***Basel and Risk Measurement models, Framework of Monitoring the Banking Performance***

***UNITED INTERNATIONAL UNIVERSITY***

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***Project report on:***

***Basel and Risk Measurement models - Framework of Monitoring* the *Banking Performance***

***Submitted To***

***Eliza Huq***

***Assistant Professor***

***School of Business & Economics***

***United International University***

***Submitted By***

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***Submission date: 01/04/2019***

**Acknowledgement**

At first, I like to express my deepest gratitude to Allah for giving me the strength and the composure to finish the task within the scheduled time.

I would also like to express my gratitude from the core of my heart my Mentor ELIZA HUQ, Assistant Professor of School of Business & Economics at United International University, who helped me in coordinating my entire project. Her consistent support and cooperation showed the way towards the successful completion of project.

And finally, I want to add that there might be some mistakes in this report because of my susceptibility. In this respect, I look for your generous suspect.

**Letter of Transmittal**

To,

**Eliza Huq**

**Assistant Professor**

School of Business & Economics

United International University

**Subject: Internship project report.**

Dear Madam,

It’s my pleasure to submit you my project report on “Basel III and Risk Measurement models”.

I hereby declare that this project report has not been submitted by me before, for any degree, diploma, title or recognition.

I hope that, the report will meet your expectation and got a clearer idea about the subject. I am ready to cooperate for any clarification regarding the report, if required.

Sincerely,

\_\_\_\_\_\_\_\_\_\_\_\_\_

**Sajia Parvin**

**Id- 111 162 025**

**United International University**

**Supervisor’s Declaration**

This is to testify that the project report titled “Basel and Risk Measurement models” is prepared by Sajia Parvin for the partial fulfillment of the BBA program with a concentration of Finance from United International University. This report is completed under my supervision and free from appropriation.

She is allowed to submit the report.

**\_\_\_\_\_\_\_\_\_**

**Supervisor**

**Eliza Huq**

**Assistant Professor**

**Department of School of Business & Economics**

**United International University**

**Abstract**

This study aims at monitoring the implementation of Basel framework in banking sector. It is based mainly on secondary data. The purpose of this report is to give an introduction to Risk management seen in a broad perspective. That is its major concern on financial sector and we are focusing on defining the concept of Risk management. Virtually sustainable information through descriptive basis but nominal part is monetary in nature. We need strong regulatory framework to develop the practices of disclosing financial impact of the concerned banks. Necessary provisions should be made mandatory for the banks so that corruption might be easily controlled. Basel Committee on Banking Supervision, Basel III, Financial Stability, aggregate ROE model and maturity model whereas Financial Risk management focuses on risks that can be managed using traded financial instruments.

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***Introduction***

# Introduction

Risk management is the executive in banking is theoretically characterized as the legitimate improvement and execution of an arrangement to manage potential misfortunes. For the most part, the focal point of the risk the board rehearses in the financial business is to deal with an organization's introduction to misfortunes or chance and to secure the estimation of its benefits. Usually bank’s financial business is viewed as dangerous business. Monetary hypothesis proposes that there are two financial units - surplus unit and deficiency unit - these economic units prefer to use financial institutions (intermediaries) to transfer the necessary funds to each other.

**Basel III and financial stability:** A comparative analysis for implementation monitoring. The function of regular of monitoring in this area is measured by the Basel Committee on banking supervision. It introduces the progress and outcomes of efficient banking positions and activities. This framework helps to monitor bank’s progress to increase capital and liquidity to fulfill the minimum capital requirements. This system recovers how domestic capital, leverage and important bank regulations which are corporate internationally because of Basel III minimum standards. It reviews the calculations of capital ratios, risk weighted assets and other outcomes. Finally the banking sector becomes more efficient because of this framework.

**Aggregate ROE model:** Taking the course reading aggregate ROE model as a beginning stage we utilize this area to broaden the model with a financial segment. We start by laying out the monetary record of the total financial area. Having done as such, we incorporate this financial division into the total interest system. To keep things logically tractable we center on direct useful structures.

**Maturity models:** Maturity models are business instruments that help the estimation of the present condition of a specific order inside an association and guide the association to actualize consistent improvement in that field. Maturity models have turned into a significant theme in the board inquire about and are characterized as applied multistage models that depict run of the mill designs in the advancement of authoritative abilities. Banks are as often as possible connected in associations to evaluate the present condition of advancement against some notional 'best state' and after that to decide improvement measures to achieve the ideal best state. While bank start from the field of programming advancement, they have developed into different territories of business and their utilization in government, trade and e-business are recognized around the world.

## Background of the study

One of the preliminary steps to completing a thesis is the background study for it. The background study for some thesis includes a review of the area being researched, current information surrounding the issue, previous studies of the issue, and relevant history on the issue.

The financial practice related to Basel has been researched by most of the researchers. Most of the articles can be used for financial activities. The paper examines the measurement of this framework which helped banking sectors to become more efficient. It selects the relevant financial reporting standards and examines their strengths and weaknesses. The study finds that the Global Reporting Initiatives guidelines are insufficient to monitor financial disclosure. The paper proposes a mandated separate statement of regulatory activities. The elements of the proposed statement are discussed.

## Risk

Risk takes on many forms but is widely stated as the chance an outcome or investment's actual return will differ from the forecasted outcome or return. Risk includes the feasibility of losing some or all of the original investment. Different versions of risk are usually measured by calculating the [standard deviation](https://www.investopedia.com/terms/s/standarddeviation.asp) of the [historical returns](https://www.investopedia.com/terms/h/historical-returns.asp) or average returns of a particular investment.

Systematic risk:

Systematic risk refers to the whole market risk. Systematic risk is also called market risk. This risk covers the whole market risk not just specific area of an industry. No company can avoid this risk because it’s totally unpredictable. This risk cannot be removed by diversification.

Systematic risk also prefers industry risk. Systematic risk prefers changes in interest, inflation, and economical recession that have the capability to affect the whole market. Public equities portfolio cannot be changed the positions of an industry in this risk.

### Unsystematic risk:

Unsystematic risk refers to the specific market risk. It does not cover the whole market. This covers the specific risk of an industry. It is also called specific risk or nonsystematic risk. This risk can be removed by diversification. Unsystematic risk does not prefer changes in interest, inflation and recession that have the capability to affect the specific area of an industry.

# Objectives of the study

The general objective of the study is to explore the financial practices in the banking sector. The specific objectives of the study are:

* To monitor the regulatory framework practices in developed and developing countries.
* To identity the real challenges of financial practices in the banking sectors.
* To measure the asset risk management efficiency of the banking sector.

# Methodology of the study

This is an Ethnographic research. Ethnographic research is a qualitative method where **researchers observe and/or interact with a study’s participants in their real-life environment.** Ethnography was popularized by anthropology, but is used across a wide range of social sciences. In order to measure the risk of banking sector it has been selected four banks as sample among all following: South east bank limited, Dutch Bangla Bank Limited, Shahjalal Islami Bank Limited and Mutual Trust Bank. It needs to use various methods to collect and present data. Some diagrams and tables were used in this report for analyzing the collected data and to explain certain concepts and findings more clearly. Moreover, collected data were analyzed more precisely.

## Data design

### Data collection process:

The report analyzes the regulatory framework of the banking sector of Bangladesh. All the data have been collected from secondary sources Secondary data has been gathered for another purpose. Secondary data can be used again and again. Secondary data can be articles, website etc. Here website, articles and annual disclosures are used secondary information.

***Theoretical Framework***

# Theoretical Framework

# Importance of BASEL

We already know that Basel is important to our banking because it has some criteria which make our banking sector efficient. So there are some usefulness of Basel for that reason banks are adopting this system which are given below-

* Basel helps to deal with the worthlessness in the leverage ratio as the measures of solvency.
* It helps to raised safety and soundness in the financial system.
* It helps to enlarge the free enterprise equality so that every financial system can be worked properly.
* Basel helps to form broad approaches to tact risks.
* Basel develops approaches which help to adequate capital to the degree of risk engaged in a banks positions and activities.
* Basel centre on internationally active banks which helped them to remove various levels of complexity and corruption.
* Basel measured a non-risk based leverage ratio to require as a backstop to the risk-based capital requirements.
* Under Basel banks have to maintain specific level of high quality of assets that remove the possibility of cash outflows.

# BASEL

They are selected the Basel Accords as the BCBS maintains its administrative at the [Bank for International Settlements](https://en.wikipedia.org/wiki/Bank_for_International_Settlements) in [Basel](https://en.wikipedia.org/wiki/Basel), [Switzerland](https://en.wikipedia.org/wiki/Switzerland) and the committee generally meets there. The Basel Accords is a set of guidelines for regulations in the banking The Basel concerns to the banking supervision Accords (recommendations on banking regulations)—[Basel I](https://en.wikipedia.org/wiki/Basel_I), [Basel II](https://en.wikipedia.org/wiki/Basel_II) and [Basel III](https://en.wikipedia.org/wiki/Basel_III)—declared by the [Basel Committee on Banking Supervision](https://en.wikipedia.org/wiki/Basel_Committee_on_Banking_Supervision) Industry.

## BASEL I

Basel I is the circle of deliberations by [central bankers](https://en.wikipedia.org/wiki/Central_banking) from near the world, and in 1988, the [Basel Committee on Banking Supervision](https://en.wikipedia.org/wiki/Basel_Committee_on_Banking_Supervision) (BCBS) in [Basel](https://en.wikipedia.org/wiki/Basel), [Switzerland](https://en.wikipedia.org/wiki/Switzerland), bring out a set of least capital requirements for banks. Basel I, that is, the 1988 Basel Accord, is essentially concentrated on [credit risk](https://en.wikipedia.org/wiki/Credit_risk) and proper [risk-weighting of assets](https://en.wikipedia.org/wiki/Risk-weighted_asset).

### Components of Basel I

**Tier 1 capital ratio:**

Banks equity capital to its total risk weighted assets is balanced by tier 1 capital ratio. Bank maintains all risk weighted assets that are weighted by credit risk. Formulas for asset risk weights which agree to the Basel committees guidelines.

**The tier 1 capital ratio = Tier 1 capital / all RWA**

**Total capital ratio:**

The ratio of Total capital to risk weighted assets (RWAs).Capital ratios determine the amount of a bank's capital in association to the amount of risk it is taking. The idea is that all banks must make sure that logical adjustment of their risk is protected by permanent capital. Banks must maintain a minimum total capital ratio of 8%

**TCR = Total capital / RWAs**

**Leverage ratio:**

A ratio which considers how much capital comes from in terms of debt or loan or assesses the capacity of a company to gather its financial liabilities.

**Leverage ratio = total capital/average total assets**

**Problems of Basel I**

The first Basel only Centre on credit risk. It cannot focus on other kinds of such as operational risk and market risk. The credit risk calculations does not incur operational and market risk so that the banks cannot minimize this type of risk and there is a financial crisis in the banking sector. Also, the first Basel relies on the book values of the credit risk not on the market values. Day by day there are new financial instruments which have new book value and market value, because of Basel I market value can’t be considered and there is credit exposure in the financial system.

## BASEL II

The Basel II Accord was bring out initially in June 2004 and was planned to correct international banking standards that disciplined how much capital banks were needed to hold to guard against the financial and operational risks banks face. These regulations marked to make sure that the more significant the risk a bank is exposed to, the greater the amount of capital the bank needs to hold to safeguard its [solvency](https://en.wikipedia.org/wiki/Solvency) and overall economic stability.

### Components of BASEL II

**Credit risk:**

Credit risk is the possible risk of loss following from a borrower's failure to compensate a loan or meet legal obligations. Traditionally, it refers to the risk that a lender may not receive the due principal and interest, which results in a disruption of cash flows and increased costs for collection.

**Market Risk:**

An investor who experiencing losses in terms of some factors that affect the financial markets overall performance because of their involvement is called market risk. Market risk cannot be removed by diversification. So it is called systematic risk.

**VAR (Value at Risk):**

VAR used commonly to assess the market risk but bounded over time as conditions change this is the same flaw found in the Variance Covariance and past Stimulation approach to calculating VAR.

**Operational risk:**

A form of risk that sum up the risks a company or firm assumes when it attempts to operate within a given field or industry. Operational risk is the risk that is not essential in financial, systematic or market-wide risk. It is the risk continuing after determining financing and systematic risk, and includes risks resulting from analysis in internal procedures, people and systems or external events.

**Problems of Basel II**

In Basel II, there is no minimum leverage ratio so that the bank cannot expect to maintain average total combined assets. It also neglects the liquidity coverage ratio, for that a bank cannot hold sufficient liquid assets to secure total net cash outflows. Under Basel II, There has no net stable funding ratio so this accord does not measure available amount of solid funding to better the required amount of solid funding over an expended stress.

## BASEL III

Regulation, supervision and risk management in the banking sector is developed by Basel III and it is designed to reforms the problems. In late 2009, the first version of Basel III was issued by Basel Committee on banking supervision. It gives almost three years to fulfill all requirements. Banks needs to maintain proper leverage ratio and capital requirements in terms of financial crisis.

### Components of BASEL III

**Leverage ratio:**

Basel III entered a minimum "leverage ratio". This is a non-risk-based leverage ratio and is defined by dividing Tier 1 capital by the bank's average total combined assets. The banks are expected to maintain a leverage ratio in excess of 3% under Basel III.

**Financial leverage = Total Debt / Shareholder’s Equity**

Tier 1 Capital Total exposure ≥ 3 % {\displaystyle {\frac {\mbox{Tier 1 Capital}}{\mbox{Total exposure}}}\geq 3\%

**Liquidity requirements:**

Basel III established two needed liquidity ratios.

The **"Liquidity Coverage Ratio"** was assumed to require a bank to hold sufficient L C R = High quality liquid assets Total net liquidity outflows over 30 days ≥ 100 % {\displaystyle LCR={\frac {\mbox{High quality liquid assets}}{\mbox{Total net liquidity outflows over 30 days}}}\geq 100\%} high quality liquid assets to secure its total net cash outflows over 30 days

**Liquidity coverage ratio= Liquid assets / total net cash flows> 100%**

The **“**[**Net Stable Funding Ratio**](https://en.wikipedia.org/wiki/Net_Stable_Funding_Ratio)**”** was to need the available amount of solid funding to better the required amount of solid funding over a one-year period of expanded stress.

**Net Stable Funding ratio=Available amount of stable funding /required amount of stable funding > 100%**

## 

## Country Exposure

### Basel III and Developed Countries:

Basel I is implemented from 2001 over 100 countries. When these countries faced problems under Basel I, they implemented another new accord which is Basel II. But the financial crisis of the banking increased day by day. For that reason they finally introduced Basel III. As Basel III introduced to measure the financial stability of the banking, it relies on Basel II and wants to implement the minimum capital requirements so that Basel committee can achieve the risk sensitive framework. When the market risk has not been changed under Basel I, the cost of the credit risk has been increased. So, the banks have risk complexity.

In developed countries, Basel III introduced for their improvement. All the banks will need a proper capital adequacy process. There are some criteria so that Basel III is helpful for developed countries which are given below-

* Basel III helps developed countries to minimize their risk fundamentals.
* When Basel I and II cannot work properly, that time Basel III helps to recover the overall loss estimation methodologies.
* Because of risk minimization, there is adequate capital so that developed countries can run their operation properly.
* Basel III estimates proper capital policy and capital planning.
* By measuring more capital stability, Basel III improved the banks Z-score of the developed countries.

### Basel III and Developing countries:

Although Basel III implemented for developed countries by internationally active banks, other countries such as developing countries also implement Basel III for their international regulatory and competitiveness matters.

While developing countries adopts Basel III, there are some positive changes which are given below-

* There are new rules for measuring credit rating agencies.
* Developing countries require a regulatory standard that helps to meet their needs.
* This is important for regulators from developing countries engage in a discourse which will be either truly global, or will specifically something desirable the needs of the emerging economies.

But there is a problem which includes lack of knowledge and expertise in developing countries can be introduced by the Basel committee. By improving technical skills in the employees and sharing funding between different countries, this problem can be solved. It needs to be the interest of the global financial system, so that domestic regulatory setup properly. Furthermore the function of credit rating agencies has been introduced in Basel III. It provides the functions of credit rating agencies which is not preferable for developing countries by depending on internal rating system. Unfortunately, many developing countries lack rating mechanism and capacity because of lower skills and technology expertise. If they are able to adopt proper technology and skilled expertise then Basel III will be helpful for them.

### Basel implementation on Bangladesh

Basel III changes are the response of Basel of trustees on banking supervision (BCBS) to improve the financial capacity to assimilate stuns emerging from money related and monetary pressure, whatever the source, hence lessening the danger of overflow from the budgetary division to the genuine economy. Basel III is a worldwide administrative structure for stronger banks and banking frameworks. Basel III capital guidelines would be completely executed as on January 1, 2019.

***Literature Review***

# Literature Review

To minimized systematic risk, and increased global financial stability Basel committee on banking supervision adopted some international themes which helped financial institutions became adequately capitalized, through stress testing which founded less leverage and promoted financial innovation **(Professor Robert Engle & Professor Douglas Diamond, 2011).**

It was founded that individual measures of systemic risk which predicted how much a stock expected to fall in a market downturn. It focused on wholesale funding and bank of profitability during a crisis. They realized that short term wholesale funding was a key determinant to cover up systematic risk. Short term wholesale funding emerged as the most important systematic factor and the Basel committee proposed to introduce a net stable funding ratio and excessive exposure to liquidity risk. **(Acharya et al. 2012)**

It was founded to correct regulation that has been minimized the risk and impact of the financial crisis. They localized important component which helped to analyze the data and found that the impact of bank regulation and controlled on risk varies across banks. (**Barth et al. 2004, 2008)**

Financial construction and international intermediaries were the solution for the lender for the purpose of making and holding loans. This system became strong because it helped to fix up the problem of selecting differentiated value from borrowers. Basel III helped to find different approaches that has been minimized in developing countries capital flows and financial crises**. (Hay ne E. Leland & David H. Pyle, In & Miles Kahler ed., 1998).**

‘Basel committee on banking supervision proposed bank capital and liquidity because it is really helpful to bring major changes in business models and product pricing**. (Standard & Poor’s, 2010)**

The trend of commercial banking is changing rapidly. Competition is getting stiffer and, therefore, banks need to enhance their competitiveness and efficiency by improving performance. Normally, the financial performance of commercial banks and other financial institutions has been measured using a combination of financial ratios analysis, benchmarking, measuring performance against budget or a mix of these methodologies. **(Avkiran, 1995**)

Basel III suggested that how the delegated bank deposits has been palliated the capability of banks to elicit rents from entrepreneurs. The bank funding and the deposits must be cooperated with each other so that bank charged more for their proper intermediation services and reduced liquidity formation. **(Diamond and Rajan, 2001)**

Formation of liquidity and shifted risk were made the banks existence. Liquidity formation measured the arrangement of financed to the real economy. Banks created liquidity on balance sheet financed properly liquid assets with liquid liabilities. **(Berger and Bouwman, 2009)**

Basel II was envisioned to align regulatory capital requirements with the existent risk associated with banks‟ asset, computed with latest risk management techniques. Basel II was proposed to increase regulatory capital for lower rating classes and, as a result, several observers expressed their concern that bank lending to emerging markets would decline. **(Reisen 2001and Griffith- Jones 2003).**

The estimation of bank execution especially business banks is all around explored and has gotten expanded consideration over the previous years (Seiford and Zhu, 1999). There have been an expansive number of observational investigations on business bank execution around the globe **(Yeh, 1996; Webb, 2003; Lacewell, 2003; Halkos and Salamouris, 2004; Tarawneh, 2006**).

SalehJahur and Parveen (1996) used maturity model to conclude the bankruptcy position of Chittagong Steel Mills Ltd. They found that absences of realistic goals, strict govt. regulations are the main reasons for the lowest level of bankruptcy.   **(European Journal of Business and Management, ISSN 2222-1905 (Paper) ISSN 2222-2839) (Online)**

***Industry Analysis***

# Industry Analysis

Banking industry of Bangladesh has accomplished exceptional momentum throughout the years. It has got a few positive changes terms of extension, modernization, innovative adjustment, corporate administration and improved administrative and supervisory condition.

The financial part has advanced to end up the overwhelming money related between in Bangladeshi budgetary framework because of the immature cash and capital market, constrained accessibility of monetary instruments, and absence of trust in the money related framework. Our monetary policy is not much standard. Government is playing imperative job in the monetary part as borrowers from the financial framework. In Bangladesh there is limited extinction for people to put resources into the capital markets and absence of elective chances for venture constrained them to put primarily in banks, government bonds, saving certificate and securities.

Over the most recent two years, Bangladesh’s monetary policy has amazing from the point of view of gross domestic product(GDP) development rate, which was seven or m ore percent in two years, as indicated by figures from government different sources.

Bangladesh bank (BB) has attempted surprising administrative and supervisory activities throughout the years in accordance with the globally acknowledged benchmarks and consistence necessities. Banking segment of the nation currently has currently has risk management measures and guidelines, compliance necessities for all the main zones of banking and prudential and capital standard are properly set up. Appropriately apply technology and coping with the innovation has acquired noteworthy effectiveness in the supervisory course of action of Bangladesh bank. The central bank has made a stage for modernization of banking, installment framework and money related administrative conveyance by detailing of tenets, rules and effective planning. It is a great idea to see that the central bank has reacted with due to help the innovation driven activities of the banks.

***Company Analysis***

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# Company Analysis

Southeast Bank Limited:

Southeast Bank Limited is a fast developing banking institute on having a special corporate culture and benevolent workplace which units people towards accomplishing enormous outcomes in each part of Bank's activities. Southeast Bank Restricted is a second era driving private business Bank in the nation with a dream to be the main money related foundation in the nation having a different cluster of painstakingly customized friendly items and financial services in the Bank which joins our kin and results in nonstop development in each part of Bank's tasks.

## Dutch-Bangla Bank Limited:

Dutch-Bangla Bank started its task as Bangladesh's first joint endeavor bank. The bank was a joint effort between nearby investors driven by M.Sahabuddin Ahmed (author executive) and the Dutch organization FMO. From the starting point, the point of the bank has been financing high-development producing enterprises in Bangladesh. Along these lines financing and concentrating on this area causes Bangladesh to accomplish the ideal development. Dutch Bangla Bank different center is Corporate Social Duty (CSR). Despite the fact that CSR is currently normal, DBBL is the pioneer in this area and named their commitment essentially as 'social duty'. Because of its interest here, Dutch Bangla Bank is presently one of the biggest benefactors and the biggest bank giver in Bangladesh. The bank has gotten different universal honors as a result of its interesting perspective as a socially concerned bank.

## Mutual Trust Bank Limited:

Mutual Trust Bank Ltd is a financial institution whose primary goal is the preparation of reserve from surplus unit to deficiency unit. During the time spent acceptance of deposits and provision of loans and arrangement of credits, Bank creates cash. This qualities highlight separates Bank from other banks. The bank can impact the cash supply through loaning and speculation. . The bank is an economic institution whose main objective is to earn profit through exchange of money and credit instruments.

## Shahjalal Islamic Bank Limited:

In August 1974, Bangladesh marked the contract of Islamic Improvement Bank and invested in redesign its monetary and money related framework according to Islamic Shariah. For the good demeanor of the legislature of the general population's republic of Bangladesh, at present six Islamic Banks work in Bangladesh Budgetary market and one of them is Shahjalal Islamic Bank. Banking area is the boss monetary middle people in a nation. It's additionally valid for Bangladesh. Shahjalal Islami Bank Ltd. is a difficult foundation. In the period of globalization and organized commerce, the procedure and the arrangement of running a bank is evolving. SJIBL is constantly overseeing itself with this evolving condition. The organization procedures are clear and compact. The arrival is entirely great. On the off chance that the organization plays out along these lines, we can anticipate that in not so distant future, SJIBL may end up one of the top entertainers in banking segment of our nation. From the earliest starting point, the prime goal of the SJIBL was to expand capitalization, to keep up trained development and high corporate morals standard and improve the soundness of the investors. Its client administration is particularly great than of other budgetary establishments. Their compelling methodology, time request contributions, exceptional standards and guidelines to adapt to worldwide market and their kinship client benefits effectively inspire the customers. In this way, presently The SJIBL is in driving position in money related Institutional parts in Bangladesh.

***Data Analysis***

# *BASEL I, II & III*

# South east bank limited

### BASEL I

**Tier 1 capital ratio:**

The total risk weighted assets of banks equity capital is balanced by tier 1 capital ratio. Bank considers the entire risk weights asset by credit risk which is weighted. According to Basel committee’s guideline formula of asset risk weights the tier 1 capital actually measures the bank’s core capital. So the tier 1 capital ratio measures a bank’s financial condition, core capital and total risk weighted assets. Basel usually required meeting of capital adequacy standard minimum of 6%.

**The tier 1 capital ratio = Tier 1 capital / all RWA**

The tier 1 capital ratio is 6.80% which is considered to be adequately capitalized because it is equal to the minimum tier 1 capital ratio.

**Tier 1 total capital ratio:**

The ratio of Total capital to risk weighted assets (RWAs).Capital ratios determine the amount of a bank's capital in association to the amount of risk it is taking. The idea is that all banks must make sure that logical adjustment of their risk is protected by permanent capital. Banks must maintain a minimum total capital ratio of 10%

**TCR = Total capital / RWAs**

The total capital ratio is 10.87% which is well capitalized because it is equal to the minimum percentage of total capital ratio tier 1.

**Tier 1 Leverage ratio:**

A ratio which considers how much capital comes from in terms of debt or loan or assesses the capacity of a company to gather its financial liabilities. This is non-risk- based leverage ratio and is calculated by dividing tier 1 capital by the banks average total assets. So the banks are expected to maintain minimum leverage ratio is excess of 3% under Basel III.

**Leverage ratio = total capital/average total assets**

Southeast bank has 5.16% so tier 1 leverage ratio is considered as well capitalized.

### BASEL II

**Leverage ratio:**

Basel III entered a minimum "leverage ratio". This is a non-risk-based leverage ratio and is defined by dividing Tier 1 capital by the bank's average total combined assets. The banks are expected to maintain a leverage ratio in excess of 3% under Basel III. in July 2013, the U.S Federal reserve announced that the minimum Basel III leverage ratio would be 6% for systemically important financial institution (SIFI) banks and 5% for insured bank holding companies.

**Financial leverage ratio:**

Financial leverage ratio indicates how much a business is dependent on the debt that it has issued. It shows that how banks are using their debt and their financial strategy and its dependency on borrowings. These risks include all the risk involving monetary transaction. It also reflects the investor’s uncertainty regarding the collection of returns and the potential of a financial loss.

**Financial leverage Formula = Total Debt / Shareholder’s Equity**

The ratio is 12.14%. The higher debt shows a levered firm which may preferable and it reflects that it has significant cash flow generation. Other hand lower ratio indicates a firm less levered, so it has full equity finance. Both situations can be acceptable.Tier 1 Capital Total exposure ≥ 3 % {\displaystyle {\frac {\mbox{Tier 1 Capital}}{\mbox{Total exposure}}}\geq 3\%} the higher debt jhy

### BASEL III

**Liquidity requirements:**

The Basel III guideline provided two effective monitoring tools to measure the liquidity namely Liquidity Coverage Ratio (LCR) and Net Stable funding Ratio (NSFR) which Southeast bank maintain from begging.

**Liquidity Coverage Ratio (LCR):**

Liquidity Coverage Ratio (LCR) is high quality liquid assets held by the bank to meet short term obligation. The ratio is designed to ensure that the bank has the necessary assets on hand is short term liquidity disruption. According to Basel III The bank require to maintain LCR>100%.

The "Liquidity Coverage Ratio" was assumed to require a bank to hold sufficient L C R = High quality liquid assets Total net liquidity outflows over 30 days ≥ 100 % {\displaystyle LCR={\frac {\mbox{High quality liquid assets}}{\mbox{Total net liquidity outflows over 30 days}}}\geq 100\%} high quality liquid assets to secure its total net cash outflows over 30 days

**Liquidity coverage ratio= Liquid assets / total net cash flows**

Liquidity Coverage Ratio (LCR) is 102.81% which is well capitalized because it is maintain the minimum percentage of total capital ratio tier 1.

[**Net Stable Funding Ratio**](https://en.wikipedia.org/wiki/Net_Stable_Funding_Ratio) **(NSFR):**

[Net Stable Funding Ratio](https://en.wikipedia.org/wiki/Net_Stable_Funding_Ratio) (NSFR) is defined as the amount of available stable funding relative to the amount of required stable funding. This ratio is also should be equal to 100% for continuing process. NSFR Seeks to calculate the proportion of Available amount of stable funding and required amount of stable funding for the assets. The [Net Stable Funding Ratio](https://en.wikipedia.org/wiki/Net_Stable_Funding_Ratio) was to need the available amount of solid funding to better the required amount of solid funding over a one-year period of expanded stress.

**Net Stable Funding ratio=Available amount of stable funding / required amount of stable funding > 100%**

[Net Stable Funding Ratio](https://en.wikipedia.org/wiki/Net_Stable_Funding_Ratio) (NSFR) of South east bank is 115.55%, which is quite good.

The purpose of the NSFR is to ensure that the Bank holds a minimum amount of stable funding based on the liquidity characteristics of its assets and activities over a one year horizon. The objective is to reduce maturity mismatches between the asset and liability items on the balance sheet and thereby reduce funding and rollover risk. The Bank is required to maintain NSFR> 100% under Basel III.

## Dutch Bangla Bank Limited

### BASEL I

**Tier 1 capital ratio:**

The tier 1 capital ratio measurers a bank’s financial strength by using its capital tier 1 and all assets risk weighted assets. Usually high capital adequacy is good for banks because it’s likely to meet its entire financial obligation. Basel says a bank has to maintain minimum 6% of tier 1 capital ratio.

Dutch bangle bank has been able to manage the ratio above the requirement. It has 9.2% tier 1 capital ratio.

**The tier 1 capital ratio = Tier 1 capital / all RWA**

**Tier 1 total capital ratio:**

To maintain a standard level Bangladesh bank set a minimum level to improve financial stability and comply with international practice by implementing Basel III. And Dutch bangle bank ltd has above the regulatory of 10%.

**TCR= total capital/RWAs**

**Tier 1 Leverage ratio:**

Basel III introduced leverage ratio to reduce the risk of financial health that can damage in future and can inflict the economy as well. In Bangladesh the minimum requirement is 3% of leverage ratio. Dutch bangla stood 5.2% in the bank industry. So this means it has more efficient liquidity and liquidity risk management in long run.

**Leverage ratio= Total Capital/Average Total Average**

### BASEL II

**Credit risk:**

Credit risk is most innate and huge risk in business world. Each credit presentation or exchange with counterparty includes the bank to some extent of credit danger. Credit concept is at the core of the executive agreement o the bank. It is planned and consistently refreshed to distinguish measure, oversee and moderate credit risk to keep up and improve nature of credit portfolio and decrease real loan losses. It ensures that these authorized processes are practiced and utilized for getting and apply new credit opportunity, facilities and renewals.

**Trade-off:** Risk is taken thinking about the enthusiasm of the partners, in line with methodology and risk craving of bank.

**Responsibility and obligation:** endowed workers guarantee that hazard taking is restrained and centered. Risk is taken just by appointed experts and where there is fitting framework and assets. DBBL keeps up not mistakable and straightforward produced for all credit risk taking activities.

**Expectation:** DBBL tried to envision future potential dangers and expect to guarantee familiarity with all known risk

**Competitive Advantage:** DBBL tries to accomplish Competitive Advantage through powerful and effective risk management and control rehearses.

**Market risk:**

Basel II additionally covers market and operational risk. In addition, under Basel II credit risk is determined at 125% of outstanding loan. Subsequently risk weighted assets and capital necessity under Basel II Are Significantly Expanded When Contrasted with Basel I especially on the grounds of borrowers is another marvel in Bangladesh. It has turned into a noteworthy test for DBBL financial part. Better risk executive frameworks, capital increments and ability of building measures are in process to meet future necessity under the Basel II.

DBBL kept up 11.2% vehicle under Basel II starting at 31 December, 2011 against minimum capital prerequisite of 10% by Bangladesh bank.

**Operational risk:**

DBBL has developed information technology and MIS. It does efficient control in IT operations and prevents risk of loss of bank against any operational risk.

### BASEL III

**Tier 1 Leverage ratio:**

Basel III introduced leverage ratio to reduce the risk of financial health that can damage in future and can inflict the economy as well. In Bangladesh the minimum requirement is 3% of leverage ratio. Dutch bangla stood 5.2% in the bank industry. So this means it has more efficient liquidity and liquidity risk management in long run.

**Liquidity Ratio:**

As we know Basel III introduced two liquidity ratios are Liquidity Coverage Ratio (LCR) and [Net Stable Funding Ratio](https://en.wikipedia.org/wiki/Net_Stable_Funding_Ratio) (NSFR).

**Liquidity Coverage Ratio (LCR):**

Liquidity Coverage Ratio consider the limited level of stock with maximum qualify liquid assets which can easily convert into cash to cover its obligations for the next 30 days.

**Liquidity coverage ratio= Liquid assets / total net cash flows**

Basel set the minimum requirement for LCR>100. DBBL acquire in position of 125.1% which is healthy position for a bank.

[**Net Stable Funding Ratio**](https://en.wikipedia.org/wiki/Net_Stable_Funding_Ratio) **(NSFR):**

[Net Stable Funding Ratio](https://en.wikipedia.org/wiki/Net_Stable_Funding_Ratio) (NSFR) is another marvelous financial intermediary which use o aim for better risk management and for effective financial system under Basel III. DBBL stood in 115.7% where minimum requirement is NSFR>100%. So it has a accepted value for DBBL.

## Mutual trust bank

### BASEL I

**Tier 1 capital ratio:**

Mutual trust bank (MTB) ensures the requirement of Bangladesh bank and successfully hold a strong Capital- risk weighted assets ratio. It has 7.28 capital ratio under Basel tier I. it means MTB has a reasonable stage that can absorb all risk.

**The tier 1 capital ratio = Tier 1 capital / all RWA**

**Tier 1 total capital ratio:**

In banking sector 10% require total capital ratio. MTB stood at 13.76% of total capital ratio. So it has well capitalized against risk.

**TCR= total capital/RWAs**

**Tier 1 Leverage ratio:**

MTB has leverage ratio 4.24 % it covers the minimum requirement of 3%. 4.24% shows us that it has adequate finance against its obligations.

**Leverage ratio= Total Capital/Average Total Average**

### BASEL II

**Credit risk:**

Credit risk is important term in banking sector. It has to maintain very effectively otherwise it can leads bankruptcy. Well managed credit risk reduces the loss and utilizes the credit portfolio. MTB is in an acceptable level to return to its stakeholders. MTB manages it through a effective procedure that minimize its loss risk and productive its loan portfolio.

**Market risk:**

Market risk arise loss from changes in market variables, for example exchange rate, interest’s rate or equity etc.

**Foreign exchange risk management:** Foreign exchange risk is measure by the change of the local currency value affecting domestic income. Variation of these currency exchanges rates arise this risk of loss.

**Interest rate risk:** MTB especially focus on interest rate risk in regular activities. This is the main source where they can profit or incur loss as well. MTB emphasis mainly on financing emerging from ordinary business. Inability to distinguish the risk related with the business timely.

**Equity:** equity risk occurs from changes values of securities. The investor can monitor this risk under an all around and planned, designed system.

**Operational risk:**

Operational risk arises from bad or in adequate internal processes or from outer events, individual and framework. Operational risk in the bank is overseen through an extensive and well managed internal control system. To improve these MTB do analyze in regular basis and control their action so that they can prevent this loss in future.

### BASEL III

**Tier 1 Leverage ratio:**

The Basel III leverage ratio is defined as the capital measure (Tier-I capital of the risk based capital framework) divided by the exposure measure, this ratio is expressed as a percentage.MTB stands 2.24% in the banking industry. It shows that MTB has enough efficient liquidity and liquidity risk management for a long period.

**Liquidity Ratio:**

The liquidity status of banks, Bangladesh bank, in accordance with Basel council on banking supervision, has presented two new benchmark for better liquidity measure are; Liquidity Coverage Ratio (LCR) and [Net Stable Funding Ratio](https://en.wikipedia.org/wiki/Net_Stable_Funding_Ratio) (NSFR) under Basel III.

**Liquidity Coverage Ratio (LCR):**

MTB is continually keeps up a solid liquidity base result is sound position in the business. Cash reserve ratio and statutory of MTB is above the regulatory standard. Liquidity Coverage Ratio (LCR) is 126.07% against administrative standard of in any event 100%.

[**Net Stable Funding Ratio**](https://en.wikipedia.org/wiki/Net_Stable_Funding_Ratio) **(NSFR):**

MTB appears flexibility as it is able to funding for a longer period from a stable source of fund. This reflects in its [Net Stable Funding Ratio](https://en.wikipedia.org/wiki/Net_Stable_Funding_Ratio) (NSFR) of 100.90% in 2017 against administrative standard of in any event 100%.

## Shahjalal Islami Bank Limited

### BASEL I

**Tier 1 capital ratio:**

Shahjalal Islami Bank Limited: Shahjalal Islami Bank Limited (SJIBL) has transitional arrangement provided for meeting the least requirement of basel III of capital ratio. Basel says a bank has to maintain minimum 6% of tier 1 capital ratio. Shahjalal Islami Bank Limited (SJIBL) has 8.38% capital ratio under Basel tier I.

**The tier 1 capital ratio = Tier 1 capital / all RWA**

**Tier 1 total capital ratio:**

Under Basel Tier 1 total capital ratio 10% require total capital ratio. SJIBL stood at 8.48% of total capital ratio. It needs to increase to meet minimum requirement.

**TCR= total capital/RWAs**

**Tier 1 Leverage ratio:**

SJIBL has leverage ratio 5.51% it covers the minimum requirement of 3%. 5.51% shows us that it has more efficient liquidity and liquidity risk management in long run.

**Leverage ratio= Total Capital/Average Total Average**

### BASEL II

**Credit risk:**

Credit risk is the Board rules are occasionally evaluate by the Basel and Bangladesh bank intermittently reviews the execution status of these rules and according to the reports of Bangladesh bank Shahjalal Islami Bank Limited (SJIBL) Is well consistent in credit risk. In accordance with guidance of Bangladesh bank SJIBL framed risk and figure the evaluation and philosophies, rules and techniques for hazard recognizable proof, chance estimation, hazard checking, choosing satisfactory dimension of hazard and hazard controlling by taking relieving steps.

**Market risk:**

Market risk of SJIBL emerges from deposit receive and granting investment. The essential target of market risk the board is to guarantee that banks exercise which are presented to various market risks are producing idea return and drawbacks of risk in control and farthest point of concurred craving.

**Operational risk:**

Operational risk arises from bad or in adequate internal processes or from outer events, individual and framework. Operational risk in the bank is overseen through an extensive and well managed internal control system. To improve these MTB do analyze in regular basis and control their action so that they can prevent this loss in future.

### BASEL III

**Tier 1 Leverage ratio:**

The Basel III leverage ratio is defined as the capital measure (Tier-I capital of the risk based capital framework) divided by the exposure measure, this ratio is expressed as a percentage. Shahjalal Islami Bank Limited (SJIBL) stands 2.24% in the banking industry. It shows that Shahjalal Islami Bank Limited (SJIBL) has enough efficient management for liquidity and liquidity risk management for a long period.

**Liquidity Ratio:**

The liquidity status of banks, Bangladesh bank, in accordance with Basel council on banking supervision, has presented two new benchmark for better liquidity measure are; Liquidity Coverage Ratio (LCR) and [Net Stable Funding Ratio](https://en.wikipedia.org/wiki/Net_Stable_Funding_Ratio) (NSFR) under Basel III.

**Liquidity Coverage Ratio (LCR):**

Shahjalal Islami Bank Limited (SJIBL) is continually keeps up a solid liquidity base result is sound position in the business. Cash reserve ratio and statutory of Shahjalal Islami Bank Limited (SJIBL) is above the regulatory standard. Liquidity Coverage Ratio (LCR) is 127.92% against administrative standard of in any event 100%.

[**Net Stable Funding Ratio**](https://en.wikipedia.org/wiki/Net_Stable_Funding_Ratio) **(NSFR):**

Shahjalal Islami Bank Limited (SJIBL) appears flexibility as it is able to funding for a longer period from a stable source of fund. This reflects in its [Net Stable Funding Ratio](https://en.wikipedia.org/wiki/Net_Stable_Funding_Ratio) (NSFR) of 100.87% in 2017 against administrative standard of in any event 100%.

***The Aggregate ROE Model***

# The Aggregate ROE Model

Aggregate ROE model is the estimation of generally execution of the association. It worries with how much return the association gets against the venture. It is a proportion of the gainfulness of a business in connection to the book estimation of investor value, otherwise called known as net assets or assets minus liabilities. ROE is a proportion of how well an organization utilizes speculations to create profit development.

Here we have given Duo point analysis; this analysis tells us that ROE is effective by three things-

1. Operating efficiency which is measured by profit margin
2. Asset use efficiency which is measured by total asset turnover
3. Financial leverage which is measured by the equity multiplier.

These basic concept and theory of finance are given in this report; you can see elaborate explanation later. This aggregate ROE model decomposes its components to determine the strengths of an individual company’s performance with other companies.

**Step 01:** ROE= ROA x EM

= (Net Income/Total Assets) x (Total assets/Total equity)

**Step 02:** Net Income (NI) = Total Revenue (TR)-Total Expenses (TE)

The effect of dividing both sides of above equation by total assets is to decompose ROA: NI/TA= (TR/TA)-(TE/TA) which is, ROA= Assets Utilization- Expense ratio

This implies that maximizing assets utilization and minimizing the expense ratios can maximize ROA of company.

**Step 03:** Total revenues can be further decomposed into:

TR= Interest Income (II) + Non-Interest Income (NII) + Net Profit/ Loss on sale of securities (PS) Dividing throughout by total assets, we get

TR/TA = (II/TA) + (NII/TA) + (PS/TA) in other words, Assets utilization= Yield on assets + Non-interest income rate + Profit rate on sale of securities

**Step 04:** Similarly, total expenses can also be further decomposed into

TE= Interest Expenses (IE) + Overhead Expenses (OE) + Provisions (P)

Again, dividing throughout by total assets, we get, TE/TA= (IE/TA) + (OE/TA) + (P/TA)

To sum up the whole framework of ROE model, ROE= (ROA) x (EM)

= (Assets Utilization- Expense ratio) x EM

Stated differently, ROE= (NI/TA) x (TA/TE)

= (NI/TR) x (TR/TA) x (TA/TE)

= Profit margin x Asset utilization x Equity multiplier

**Assets utilization=** Yield on assets + Non-interest income rate + Profit rate on sale of securities TR/TA = (II/TA) + (NII/TA) + (PS/TA)

**Return on equity**

|  |
| --- |
| ROE = (Net Income/Total Assets) x (Total assets/Total equity)  ROE= ROA x EM |

(ROA) is a pointer of how gainful an organization is with respect to its absolute assets.ROA gives an administrator, financial specialist, or investigator thought about how proficient an organization's administration is at utilizing its advantages for produce income. Profit for resources is shown as a rate and it’s calculated as:

(ROA = Net Income / Total Assets) & (Expense Ratio=Total expense/Total Asset)

ROA ratio is the difference between the asset utilization ratio and expense ratio.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **ROA** | | | | |
| Company | **South-East bank** | **DBBL** | **SJIBL** | **MTB** |
| Assets utilization ratio | 0.130525 | 0.125059 | 0.108562 | 0.094243 |
| Expense ratio | 0.085018 | 0.076608 | 0.072646 | 0.055117 |
| ROA | 0.045507 | 0.048451 | 0.035916 | 0.039126 |

We can see that the ROA ratio of South East and DBBL is comparatively higher than others. As we know that higher the ROA ratio higher the efficiency level. SJIBL and MTB must avoid this falling down situation and try to raise its ROA ratio.

## Equity Multiplier Ratio

The equity multiplier is a money related influence proportion that estimates the measure of an association's benefits that are financed by its investors by contrasting absolute resources and complete investor's value. As such, the value multiplier demonstrates the level of advantages that are financed or owed by the investors. On the other hand, this proportion additionally demonstrates the dimension of obligation financing is utilized to secure resources and look after tasks. For calculating the equity multiplier ratio, we have to divide the total asset by the total equity.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Equity Multiplier Ratio** | | | | |
| Company | **South-East bank** | **DBBL** | **SJIBL** | **MTB** |
| Total assets | 220930 | 236608.4 | 260718 | 291798 |
| Total Equity | 21929 | 24543 | 27206 | 26523 |
| EM | 10.07479 | 9.64057 | 9.58311 | 11.00170 |

All the values are favorable but MTB and South East bank achieves the highest.

## Yield on Assets Ratio:

Yield on asset ratio is a financial solvency ratio that compares a financial institution’s interest income to its earning assets. Yield on earning assets (YEA) indicates how well assets are performing by looking at how much income they bring in.

For calculating the yield on asset ratio of IPDC, we consider all their interest income and divide them by the total asset.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Yield on Assets= Net interest Income/ Total Assets** | | | | |
| Company | **South-East bank** | **DBBL** | **SJIBL** | **MTB** |
| Net interest income | 4.01 | 3.16 | 3.27 | 4.20 |
| Total assets | 33.89 | 236.22 | 26.03 | 20.61 |
| **Yield on Assets** | **0.12** | **0.01** | **0.13** | **0.20** |

MTB and SJIBL have higher value. If the other bank wants to increase its efficiency level it has to increase all of its interest income for getting higher yields on asset ratio.

## Non-interest income rate ratio:

Non-interest income is fees including investment income commission etc. For calculating the non-interest income rate ratio we consider all of their non-interest income such as investment income, commission, exchange and brokerage and from other operating income.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Non-interest income** | | | | |
| Company | South-East bank | DBBL | SJIBL | MTB | |
| Non - interest income | 29.03 | 24.22 | 16.45 | 10.77 | |

We can see that the South East bank had higher non-interest income rate ratio in 2017 which is 29.03% but MTB has lowest non-interest income rate ratio in 2017 which is 10.77%. to increase its efficiency level, it has to increase all of its non-interest income for getting higher non-interest income rate ratio.

Rate of profit/ loss ratio on scale of securities:

The profit/loss ratio refers to a trading system's ability to generate profits over losses. The profit/loss ratio is the average profit on winning trades divided by the average loss on losing trades over a specified time. For calculating the rate of profit/loss ratio of IPDC, we have to consider its total profit/loss on sale of securities and divide it by total asset.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **profit/ loss ratio on scale of securities** | | | | |
| **Company** | South-East bank | DBBL | SJIBL | MTB |
| **Proceeds from sale of securities** | 8,263 | 2,059 | 1,058 | 9,429 |
| **total assets** | 7758.92 | 7743.86 | 8202.24 | 2257.5 |
| **Rate** | 106.490336 | 26.59268 | 12.90013 | 417.65227 |

**ROA**= Assets Utilization- Expense ratio

NI/TA= (TR/TA)-(TE/TA)

## Asset utilization ratio:

Asset utilization is a ratio used by business analysts to determine how well a company is using its available assets to generate a profit. The higher the utilization ratio of any given asset, the more profit makes a company. For calculating the asset utilization ratio of IPDC, we have to sum up the yield on asset, non-interest income rate and the rate of profit/loss. Then divide the total summations value with the total asset.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Asset Utilization = Yield on Assets + non-interest income + profit/loss from sale of securities rate** | | | | |
| **Years** | **South-East bank** | **DBBL** | **SJIBL** | **MTB** |
| Yield on Assets | 2.73 | 53.74 | 52.60 | 191.11 |
| non-interest income | 19.52 | 24.22 | 16.45 | 10.77 |
| profit/loss from sale of securities rate | 24.00 | 26.59 | 12.90 | 417.65 |
| **total** | **46.25** | **104.56** | **81.95** | **619.54** |

## Overhead expense:

Overhead costs, often referred to as overhead or operating expenses, refer to those expenses associated with running a business that can’t be linked to creating or producing a product or service. They are the expenses the business incurs to stay in business, regardless of its success level.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Overhead Expense** | | | | |
| **Years** | **South-East bank** | **DBBL** | **SJIBL** | **MTB** |
| Rent, taxes, insurance, electricity etc. | 1,553,137 | 469,354,246 | 28818708 | 37555015 |
| Legal expenses | 0 | 902,455 | 16450 | 36500 |
| Postage, stamp, telecommunication etc. | 175,303,570 | 129,125,339 | 7492505 | 8217481 |
| **Overhead Expense** | **176,856,707** | **599,382,040** | **36,327,663** | **45,808,996** |

## Total Expense:

For calculating the expense ratio, we have to Sum up the interest and other expense and provision. Then divide the total value by the total asset.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Total Expense = Interest Expense + Overhead Expense + Provision** | | | | |
| **Years** | **South-East bank** | **DBBL** | **SJIBL** | **MTB** |
| Interest Expense | 13.38 | 16.05 | 14.65 | 12.79 |
| Overhead Expense | 0.18 | 0.60 | 0.04 | 0.05 |
| Provision | 4.84 | 1.48 | 4.25 | 3.25 |
| **Total Expense** | **18.40** | **18.13** | **18.94** | **16.08** |

Only MTB can reduce its expense compare to others.

## Total Revenue:

Revenue is the amount of money that a company actually receives during a specific period, including discounts and deductions for returned merchandise. It is the top line or gross income figure from which costs are subtracted to determine net income.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Total Revenue = Interest income + Non Interest income + profit/loss from sale of securities** | | | | |
| **Years** | **South-East bank** | **DBBL** | **SJIBL** | **MTB** |
| Interest income | 19.22 | 19.20 | 17.92 | 16.99 |
| Non-interest income | 7.60 | 8.37 | 8.37 | 8.49 |
| Profit/loss from sale of securities rate | 3.83 | 4.17 | 3.36 | 2.64 |
| **Total Revenue** | **30.65** | **31.74** | **29.65** | **28.12** |

## ROE Model:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **South-East bank** | **DBBL** | **SJIBL** | **MTB** |
| ROE | 0.152564284 | 0.155793414 | 0.11322274 | 0.091105213 |

South east and DBBL has been through to a better performance compare to MTB and SJIBL bank. So we can interpret that if a bank wants to improve ROE, then it must maximize asset utilization ratio and minimize the expense ratio. So ultimately this will improve the ROE.

## Asset utilization is affected by-

1. **Mix of loans-**A general provision at 0.25% to 5%  
   under different categories of unclassified loans (good/standard loans) has to be maintained regardless of objective evidence of impairment. Also provision for sub-standard loan, doubtful loans and bad losses has to be provided at 20%, 50% and 100% respectively for loans and advances depending on the duration  
   of overdue. Again as per BRPD circular no. 10 dated 18 September 2007, a general provision at 1% is required to be provided for all off-balance sheet exposures. Such provision policies are not specifically in line with those prescribed by BAS 39.
2. **Investments-**Income on investments is recognized on accrual basis. Investment income includes discount on treasury bills, interest on treasury bonds and fixed deposit with other banks. Capital gain on investments in shares is also included in investment income. Capital gain is recognized when it is realized.
3. **Liquidity-**Bank’s total asset increased by 7.10 percent in line with the Bank’s policy of maintaining comfortable liquidity.

## Profit margin reflects-

1. **Expense Control -** Our control mechanism is practiced at all levels. We strive to control the behavior of the employees. Our control mechanism is closely linked to efficiency, quality, innovation and responsiveness to customers.
2. **Tax Management-**Consultant can be appointed for specialized tasks like tax, law and legal procedures, engineering and technical works, information technology, etc. In 2014, the Bank earned an after tax profit of BDT 3,836.94 million.
3. **Effectiveness of Marketing-**Bank has also concentrated on Green marketing, training and development.

# *Maturity Model*

# Maturity Model

A maturity model is a tool that helps people assess the current effectiveness of a person or group and supports figuring out what capabilities they need to acquire next in order to improve their performance. In many circles maturity models have gained a bad reputation, but although they can easily be misused, in proper hands they can be helpful.

Maturity models are structured as a series of levels of effectiveness. It's assumed that anyone in the field will pass through the levels in sequence as they become more capable.

**How does Maturity Model work?**

Starting point, Equity = Asset- Liability

When interest changes, all the value of the asset and liability is affected. That is our economic reality.

**How do we determine the market value of any asset and liability?**

By determining the present value of asset and liability, we can determine the market value. Present value can be determined by payoff function. Present value helps to determine the market value.

PV= FV/(1+r)n or, CF1/(1+r)1+ CF2/(1+r)2+ CF3/(1+r)3 +……+CFn/(1+r)n

If we agree to the Equity= Asset-Liability, then we can say, Change in Equity = Change in Asset-Change in Liability.

**How do we focus on Market value aspect?**

Change in Asset-Change in Liability will be determined by the changes in market value. It .goal is to maximize the shareholders wealth. After paying liability from asset, the remaining part is gain to equity holders from which maximize the shareholders wealth.

Implication: If the change in asset decline more than change in liability, then the change equity will be negative. As a result loss will occur. For this change, we are subject to interest rate exposure.

We calculate maturity gap from the maturity of asset and liability.

Maturity Gap= MA- ML

MA= W1M1A1+W2M2A2+W3M3A3+…

ML= W1M1L1+W2M2L2+W3M3L3+….

## Chart of change in Maturity Gap:

|  |  |  |  |
| --- | --- | --- | --- |
| Maturity Gap | Change in Ri | Change in Equity | Outcome |
| +A >L | + | - | A >L |
| +A >L | - | + | A >L |
| -A>L | + | + | A >L |
| -A>L | - | - | A>L |

From the above calculation, we will determine the outcome of the company’s change in equity. If the interest changes, expected return changes as well. Being changed in required rate of return, changes also happen in the market. Then the value of the equity will be changed. And when the value of the asset decline more than the value of the liability and maturity gap is negative and interest rate increase, it will create a positive impact on the equity changes and vice versa.

## Maturity Gap:

Maturity gap is a measurement of interest rate risk for risk-sensitive assets and liabilities. Using the maturity gap model, the potential changes in the net interest income variable can be measured.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | South-East bank | DBBL | SJIBL | MTB |
| Maturity Gap= M. Asset- M. Liabilities | -0.145312029 | 0.117709055 | -0.127682783 | 0.25285955 |

The graph shows DBBL and MTB the maturity gap is positive, if interest rates rises, and the value of the asset will decrease much more than value of the liabilities. But if interest rates fall the value of the liabilities will decrease much more than value of the asset.

On the other hand maturity gap is negative of South East bank SJIBL shows us if rates rises, and the value of the liabilities will decrease much more than value of the asset. But if rates fall the value of the asset will decrease much more than value of the liabilities.

So we can say that DBBL and SJIBL have a most appreciable situation. The reason is that increase in interest rate over the year. Whatever the interest rates changes it will impact on DBBL and SJIBL very minor compare to MTB and South East bank because they have value closer to zero. So impact will be also lower.

***Findings***

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# Findings

Basel III changes are the reaction of Basel Committee on Banking Supervision (BCBS) to improve the financial division's capacity to ingest stuns emerging from money related and monetary pressure, whatever the source, therefore decreasing the danger of overflow from the budgetary part to the real economy. In Bangladesh to measure the risk of banking sector our sample four banks are South east bank limited, Dutch Bangla Bank Limited, Shahjalal Islami Bank Limited and Mutual Trust Bank are shown their results. This table clearly gave the comparison and pictures of implication of Basel in Bangladesh.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Particulars** | **Minimum requirement of Basel** | **Southeast bank** | **Dutch Bangle bank** | **Mutual trust bank** | **Shahjalal Islami Bank Limited** |
| Capital ratio | 6% | 6.80% | 9.2% | 7.28% | 8.38% |
| Total capital ratio | 10% | 10.87% | 10.5% | 13.76% | 8.48% |
| Leverage ratio | 3% | 5.16% | 5.2% | 4.24 % | 5.51% |
| Liquidity Coverage Ratio (LCR) | 100%. | 102.81% | 125.1% | 126.07% | 127.92% |
| [Net Stable Funding Ratio](https://en.wikipedia.org/wiki/Net_Stable_Funding_Ratio) (NSFR) | 100%. | 115.55%, | 115.7% | 100.90% | 100.87% |

Basel usually required meeting of capital adequacy standard minimum of 6%.Southeast bank has the tier 1 capital ratio is 6.80% which is considered to be adequately capitalized because it is equal to the minimum tier 1 capital ratio. Dutch Bangle bank has been able to manage the ratio above the requirement. It has higher than others are 9.2% tier 1 capital ratio. Where Mutual trust bank (MTB) has 7.28% capital ratios under Basel tier I. Shahjalal Islami Bank Limited (SJIBL) has 8.38% capital ratio.

It means DBBL hold a strong Capital- risk weighted assets ratio. But Southeast bank, Dutch Bangle bank, Mutual trust bank and Shahjalal Islami Bank Limited are also has a reasonable stage that can absorb the risks.

In banking sector 10% require total capital ratio. Southeast bank has total capital ratio is 10.87% which is well capitalized because it is equal to the minimum percentage of total capital ratio tier 1.And Dutch bangle bank ltd has above the regulatory of 10.5%. MTB stood at 13.76% of total capital ratio. So it has well capitalized against risk. But SJIBL stood at 8.48% of total capital ratio. It needs to increase total capital ratio to meet minimum requirement of Basel.

Southeast bank has 5.16% so tier 1 leverage ratio is considered as well capitalized. Dutch bangla bank stood 5.2% in the bank industry. Mutual trust bank (MTB) has leverage ratio 4.24 % it covers the minimum requirement of 3%. 4.24% shows us that it has adequate finance against its obligations. Shahjalal Islami Bank Limited (SJIBL) has leverage ratio 5.51% shows us that it has more efficient liquidity and liquidity risk management in long run.

The "Liquidity Coverage Ratio" was assumed to require a bank to hold sufficient L C R = High quality liquid assets Total net liquidity outflows over 30 days ≥ 100 % {\displaystyle LCR={\frac {\mbox{High quality liquid assets}}{\mbox{Total net liquidity outflows over 30 days}}}\geq 100\%} high quality liquid assets to secure its total net cash outflows over 30 days. Basel set the minimum requirement for LCR &NSFR>100%.

Southeast bank has Liquidity Coverage Ratio (LCR) is 102.81% which is well capitalized because it is maintain the minimum percentage of total capital ratio tier 1.[Net Stable Funding Ratio](https://en.wikipedia.org/wiki/Net_Stable_Funding_Ratio) (NSFR) of South east bank is 115.55%, which is quite good. Dutch bangla bank stood in position of LCR 125.1% &115.7%. So it has an accepted value for DBBL. Mutual trust bank (MTB) has Liquidity Coverage Ratio (LCR) 126.07%. [Net Stable Funding Ratio](https://en.wikipedia.org/wiki/Net_Stable_Funding_Ratio) (NSFR) of 100.90% in 2017. Shahjalal Islami Bank Limited (SJIBL) has NSFR& LCR respectively 127.92% 100.87% in 2017 against administrative standard of in any event 100%.

ROA ratio of South East bank and Dutch bangla bank is comparatively higher than others. As we know that higher the ROA ratio higher the efficiency level. Shahjalal Islami Bank Limited (SJIBL) and Mutual trust bank (MTB) must avoid this falling down situation and try to raise its ROA ratio. The same situation arise in ROE, so we can interpret that if a bank wants to improve ROE, then it must maximize asset utilization ratio and minimize the expense ratio. So ultimately this will improve the ROE.

According to maturity model Dutch bangla bank and Shahjalal Islami Bank Limited (SJIBL) have a most appreciable situation have effectively control the risk. It manages through an effective procedure that minimize its loss risk and productive its loan portfolio. Foreign exchange risk is measure by the change of the local currency value affecting domestic income. Variation of these currency exchanges rates arise this risk of loss.

***Recommendations***

# Recommendations

1. Based on the discussion of this report, it cannot applied by all banks because lack of proper skilled mechanism.
2. In developing country, Basel III is not properly utilized because of complexity and corruption. So, banks need to adopt this framework without any corruption.
3. It proves that this framework helps to maintain financial stability which could increase the profitability of the banking sector.
4. Basel III is an emerging concept and very helpful so it should applied in everywhere to get maximum performance efficiency.
5. Various studies revealed that regulatory framework for Basel III has not yet developed which can be applicable globally in general.
6. Aggregate ROE model has many aspects to measure banking performance but partial application of this model can give a biased result.
7. Maturity model use present value to determine the market value, it does not consider the economic meaning to determine the market value.
8. For adjustment of leverage maturity model cannot give accurate result.
9. Mutual trust bank (MTB) must come up with innovative product to meet up the demand of time.
10. Shahjalal Islami Bank Limited (SJIBL) More ATM booth should be introduced in near to every customer place.

***Conclusion***

# Conclusion

The worldwide network currently perceives the significance of powerful supervision of banking industry supposing that this industry is left to follow up on its own, it can bring down the worldwide economy. As Basel III is really taking shape, it will be completely executed in 2019. Basel II in our nation is being pursued with energy and groups are smoothly requiring each push to actualize Basel II in banks. Aggregate model is the perfect mechanism to measure banking performance. It shows how a bank can utilize its asset many ways and reduce the expenses. Maturity model is perfect measurement of market value of assets and liabilities and risk related changes of interest rates. The Basel III ensures a positive change in the capital and a liquidity standard which was introduced an efficient financial stability in the economy. Finally this framework helps to recover the complexity and corruption of the banking activities. Banks are survived internationally because of Basel III. It ensures the credit risk, market risk and operational risk. This framework consist the bank solvency, safety and soundness of financial system.

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