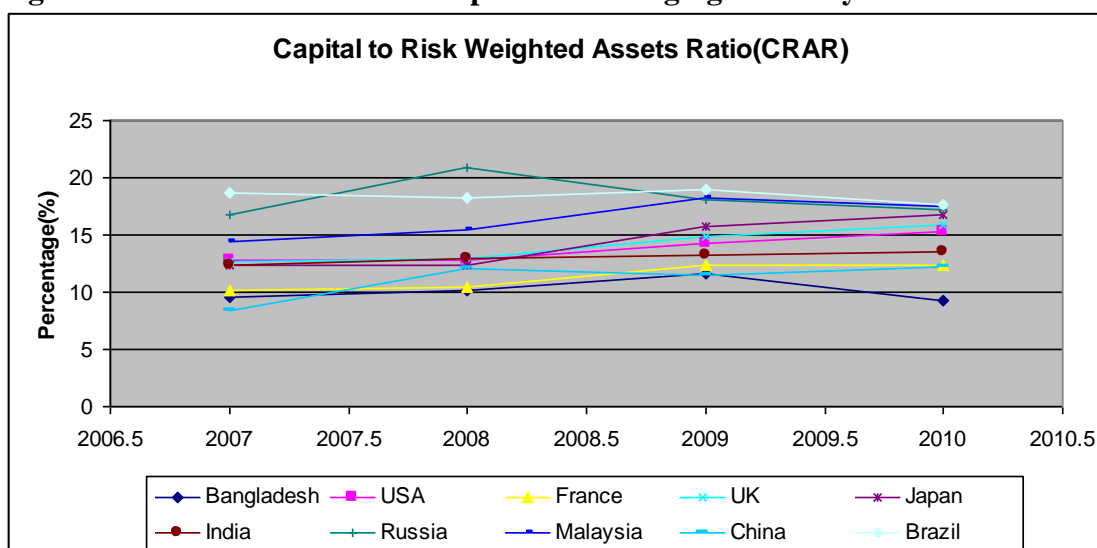
Table-5.3: CRAR of Some Developed and Emerging Economy. Percent (%)

Country	2007	2008	2009	2010
Bangladesh	9.6	10.1	11.6	9.3
Developed Economy				
USA	12.8	12.8	14.3	15.3
France	10.2	10.5	12.4	12.3
UK	12.6	12.9	14.8	15.9
Japan	12.3	12.4	15.8	16.7
Emerging Economy				
India	12.3	13	13.2	13.6
Russia	16.8	20.9	18.1	17.2
Malaysia	14.4	15.5	18.2	17.5
China	8.4	12	11.4	12.2
Brazil	18.7	18.2	18.9	17.6

Source: Reserve Bank of India (2011) and Bangladesh Bank (2007-2011).

Among the countries, China was suffer a low CRAR in 2007 but it gradually improve the situation and in 2010 it achieved a satisfactory level of CRAR. Among the advanced economy, Japan maintained the highest CRAR of 15.3% in 2010. Russia achieved a very strong CRAR over the whole period which implies its strong capacity to withstand against any adverse situation arising from operation. However, Bangladesh has achieved a steady increase from 2007 to 2009 but in 2010, CRAR dropped down to 9.3%.

Figure-5.4: CRAR of Some Developed and Emerging Economy.



Source: Reserve Bank of India (2011) and Bangladesh Bank (2007-2011).

5.4 Asset Quality

One of the most key indicators anticipated to find out troubles with assets quality in loans and advances is the ratio of NPL to loans and Net NPL to loans.

5.4.1 NPL to Total Loans Ratio

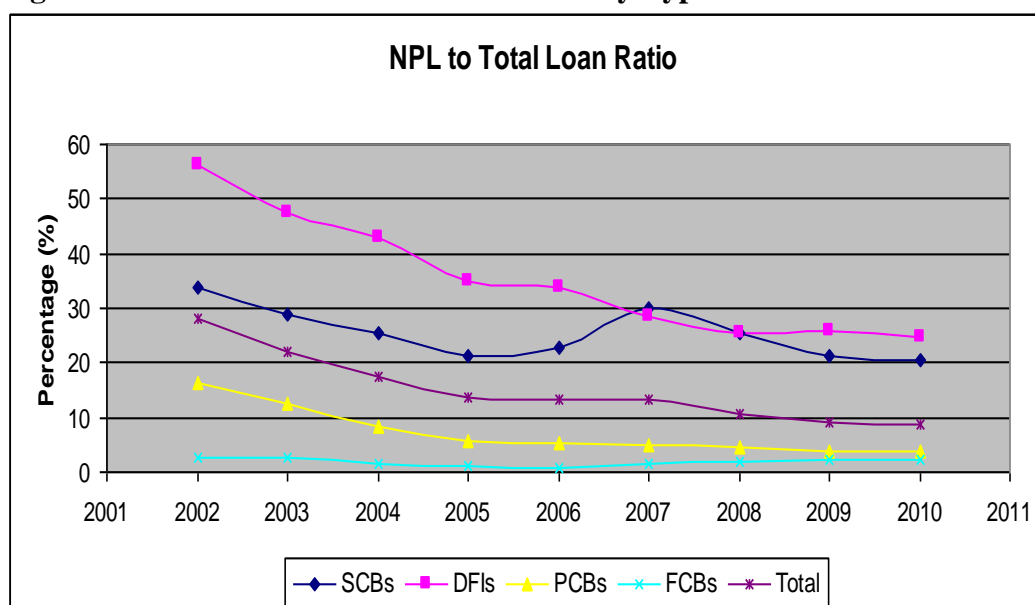
Table-5.4: NPLs to total loans ratios by types of banks Percent (%)

Bank Types	2002	2003	2004	2005	2006	2007	2008	2009	June,2010
SCBs	33.7	29	25.3	21.4	22.9	29.9	25.4	21.4	20.5
DFIs	56.1	47.4	42.9	34.9	33.7	28.6	25.5	25.9	24.6
PCBs	16.4	12.4	8.5	5.6	5.5	5	4.4	3.9	3.7
FCBs	2.6	2.7	1.5	1.3	0.8	1.4	1.9	2.3	2.4
Total	28	22.1	17.6	13.6	13.2	13.2	10.8	9.2	8.7

Source: Bangladesh Bank (2002-2010).

From the above Table-5.4, we find that FCBs achieved lowest and DFIs suffered for the highest ratio of NPLs among the types of banks over the years. . SCBs have NPLs to total loans of 20.5%. PCBs', FCB's and DFIs' NPL to loan ratio are 3.7 %, 2.4 % and 24.6% respectively in June, 2010. Though, DFIs NPL ratio is lowest over the whole period, it is on the increasing trend which is a matter of worried. In 2006, DFIs have NPL ratio only 0.8% but there after it suffers a gradual increase and reached 2.4% in June, 2010. Despite, it is not a significant ratio. DFIs are having a decline trend in NPL ratio from 42.9% in 2004 to 24.6% in June, 2010 which is not satisfactory yet. SCBs have the highest NPLs ratio 29.9% in 2007 and lowest 20.5% in June, 2010. PCBs got a satisfactory decrease regarding NPLs ratio from 8.5% in 2004 to 3.7% in June, 2010. Over all trend of industry asset quality is improving over the years as the NPL ratio is decreasing. The trend is shown in below:

Figure-5.5: Gross NPL to Total Loan Ratio by Types of Banks.



Source: Bangladesh Bank (2002-2010)

The reasons behind SCBs and DFIs high level of NPLs is because of the lending directed by the Government consideration to develop socio-economic condition of the country during 1980s. These banks always claim that they are serving the nation by overlooking commercial purpose. Poor appraisal and weak internal supervision are also the root causes that ultimately resulted in poor asset quality of DFIs and SCBs. These banks are also unwilling to write-off the bad and loss due to the poor collateral taken for those loan. But

in recent years, initiative has been taken to write-off bad loan and strengthening recovery action.

5.4.2 Cross Country Comparison

Cross country comparison shows a very worst situation of Bangladesh earlier but it improves well by reducing the NPL to loan ratio which implies assets qualities is improving. NPL to total loan ratio varies from 0.7% in USA to 26% in China (See Table-5.5).

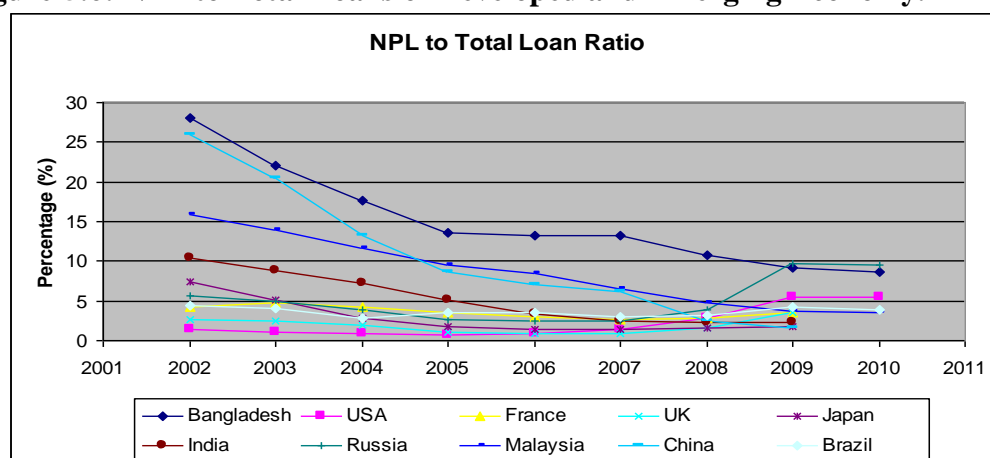
Table-5.5: NPL to Total Loans of Developed and Emerging Economy. Percent (%)

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010
Bangladesh	28.1	22.1	17.6	13.6	13.2	13.2	10.8	9.2	8.7
Developed Economy									
USA	1.4	1.1	0.8	0.7	0.8	1.4	2.9	5.4	5.5
France	4.2	4.8	4.2	3.5	3	2.7	2.8	3.6	
UK	2.6	2.5	1.9	1	0.9	0.9	1.6	3.5	
Japan	7.4	5.2	2.9	1.8	1.5	1.4	1.6	1.7	
Emerging Economy									
India	10.4	8.8	7.2	5.2	3.3	2.5	2.3	2.3	
Russia	5.6	5	3.8	2.6	2.4	2.5	3.8	9.7	9.5
Malaysia	15.9	13.9	11.7	9.6	8.5	6.5	4.8	3.7	3.5
China	26	20.4	13.2	8.6	7.1	6.2	2.4	1.6	
Brazil	4.5	4.1	2.9	3.5	3.5	3	3.1	4.2	3.8

Source: World Development Indicators, World Bank (2011).

From the above Table-5.5, we see that among the developed countries, in 2005 USA achieved the lowest NPL to total loan ratio but later on it was on a increasing trend and rose at 5.5% in 2010. UK experienced a fluctuation from 2.6% in 2002 to 3.5% in 2009. Among the emerging economy, China achieved a remarkable progress by reducing its NPL to loans ratio from 26% in 2002 to only 1.6% in 2009. However, Bangladesh suffered for high NPL to loan ratio 28.1% in 2002 but later on succeeded to reduce the ratio at 8.7% which is lower than that of Russia in 2010.

Figure-5.6: NPL to Total Loans of Developed and Emerging Economy.



Source: World Development Indicator, World Bank (2011).

5.4.3 Net NPLs to Total Loans Ratios by Types of Banks

Table-5.6: Net NPLs to Total Loans Ratios by Types of Banks.

Percent(%)

Bank Types	2004	2005	2006	2007	2008	2009	June,2010
SCBs	17.6	13.2	14.5	12.9	5.9	1.9	3.43
DFIs	23	22.6	23.6	19.0	17.0	18.3	15.32
PCBs	3.4	1.8	1.8	1.4	0.9	0.45	0.25
FCBs	-1.5	-2.2	-2.6	-1.9	-2.0	-2.3	-2.2
Total	9.8	7.2	7.1	5.1	2.8	1.73	1.67

Source: Bangladesh bank (2004-2010).

Similarly, it is seen that net NPL to loans ratio is also highest in DFIs and FCBs have a negative net NPL to loan ratio. Since FCBs are having excess provision for their loan losses, net NPL to loan ratios negative in FCBs. A comparative position of loan loss required provision, provision maintained, provision shortfall/excess and provision maintenance ratio is shown as of end 2006 to 2010 in Table 5.7.

5.4.4 Comparative Provision Adequacy Position

Table-5.7: Years Comparative Provision Adequacy Position by Types of Banks.

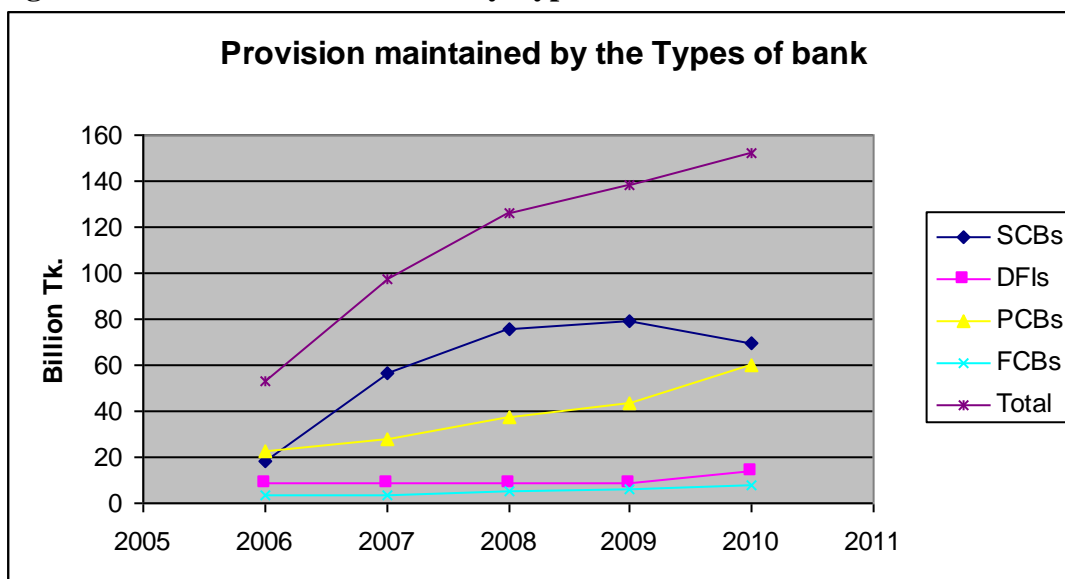
Billion Tk.

Year	Components	SCBs	DFIs	PCBs	FCBs	Total
2006	Required Provision	61.6	14.18	27.5	2.2	105.48
	Provision Maintained	18.2	9.1	22.6	3.1	53
	Provision shortfall/Excess	43.4	5.08	4.9	-0.9	52.48
	P. Maintenance Ratio%	29.5	61.5	82.2	140.9	
2007	Required Provision	71.4	17.3	34.9	3.5	127.1
	Provision Maintained	56.5	8.7	28.2	3.8	97.2
	Provision shortfall/Excess	14.9	8.6	6.7	-0.3	29.9
	P. Maintenance Ratio%	79.1	50.3	80.8	108.6	
2008	Required Provision	73.1	17	41.3	4.6	136
	Provision Maintained	75.6	8.6	37	5	126.2
	Provision shortfall/Excess	-2.5	8.4	4.3	-0.4	9.8
	P. Maintenance Ratio%	103.4	50.6	89.6	108.7	
2009	Required Provision	66	17.5	46.5	4.6	134.6
	Provision Maintained	79.5	8.9	43.6	5.9	137.9
	Provision shortfall/Excess	-13.5	8.6	2.9	-1.3	-3.3
	P. Maintenance Ratio%	120.5	50.9	93.8	128.3	
June,2010	Required Provision	73.14	18.56	48.97	5.21	145.88
	Provision Maintained	73.66	12.92	48.58	6.24	141.4
	Provision shortfall/Excess	-0.52	5.64	0.39	-1.03	4.48
	P. Maintenance Ratio%	100.71	69.61	99.2	119.77	

Source: Bangladesh Bank (2006-2010).

From the Table-5.7, it has been seen that FCBs maintained more provision than the loan loss over the period. In the year of 2010, FCBs maintained 119.77% provision against their loan loss. The scenario is opposite in the case of DFIs which suffers provision shortfall over the whole period. SCBs loan loss provision maintenance ratio is 100.71% in the year of 2010. PCBs provision maintenance ratio is 99.2% in the year of 2010 whereas it was only 82.2% in 2006. Total provision maintained by the types of banks can be shown with the help of the following chart.

Figure-5.7: Provision Maintained by Types of Banks.



Source: Bangladesh Bank (2006-2010).

Since a number of DFIs, SCBs and PCBs are suffered for losses and inadequate profits during the period, they are unable to keep required provision for their NPLs and write-offs.

An uniform guideline has been introduced in 2003 to clear out unnecessary and artificially overstated balance sheet figures. As per guideline, loans and advances which have been classified as bad and loss for the last 5 years and for which 100% provision has been kept, have to be written-off. The write-off scenario of types of banks has been depicted in Table-5.8 below:

5.4.5 Write-off Bad Debts

Table-5.8: Write-off Bad Debts of Types of Banks.

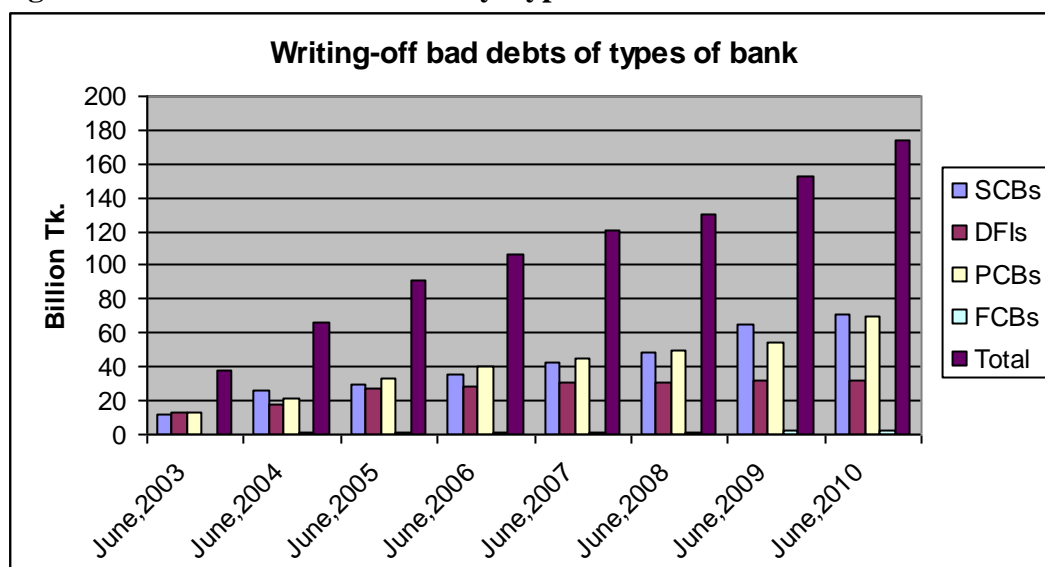
Billion Tk.

Types	June, 2003	June, 2004	June, 2005	June, 2006	June, 2007	June, 2008	June, 2009	June, 2010
SCBs	11.4	26.3	29.7	35.7	42.8	48.4	64.5	70.5
DFIs	12.8	17.4	27.6	28.6	30.4	31	31.8	31.8
PCBs	12.6	21.2	32.9	40.7	45.5	49.4	54.7	69.6
FCBs	0.5	0.9	1.1	1.5	1.6	1.7	2	2.1
Total	37.3	65.8	91.3	106.5	120.3	130.5	153	174

Source: Bangladesh Bank(2003-2010).

From the Table5.8, it has been seen that SCBs write-off Tk.70.5 billion in June, 2010 whereas FCBs write-off only Tk.2.1 billion. PCBs write-off increased from Tk.32.9 billion in June, 2005 to Tk.69.6 billion which is second highest. DFIs write-off Tk.31.8 billion in June, 2005. However, total write-off amount has been significantly increased over the period. In June, 2010, Total industry write-off amount was Tk.174 billion. A comparative scenario of write-off bad and loss loans amount of types of banks from June, 2005 to June, 2010 is shown with the help of the following figure:

Figure-5.8: Write-Off Bad Debts by Types of Banks.



Source: Bangladesh Bank (2003-2010)

5.5 Management Soundness

Another important requirement for the sustainable growth of any financial institution is sound Management. Features of good management are basically qualitative rather than monetary indicators which creates difficulties in measuring the soundness of management of a banking company. Again management performance is basically specific to individual bank for which it is difficult to aggregate across the sector. However, there are some measures to find out management soundness like the total expenditure to total income which is used in CAMELS rating.

5.5.1 Expenditure-Income Ratio

How profitably the fund deployed is determined by the expenditure-income ratio. The total expenditures- total incomes ratios by types of banks are given in below:

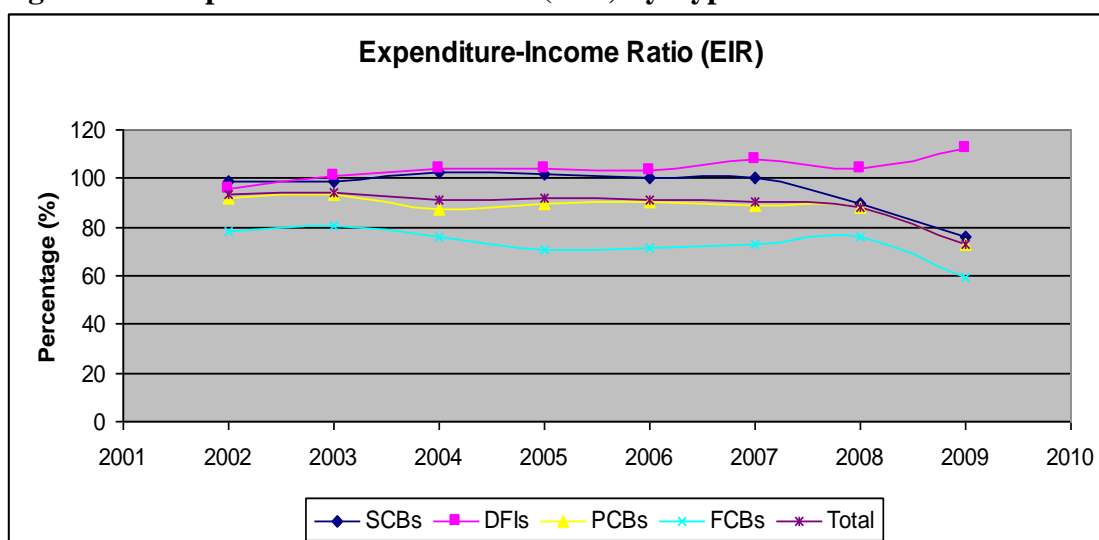
Table-5.9: Expenditure-Income Ratio (EIR) by Type of Banks. Percent (%)

Bank Types	2002	2003	2004	2005	2006	2007	2008	2009	June,2010
SCBs	98.5	98.8	102.3	101.9	100	100.0	89.6	75.6	79.8
DFIs	95.9	101.1	104	103.9	103.5	107.7	103.7	112.1	96.8
PCBs	91.6	93.1	87.1	89.3	90.2	88.8	88.4	72.6	69.6
FCBs	78.3	80.3	76.3	70.8	71.1	72.9	75.8	59	63.1
Total	93.3	93.9	90.9	92.1	91.4	90.4	87.9	72.6	73.1

Source: Bangladesh Bank(2002-2010).

As we have mentioned earlier that management flaws can be detected from the operational inefficiency and operational inefficiency can be detected from high and increasing expenditure-income ratio. From the Table-5.9, we see that DFIs suffers for having high operational inefficiency as it has the highest EIR over the whole period and FCBs achieved lowest EI ratio and enjoy better operational efficiency among the types of banks. SCBs also suffers for having high operational inefficiency as it very near to 100% EIR. PCBs performance is quite satisfactory as they earned a noteworthy decrease in their EIR from 91.6% in 2002 to 69.1% in June, 2010. Industry EI ratio is also decrease remarkably from 93.3% in 2002 to 73.1% in June, 2010. The decreasing trend of EIR of types of bank and industry is shown in below:

Figure-5.9: Expenditure-Income Ratio (EIR) by Types of Banks.



Source: Bangladesh Bank (2002-2010)

The reason behind high EI ratio of DFI and SCBs is mainly because of loan loss provision, high administrative and overhead expenses, interest suspense for classified loan.

5.5.2 Cross Country Comparison

From cross country comparison, we find that EIR is highest in Bangladesh among all the developed and emerging country which indicates operational inefficiency (See Table-5.10)

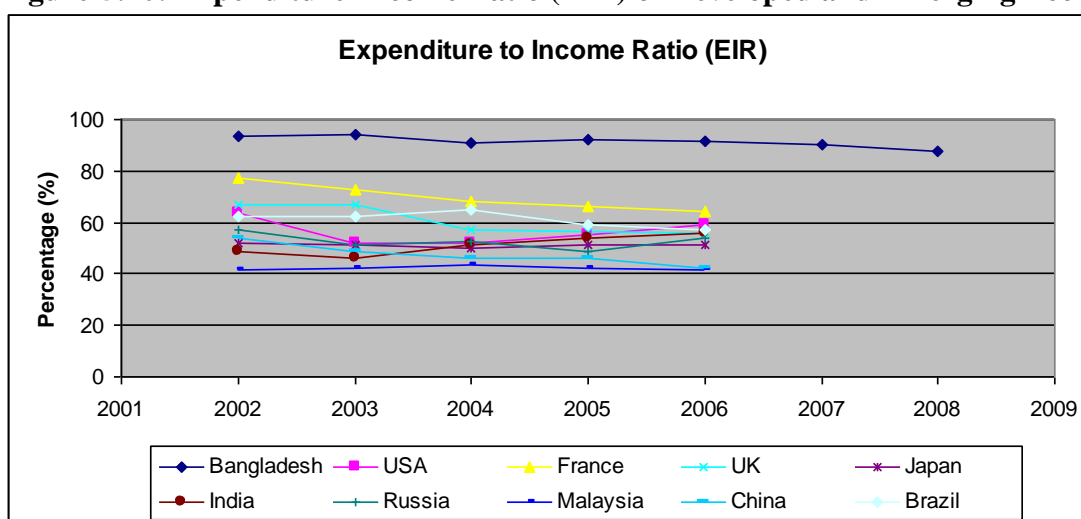
Table-5.10:Expenditure-Income Ratio(EIR)of Developed and Emerging Economy.

Country	2002	2003	2004	2005	2006	2007
Bangladesh	93.3	93.9	90.9	92.1	91.4	90.4
Developed Economy						
USA	63.69	51.74	52.07	54.9	58.94	
France	77.34	72.85	68.03	66.16	64.5	
UK	67.03	67.14	57.2	56.28	55.64	
Japan	51.64	51.61	50.13	51.55	51.48	
Emerging Economy						
India	48.67	46.32	51.29	54.13	56.09	
Russia	57.29	51.47	52.85	48.72	54.22	
Malaysia	41.41	42.07	43.35	42.26	41.6	
China	54.09	48.5	46.18	46.03	41.98	
Brazil	62.46	62.33	65.2	58.99	57.06	

Source: Reserve Bank of India (2008), Bangladesh Bank (2002-2009).

EIR is lowest in Japan over the period among the developed countries whereas France has highest EIR. In 2002, USA was able to reduce EIR by 11.95% in 2003 but it rose again and reach 58.94% in 2006. Among the emerging countries, Malaysia get the lowest exposure of EIR and Brazil had the highest EIR over the period. Initially, India was in a better position but later on EIR gradually increases and reached at 56.09% which is very closed to the highest EIR 57.06% of Brazil in 2007. However, Bangladesh was in a very worst position over the whole period but later on in 2009 it was succeeded to minimize the EIR at 72.6% which indicates the trend of improving the worst situation. The graphical comparison of EIR is shown in Figure-5.10 below:

Figure-5.10: Expenditure-Income Ratio (EIR) of Developed and Emerging Economy.



Source: Reserve Bank of India (2008), Bangladesh Bank (2002-2009).

5.6 Earnings

Present and future operation is supported by the strong profitability and earning profile of a bank. Strong profitability and earning position of a bank also build the capacity to absorb future losses if any which strengthen the capital adequacy of a bank. Earning and profitability also helps to expand its network of business and enable to pay satisfactory dividend to the share holder. To measure earning and profitability of a bank, there are a number of variables. Among these variables, Return on Asset (ROA) and Return on Equity (ROE) are mostly used. Return on asset and Return on equity is anticipated to be high enough to demonstrate the profit soundness of a bank.

5.6.1 Return on Assets (ROA)

Return on Assets (ROA) indicates the productivity of assets i.e. how much income is earned from per unit of assets. According to Basel-II accord, ROA should be more than 1%.

Table-5.11: Return on Assets (ROA) by types of banks. Percent(%)

Bank Types	2002	2003	2004	2005	2006	2007	2008	2009	June,2010
SCBs	0.1	0.1	0.1	0.1	0	0.0	0.7	0.96	0.74
DFIs	0.3	o	-0.2	-0.1	-0.2	-0.3	-0.6	0.37	0.22
PCBs	0.8	0.7	1.2	1.1	1.1	1.3	1.4	1.55	2
FCBs	2.4	2.6	3.2	3.1	2.2	3.1	2.9	3.18	2.87
Total	0.5	0.5	0.7	0.6	0.8	0.9	1.2	1.37	1.58

Source: Bangladesh bank (2002-2010).

The Table-5.11 shows that SCBs achieved nearly zero percent of ROA over the whole period. The scenario is much worst in case of DFIs where most of the time ROA was negative. The reason behind this worse scenario of SCBs and DFIs is huge provision shortfall and insignificant profit during the period. PCBs ROA was below the standard level but gradually it was improved and reached at 2% in June, 2010. FCBs ROA position is well strong over the whole period.

5.6.2 Cross Country Comparison

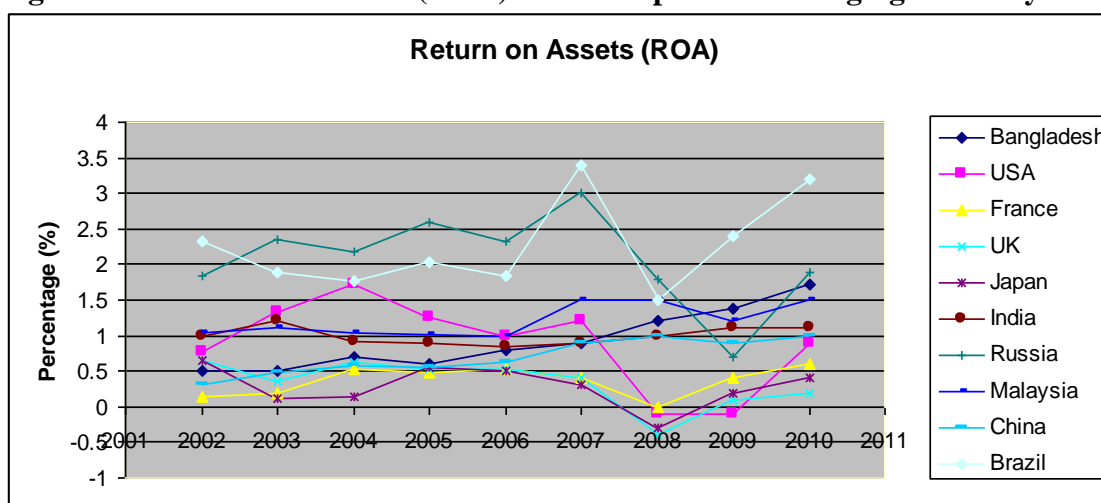
Cross country comparison reveals that ROA varies significantly among the developed and emerging economies. Among the four developed countries, USA in a very strong position in 2004 but during the economic recession period in 2008, ROA becomes negative. UK, Japan also suffered that year having negative ROA whereas France achieved 0% ROA in 2008. The shock was not so severe among the emerging countries. Return on Assets was high in Russia and Brazil over the whole period (See Table-5.11).

Table-5.12: Return on Assets (ROA) of Developed and Emerging Economy.

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010
Bangladesh	0.5	0.5	0.7	0.6	0.8	0.9	1.2	1.37	1.72
Developed Economy									
USA	0.77	1.33	1.72	1.26	0.99	1.2	-0.1	-0.1	0.9
France	0.13	0.2	0.54	0.48	0.54	0.4	0	0.4	0.6
UK	0.65	0.37	0.63	0.54	0.53	0.4	-0.4	0.1	0.2
Japan	0.64	0.12	0.13	0.56	0.5	0.3	-0.3	0.2	0.4
Emerging Economy									
India	0.98	1.2	0.91	0.9	0.85	0.9	1	1.1	1.1
Russia	1.83	2.35	2.19	2.6	2.33	3	1.8	0.7	1.9
Malaysia	1.03	1.1	1.03	1.02	0.99	1.5	1.5	1.2	1.5
China	0.3	0.49	0.57	0.55	0.62	0.9	1	0.9	1
Brazil	2.32	1.9	1.76	2.04	1.85	3.4	1.5	2.4	3.2

Source: World Development Indicator, World Bank (2011)

Figure-5.11: Return on Assets (ROA) of Developed and Emerging Economy.



Source: World Development Indicator, World Bank (2011).

From the cross country comparison, we find that ROA is much better than other countries. In 2010, ROA was 1.72% which was very significant. Noteworthy is that Bangladeshi Banking sector consistently improve ROA over the whole period. In 2005, ROA was only 0.5% whereas in 2010 it rose to 1.72%. The reason behind this improvement is due to high ROA in Foreign Banks operating in Bangladesh and the PCBs gradual improvement.

5.6.3 Return on Equity (ROE)

Return on Equity (ROE) is another important measure of earning and profitability determination which indicates net income after tax to total equity. The amount of profit generation for the equity shareholders is found from the ratio. Higher value of ROE is a indication of high productivity of equity.

Table-5.13: Return on Equity (ROE) by types of banks. Percent(%)

Bank Types	2002	2003	2004	2005	2006	2007	2008	2009	June,2010
SCBs	4.2	3	-5.3	-6.9	0	0.0	22.5	26.15	18.43
DFIs	5.8	-0.6	-2.1	-2	-0.2	-3.4	-6.9	-171.68	2.36
PCBs	13.6	11.4	19.5	18.1	15.2	16.7	16.4	20.95	24.32
FCBs	21.5	20.4	22.5	18.4	21.5	20.4	17.8	22.38	20.35
Total	11.6	9.8	13	12.4	14.1	13.8	15.6	21.72	22.94

Source: Bangladesh Bank(2002-2010).

From the Table-5.13, we see that in the year of 2009, SCBs position is highest among the other types of Banks. In 2002, ROE was only 4.2% earned by the SCBs where as it rose to 26.15% in 2009. PCBs also possessed a good progress from 13.6% in 2002 to 24.32% in June, 2010. On the other hand, FCBs possessed a consistent level of ROE which is near about 20% over the whole period. DFIs shows very worse position in 2009 probably due to huge provision shortfall and net loss in that year. However, the industry ROE ratio rose from 9.8% in 2003 to 22.94% in June, 2010.

5.6.4 Cross Country Comparison

Table-5.14: Return on Equity (ROE) of Developed and Emerging Economy.

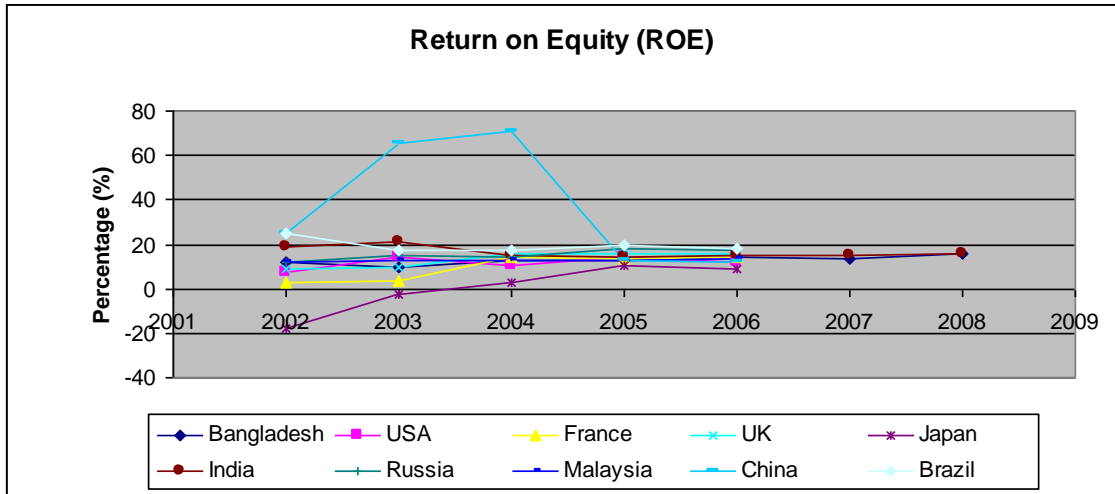
Country	2002	2003	2004	2005	2006	2007	2008	2009
Bangladesh	11.6	9.8	13	12.4	14.1	13.8	15.6	21.72
Developed Economy								
USA	7.25	14.36	10.45	14.08	12			
France	2.65	3.9	14.54	13.23	14.39			
UK	9.05	9.94	15.56	15.53	15.43			
Japan	-17.93	-2.88	2.95	10.79	8.83			
Emerging Economy								
India	18.63	21.36	15.35	14.19	14.76	15.24	15.89	15.37
Russia	11.9	15.36	14.43	18.15	17.12			
Malaysia	11.71	13.06	13.02	13.12	13.53			
China	24.96	65.27	71.04	13.04	11.83			
Brazil	24.72	17.7	17.39	19.73	18			

Source: Reserve Bank of India (2008-2009), Bangladesh Bank (2002-2009), et. al.

ROE varied -17.93% (Japan, 2002) to 71.04% (China, 2004). There were ups and downs regarding ROE among all the developed economy. Among the developed countries, UK had the high ROE from 2002 to 2006 whereas ROE was negative in 2002 in Japan. UK shows a little consistent increase in ROE from 2002 to 2006 and in France, ROE was only 2.65% in 2002 but it reached a strong position having ROE 14.39% in 2006 (See Table-5.14).

Among the emerging economy, ROE was very high from 2002 to 2004 but later on dropped down to 13.53% in 2006. Brazil also exhibited high ROE among the countries which varies from 24.72% in 2002 to 18% in 2006. Malaysia exhibited a consistency regarding ROE. Russian Banks also showed an increasing trend of ROE from 2002 to 2006 except the year of 2004 when ROE slightly decrease from the previous year.

Figure-5.12: Return on Equity (ROE) of Developed and Emerging Economy.

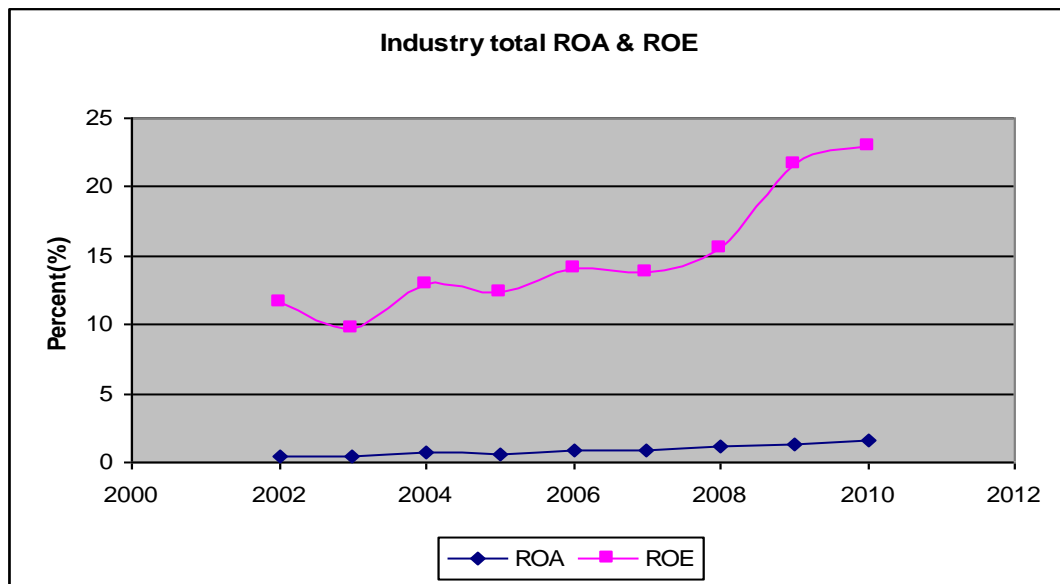


Source: Reserve Bank of India (2008-2009), Bangladesh Bank (2002-2010).

Return on Equity (ROE) is more consistent in Bangladeshi banks compared to the developed and emerging countries banks. In 2002 ROE was 11.6% and afterward it exhibited a gradual increase in this ratio. The reason behind the consistency probably is the gradual increase of ROE in SCBs and PCBs.

ROA and ROE of all the Bangladeshi banks is shown in Figure-5.13.

Figure-5.13: ROA & ROE Trend of the Industry in Bangladesh.



Source: Bangladesh Bank (2002-2010).

5.6.5 Net Interest Income

Another important tool to indicate the earning and profitability is Net Interest Income (NII). Net interest income is the spread between interest receipts from loans and advances

and interest paid to the depositors. The high NII means the spread between interest receipt and paid is high. NII of types of banks is shown in Table 5.15.

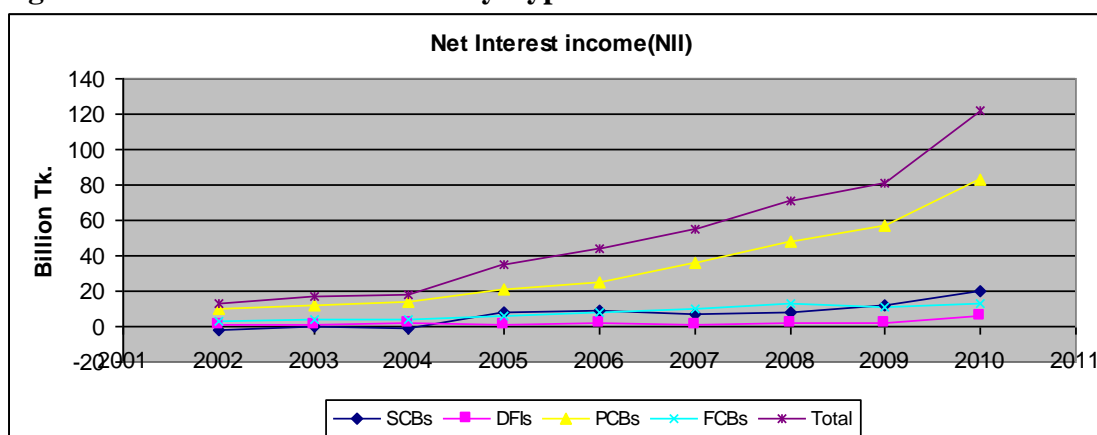
Table-5.15: Net interest income by Types of Banks. Billion Tk.

Bank Types	2002	2003	2004	2005	2006	2007	2008	2009	June,2010
SCBs	-1.5	-0.3	-1.1	7.7	9	7.4	7.9	12.11	6
DFIs	1.4	1.3	1.8	1	1.7	1.4	1.9	1.92	2.89
PCBs	10.2	12	13.7	21	25.4	36.1	48.5	56.71	39.87
FCBs	3.4	3.6	4.2	5.6	8.2	9.9	12.6	10.71	5.78
Total	13.5	16.6	18.3	35.3	44.3	54.8	70.9	81.46	54.53

Source: Bangladesh Bank (2002-2010).

PCBs and FCBs net interest income is much higher than compared to DFIs and SCBs. This indicates that PCBs and FCBs charges higher interest on loans and advances and paid low interest in deposits. Aggregate NII shows a consistent increase from 2003 to 2009. PCBs NII increased five times from 2002 to 2010 whereas SCBs NII was negative in from 2002 to 2004 but it rose significantly afterwards. The trend of NII of types of bank is shown in Figure-5.14.

Figure-5.14: Net Interest Income by Types of Banks.



Source: Bangladesh Bank (2002-2010)

5.6.6 Cross Country Comparison of Interest Spread

Interest spread is the gap between the lending rate and deposits rate. Interest spread indicates the interest income earned by the banks of a country.

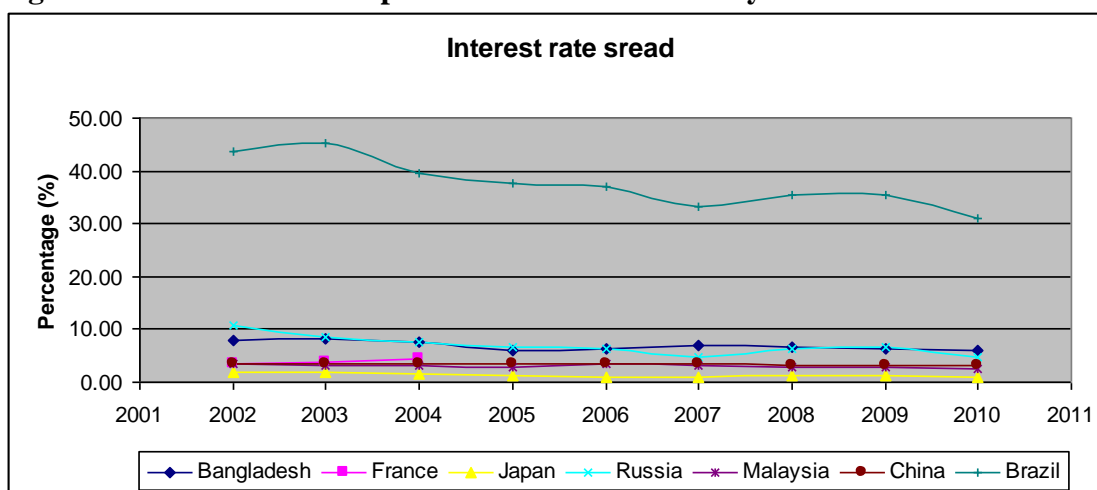
Table-5.16: Interest Rate Spread of Different Economy.

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010
Bangladesh	7.83	8.18	7.64	5.91	6.22	6.82	6.72	6.40	5.86
France	3.60	3.91	4.35						
Japan	1.83	1.78	1.69	1.41	0.98	1.08	1.32	1.29	1.10
Russia	10.75	8.50	7.65	6.69	6.35	4.89	6.47	6.72	4.81
Malaysia	3.32	3.23	3.05	2.95	3.34	3.24	2.95	3.00	2.52
China	3.33	3.33	3.33	3.33	3.60	3.33	3.06	3.06	3.06
Brazil	43.73	45.11	39.51	37.75	36.88	33.14	35.59	35.37	31.12

Source: World Development Indicators, World Bank (2011).

From the cross country review, we find that interest rate spread varies from 0.98% (Japan, 2006) to 45.11% (Brazil, 2003) (See Table-5.16). Interest rate spread in Bangladesh comparatively high. In Brazil, interest rate spread is abnormally high which varies from 31.12% in 2010 to 45.11% in 2003 whereas in Japan interest rate varies only from 0.98% to 1.83%. In 2002, interest rate spread was 10.75% in Russia which tends to decreased gradually and reached at 4.81% in 2010.

Figure-5.15: Interest Rate Spread of Different Economy.



Source: World Development Indicators, World Bank (2011).

5.7.1 Liquidity

Statutory liquidity reserve (SLR) varies according to the circular issued by the Bangladesh Bank but in an average SLR is 18.5% of total deposits including cash reserve requirement at least 5% in Bangladesh Bank account. Three DFIs are exempted from the requirement of SLR and 7 Islami banks have to keep 10% SLR. Rest of all banks has to maintain the required SLR [Bangladesh Bank].

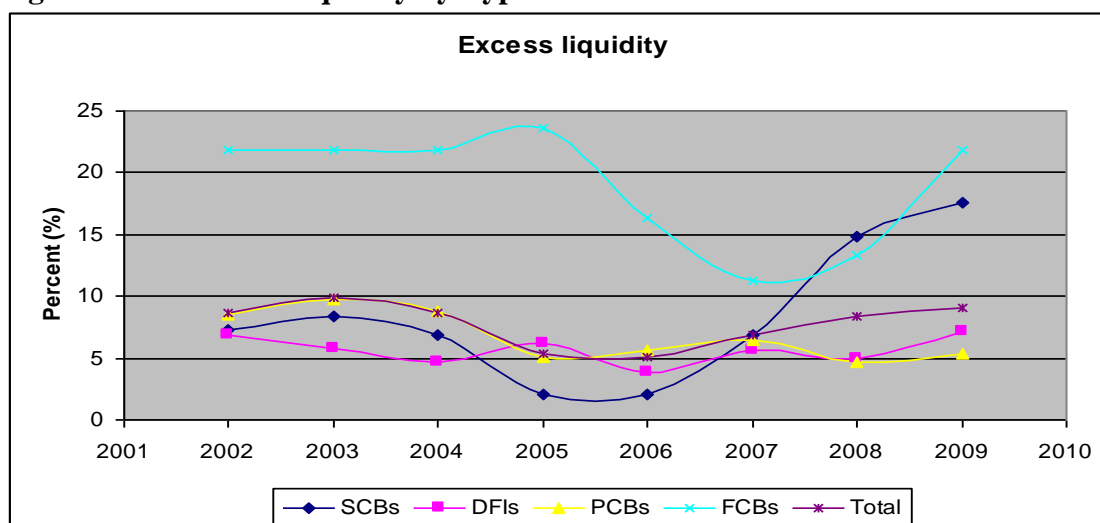
Table-5.17: Excess liquidity by types of banks. Percent (%)

Bank Types	2002	2003	2004	2005	2006	2007	2008	2009	June,2010
SCBs	7.3	8.4	6.8	2	2.1	6.9	14.9	17.6	17.9
DFIs	6.9	5.8	4.7	6.2	3.8	5.6	4.9	7.1	13.8
PCBs	8.5	9.8	8.8	5.1	5.6	6.4	4.7	5.3	5.2
FCBs	21.8	21.9	21.9	23.6	16.4	11.2	13.3	21.8	17.7
Total	8.7	9.9	8.7	5.3	5.1	6.9	8.4	9	8.8

Source: Bangladesh Bank (2002-2010).

From the Table-5.17, we find that all the banks had excess liquidity. In June, 2010, SCBs possessed highest excess liquidity which is more than three times higher than that of PCBs in 2010. FCBs had highest excess liquidity over the whole period except in 2010. PCBs had lower percent of excess liquidity of their demand and time deposits. The industry excess liquidity of demand and time deposits was more or less stable except two consecutive years of 2005 and 2006. Excess liquidity indicates available loan able fund at low cost. The trend of excess liquidity is shown in below:

Figure-5.16: Excess Liquidity by Types of Banks.



Source: Bangladesh Bank (2002-2010).

5.7.2 Cross Country Comparison of Liquidity to total Assets

From the cross country comparison, it is found that liquidity varies significantly from 38.9% to 0.6% among the countries over the period from 2002 to 2010 (See Table-5.18). Here, liquid assets means claims on regulatory authority. Most important is that liquidity is very low among the developed countries where as it is high among the emerging economy especially in Brazil.

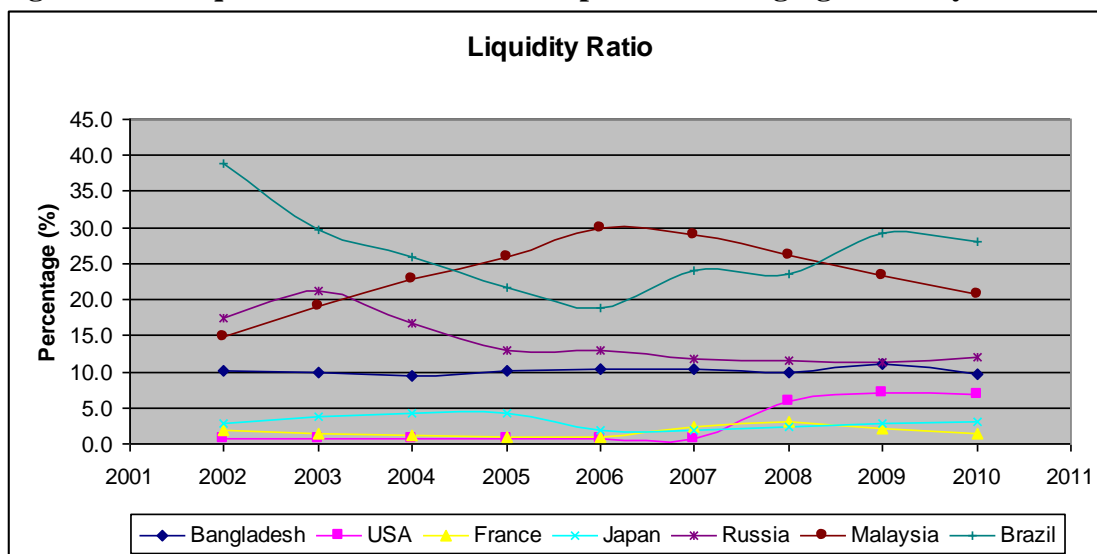
Table-5.18: Liquid Assets of Developed and Emerging Economy. in %

Country	2002	2003	2004	2005	2006	2007	2008	2009	2010
Bangladesh	10.0	9.9	9.4	10.2	10.3	10.3	9.9	11.1	9.7
Developed Economy									
USA	0.8	0.8	0.7	0.7	0.6	0.6	6.0	7.0	6.9
France	1.8	1.4	1.3	1.1	1.0	2.5	3.0	2.1	1.5
Japan	2.7	3.8	4.2	4.4	1.9	1.9	2.4	2.9	3.1
Emerging Economy									
Russia	17.4	21.3	16.7	13.0	12.9	11.8	11.5	11.3	12.1
Malaysia	14.8	19.0	23.0	26.0	30.0	29.0	26.1	23.3	20.6
Brazil	38.9	29.8	26.0	21.6	18.9	24.1	23.6	29.3	28.0

Source: World Development Indicators, World Bank (2011).

Among the developed countries, USA has only 0.6% liquid assets in 2006 which turned into 6.0% next year. Japan maintains its liquidity from 1.9% to 4.4% over the period whereas in France it varies from 1.1% to 3.00%. On the other hand, among the emerging economy, Brazilian banks maintain very high liquidity which varies from 38.9% in 2002 to 18.9% in 2006. Malaysian Banks also maintain little higher liquidity whereas Russian banks keep near about 12% liquidity ratio from 2005 to 2010.

Figure-5.17: Liquid Assets Ratio of Developed and Emerging Economy.



Source: World Development Indicators, World Bank (2011).

Comparing with other countries banks, it has been seen that Bangladeshi banks maintain a moderate liquidity ratio which varies from 11.1% to 9.4% over the whole period.

5.8 Sensitivity to market risk

Sensitivity to market risk assesses the ability to cope with the adverse situation. Under this component, it is observed that how the bank is responding to different market risks i.e. how it is managing/mitigating the market risks, how the bank is reducing the possible negative impact that may arises from market risks. Bangladesh bank gives much importance on this component after the first inclusion from 2006. Both questionnaire and numeric rating of different risk components are done in this component.

5.9 CAMELS rating of all banks

On the basis of five components of CAMEL banks are rated from 2002 to 2005 and six components of CAMELS banks are rated from 2006 to 2009.

Table-5.19: CAMEL (2002-2005) & CAMELS (2006-2009) rating of all Banks in Bangladesh.

Rating	2002	2003	2004	2005	2006	2007	2008	2009
1 or Strong	9	15	12	13	3	6	2	3
2 or Satisfactory	21	11	15	16	31	29	28	32
3 or Fair	7	11	10	8	7	5	10	7
4 or Marginal	10	10	8	6	5	6	4	4
5 or Unsatisfactory	2	2	4	5	2	2	4	1
Total	49	49	49	48	48	48	48	48

Source: Annual Report, BB (2002-2009).

Table-5.19 shows that on the basis of CAMEL rating the number of rating in '1' or strong is much higher from 2006 to 2009 when banks are rated on the basis of CAMELS. In 2009, only three banks are ranked as 1 or Strong, thirty two banks are ranked as 2 or Satisfactory, seven banks are ranked as 3 or Fair, four banks are ranked as 4 or Marginal and one banks is ranked as 5 or Unsatisfactory. The ranked 5 is treated as problem bank but

ranked 4 & 5 fall into 'Early Warning'. So, in 2010, there are five banks which are brought under 'Early Warning' for close monitoring and supervision to improve their performance [Bangladesh Bank, 2010].

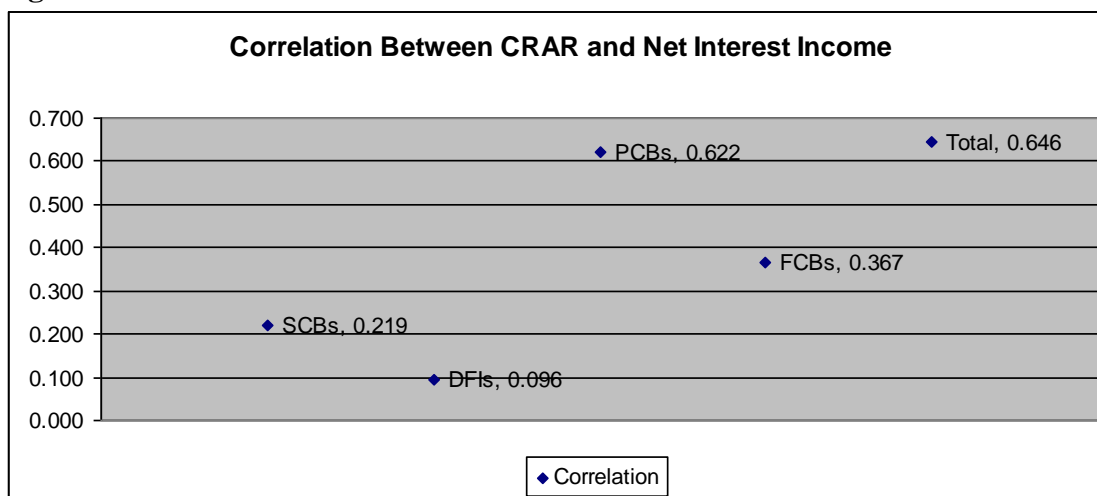
5.10 Inter-relationship among CRAR and NPL Ratio with interest income

Significant correlation is identified between interest income and some other ratios of types of banks and the industry as a whole. Attempt has been made to find the impacts of CRAR and NPL to total loans on interest income from 2002 to 2009CY.

5.10.1 Correlation between CRAR and interest income

CRAR will increase if capital increase at a rate higher than that of risk weighted assets increase. Here, it is seen that industry CRAR increased gradually and reach a satisfactory level of 11.6% in 2009 which is contributed by all type of banks except DFIs. Interest income also increased over the period. The correlation between CRAR and interest income shows a positive result which implies that increased capital base contributes to the interest income growth. The correlation between CRAR and interest income is highest in PCBs and lowest in DFIs over the period from 2002 to 2009 (See Figure-5.18).

Figure-5.18: Correlation between CRAR and Net Interest Income.



The industry correlation is 0.646 which is significantly positive. So, we can say that as increased CRAR positively correlated with interest income and it is possible for increasing the capital base which reduces the interest expenses to the depositors.

5.10.2 Correlation between NPL to Loans Ratio and Interest income

NPL adversely affects interest income. NPL reduces bank's profit in two ways-first interest suspense and second provision for NPL. Decreasing trend in NPL to loan ratio adversely correlated with the increasing trend of interest income (See Figure5.19).

Figure 5.19: Correlation between NPL to Loan Ratio and Interest income.

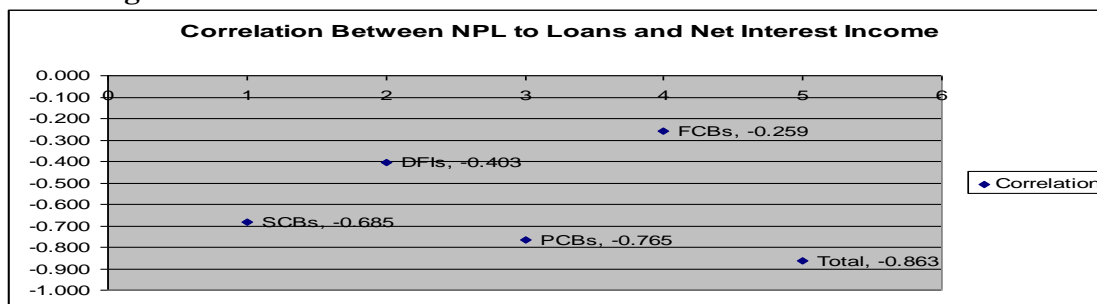


Figure 5.19 show that there exists negative correlation between NPL to loan and interest income. As NPL to loan ratio decreases, interest income increases and the correlation between this two criteria is -.863 for the industry as a whole over the period. So, we can say that Banks should emphasize on reducing the NPL.

5.10.3 Correlation between Industry's Different Ratios and GDP contribution by Financial Intermediaries

Banking sector performance is directly related to GDP because of its nature of business. There are some ratios which contribute positively to the GDP. On the other hand, NPL, EIR, high interest spread and excess liquidity is negatively correlated with GDP growth rate.

Table-5.20: Industry's Different Ratios and GDP Growth Rate.

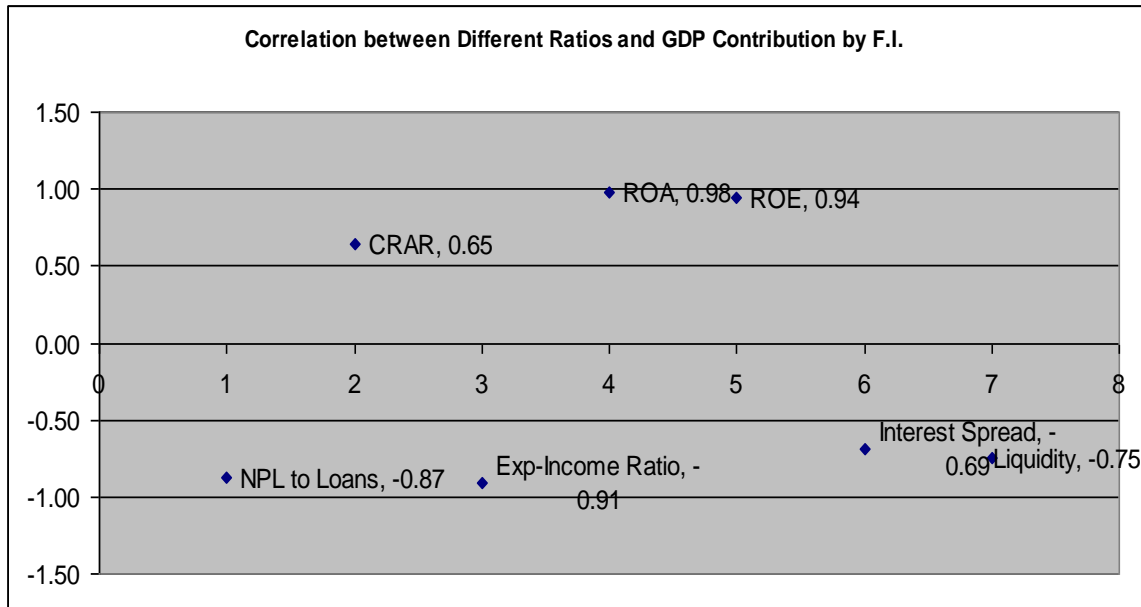
Industry's Ratio(%)	2002	2003	2004	2005	2006	2007	2008	2009
Industry NPL to Loans Ratio (%)	28.00	22.10	17.60	13.60	13.20	13.20	10.80	9.20
Industry CRAR(%)	7.50	8.4	8.7	5.6	6.7	9.6	10.1	11.6
Expenditure-Income ratio (%)	93.30	93.9	90.9	92.1	91.4	90.4	87.9	72.6
Return on Assets(%)	0.50	0.5	0.7	0.6	0.8	0.9	1.2	1.37
Return on Equity(%)	11.60	9.8	13	12.4	14.1	13.8	15.6	21.72
Interest Spread(%)	7.83	8.18	7.64	5.91	6.22	6.82	6.72	6.40
Excess Liquid Assets (%)	27.20	24.70	23.40	21.70	21.50	23.20	24.80	20.60
Financial Intermediaries contribution in GDP(Bil. Tk.)	43.71	48.09	56.60	63.02	70.67	85.05	98.25	116.81

Source: Bangladesh Bank (2002- 2010).

From the Table-5.20, we see a decreasing trend of industry NPL to loan ratio, EIR, interest spread and excess liquid assets whereas CRAR, ROA and ROE show an increasing trend from 2002 to 2009. There is a consistent increase in GDP contribution by financial intermediaries.

The correlation between GDP growth rate and NPL to loan ratio, EIR, interest rate spread is negative and CRAR, ROA, ROE is positive (See Figure 5.20).

Figure-5.20: Correlation between Industry's Different Ratios and GDP contribution by financial intermediaries.



CRAR is positively correlated with GDP as high capital base facilitates productive investment which contributes to GDP. In the analysis, we also find a positive a significant correlation between CRAR of banking industry and GDP contribution by financial intermediaries. So, it can be said that high capital base contributes to GDP.

Theoretically if NPL ratio decreases then GDP should be increased. It is found in the analysis that NPL ratio is significantly correlated with GDP contribution by financial intermediaries. EIR is negatively correlated with GDP contribution by financial intermediaries.

ROA and ROE should be positively correlated with the GDP which is also found in the analysis. On the other hand, interest spread and liquidity are negatively correlated. Decrease in liquidity and interest spread means more utilization of fund at a lower cost. So, it can be said that theoretical assumption has been proved in the analysis and the result is significant.

CHAPTER-SIX CONCLUSION AND RECOMMENDATION

6.1 Conclusion

An efficient operation of banking sector enables the smooth financial resources intermediation of an economy. Economic growth is contributed greatly by the efficiency of banking sector in resources generation and its proper allocation. The smooth and efficient operation of banking sector also helps to reduce risk of failure of an economy. Therefore, the performance of banking sector is always been a source of interest for researchers to judge the economic condition of a country. Regulators of the banking sector always monitors the performance of the banks to ensure efficient financial system based on CAMELS ratio. Among all the CAMELS ratio, time series data of some important ratios which are most significant are analyzed to judge the performance of the banking industry in Bangladesh.

Among the four categories of banks operating in Bangladesh, DFIs has been found more vulnerable compared to the rest of three categories. CRAR, NPL to total loan, EIR all are too high and provision maintenance ratio, ROA, ROE, liquidity ratio is too low in DFIs and this scenario also reflects negatively in overall banking industry performance of Bangladesh. FCBs shows and PCBs show all the positive signal of well functioning whereas SCBs also shows a trend of improving performance.

A cross country comparison based on some important CAMELS ratios shows that the performance of banking sector in Bangladesh is still far behind than that of some developed and emerging economy. But from the comparison, we also see the light of hope as the trend of performance improving.

Impact of some ratios on interest income of types of banks is mixed as it is seen that there are significant correlation in some cases whereas less significant in other cases. Correlation between some CAMELS ratios and GDP growth rate is also identical.

5.2 Recommendations

The performance of types of banks is not equal and there are some banks which are in need of monitoring closely to enhance sound banking. It is expected that the overall performance will be improved in near future provided that appropriate actions are taken in some lagged areas. If the performance of SCBs and DFIs can be improved in a satisfactory level, the overall industry performance will be compatible with the emerging and developed economy. An efficient and sound banking system is desirable to ensure sustainable economic growth in Bangladesh. The performance of banking sector in Bangladesh can be improved if the following recommendations are taken into worth consideration:

1. Though DFIs serve socio-economic purpose under the direction of government, they should be taken under proper reform programs to ensure a fruitful banking performance in all respect.
2. Both DFIs and SCBs are yet to meet the required CRAR. Special guidelines and instructions should be given to them to achieved at least 10% CRAR as directed by Basel-II accord.
3. The high NPLs to loan ratio reduces the efficiency banking operation and increases the lending rate for adding high risk premium which ultimately hampers

the economic growth. It also creates ethical problem for the good borrowers. NPLs to loan ratio is more than 20% in both DFIs and SCBs which eventually increases the industry NPL to loan ratio even though PCBs and FCBs achieved below 4% NPL to loan ratio. Hence, the following measures can be taken to reduce NPL to loan ratio:

- A. Introduction of strict legal action against the defaulters.
 - B. Financial Loan Courts and Bankruptcy Courts should be empowered with strict rules and regulations and with high powered autonomy.
 - C. Illegal interference by the pressure group has to be stopped.
 - D. Corporate culture within the bank has to be implemented.
 - E. Transparency regarding loan documentation has to be ensured.
 - F. Cash flow based lending instead of collateral based lending has to be introduced.
 - G. The practice of interest exemption for the defaulters by the DFIs and SCBs has to be stopped.
 - H. Reward and punishment system has to be introduced.
 - I. Bangladesh Bank has to be strict in classification of loan and required provision maintenance.
 - J. Credit information disclosure is to be easily accessible to identify the defaulters.
 - K. Loan rescheduling has to be made with due penalty for the defaulters.
4. Expenditure-Income ratio should be reduced. The loosing branches of DFIs and SCBs have to be taken under proper monitoring by the respective bank. Cost control strategy has to be properly implemented.
 5. Net interest income is very poor in DFIs and SCBs compared to the rest of two types of banks. The reason behind this scenario is interest suspense for classified loans. So, these banks should give highest priority in loan recovery which will help to increase the net interest income of these type of banks.
 6. Excess liquidity should be invested to in productive sector to enhance the economic growth.
 7. Interest rate spread should be reduced at 2% to 3% to increase lending in productive sector which fasten economic growth.
 8. The banks which fall in CAMELS rating 4 and 5 are monitored under Early Warning System (EWS). In 2009, five banks were brought under EWS. These banks have to be closely monitored.
 9. Special attention should be given for innovation, automation and improved service.
 10. Corporate Governance has to be ensured in all type of banks.
 11. Finally, emphasis has to be given in strengthening securities market in Bangladesh to compete with the Banking sector so that banking sector phases a competition to develop their efficiency in operation which eventually increases performance.

Performance is a continuous process and it requires continuous innovation and improvement to cope with the increasing demand. So, the trend of performance of banking sector in Bangladesh can be improved if all concerns pays due attention and works according to requirement of time. It is expected that Banking sector;s performance will be more satisfactory in near future.

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Appendix-I

The names of the scheduled banks operating in Bangladesh:

A. State owned Commercial Banks (SCBs):

1. Agrani Bank Limited.
2. Janata Bank Limited.
3. Rupali Bank Limited.
4. Sonali Bank Limited.

B. Specialized Bank/ Development Financial Institutions (DFIs) :

1. Bangladesh Krishi Bank.
2. Rajshahi Krishi Unnayan Bank.
3. Bank of Small Industries and Commerce Bangladesh Ltd.
4. Bangladesh Development Bank Limited.

C. Private Commercial Banks (PCBs):

1. AB Bank Ltd.
2. National Bank Ltd.
3. The City Bank Ltd.
4. International Finance Investment and Commerce Bank Ltd.
5. United Commercial Bank Ltd.
6. Pubali Bank Ltd.
7. Uttara Bank Ltd.
8. Eastern Bank Ltd.
9. National Credit and Commerce Bank Ltd.
10. Prime Bank Ltd.
11. Southeast Bank Ltd.
12. Dhaka Bank Ltd.
13. Dutch Bangla Bank Ltd.
14. Mercantile Bank Ltd.
15. Standard Bank Ltd.
16. One Bank Ltd.
17. Bangladesh Commerce Bank Ltd.
18. Mutual Trust Bank Ltd.
19. Premier Bank Ltd.
20. Bank Asia Ltd.
21. Trust Bank Ltd.
22. Jamuna Bank Ltd.
23. BRAC Bank Ltd.
24. Islami Bank Bangladesh Ltd.
25. ICB Islamic Bank Ltd.
26. Al-Arafah Islami Bank Ltd.
27. Social Islami Bank Ltd.
28. EXIM Bank Ltd.
29. First Security Islami Bank Ltd.
30. Shahjalal Islami Bank Ltd.

D) Foreign Banks:

1. Standard Chartered Bank
2. State Bank of India
3. Habib Bank Ltd.
4. Citi Bank, N.A.
5. Commercial Bank of Ceylon Ltd.
6. National Bank of Pakistan
7. Woori Bank
8. The Hong Kong & Shanghai Banking Corporation Ltd.
9. Bank Al-Falah Ltd.

Appendix-II
Some important indicators of Bangladesh

Indicator's Name	2002	2003	2004	2005	2006	2007	2008	2009	2010
Total Population (Million)		133.4	135.2	137	138.8	140.6	142.4	144.2	146.1
Population density (people per sq. km of land area)	1031	1049	1065	1080	1094	1106	1118	1130	1142
GDP(Current) in Billion US\$	47.57	51.91	56.56	60.27	61.90	68.41	79.55	89.35	100.35
GDP per Capita US\$	354	380	408	429	435	475	547	608	675
GDP Current price (Billion Tk.)	2732	3005.8	3329.7	3707.1	4157.3	4724.8	5458.2	6148	6905.7
Financial Inter. (% Of GDP)	1.6	1.6	1.7	1.7	1.7	1.8	1.8	1.9	1.9
Financial Inter. In GDP(Bll. Tk.)	43.7	48.1	56.6	63	70.7	85	98.2	116.8	131.2
CPI inflation (Base FY96=100)	2.8	4.4	5.8	6.5	7.2	7.2	9.9	6.7	7.3
FX Reserve (Million \$)	1583	2470	2705	2930	3484	5077	6149	7471.0	10750
Exchange Rate Tk./\$	57.4	57.9	58.9	61.4	67.1	69.0	68.6	68.8	69.2
Current a/c Balance (% of GDP)	0.3	0.3	0.3	-0.9	1.3	1.4	0.9	2.7	3.7

Source: Annual Report, Bangladesh Bank (2002-2010)