

**CAPITAL STRUCTURE OF CITIZEN INTERNATIONAL
BANK LTD**

A Thesis

Submitted By

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2019

RECOMMENDATION

This is to certify that the thesis

Submitted By:

Sulochana Tamrakar

Entitled:

“Capital Structure of Citizen International Bank Ltd.”

have been prepared as approved by this Department in the prescribed format of the Faculty of Management. This Thesis report is forwarded for examination.

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We have conducted a viva-voce examination of the thesis presented by

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and found the thesis to be the original work of the student and written according to the prescribed format. We recommend the thesis to be accepted as partial fulfillment of the requirement for Master Degree in Business Studies (M.B.S.)

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DECLARATION

I, hereby, declare that the work reported in this thesis entitled “**Capital Structure and Financial Analysis of Citizen International Bank Limited**” submitted to Public Youth Campus, Faculty of Management, Tribhuwan University, is my original work done in the form of partial fulfillment of the requirement for the degree of Masters of Business Studies under the Supervision of Prof. Prakash Man Dangol of Public Youth Campus, T.U.

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.....

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TABLE OF CONTENTS

	Page No:
TITLE PAGE	I
RECOMMENDATION	II
VIVA – VOCE SHEET	III
DECLARATION	IV
ACKNOWLEDGEMENT	V
TABLE OF CONTENTS	VI
LIST OF TABLES	X
LIST OF FIGURES	XI
ABBREVIATIONS	XII

CHAPTER – I INTRODUCTION

1.1 Background of the Study	1
1.1.1 An Introduction of Citizen Bank International Limited	3
1.2 Statement of the Problem	4
1.3 Objective of the Study	5
1.4 Significance of the Study	5
1.5 Limitation of the Study	6
1.6 Organization of the Study	6

CHAPTER – II REVIEW OF LITERATURE

2.1 Conceptual Framework	8
2.1.1 Concepts of Capital Structure:	9
2.1.1.1 Classification of Capital Structure:	10
2.1.1.2 Theories of Capital Structure:	13
2.1.2 Financial Analysis:	22
2.1.2.1. Objectives and purposes of financial analysis:	22
2.2 Review of related Studies	24
2.2.1 Review of Articles and Journals	24
2.2.2 Review of Previous Related Thesis	27
2.3 Research Gap:	32

CHAPTER – III RESEARCH METHODOLOGY

3.1 Introduction:	33
3.2 Research Design:	33
3.3 Nature and Source of Data:	34
3.4 Population and Sample:	34
3.5 Data Collection Procedure:	34

3.6 Tools and Techniques for Analysis:	35
3.6.1 Financial Tools:	35
3.6.2. Capital Structure Analysis:	40
3.6.3 Statistical Tools	41
3.6.3.1 Arithmetic Mean:	41
3.6.3.2 Standard Deviation:	41
3.6.3.3 Correlation Coefficient (r):	41
3.6.3.4 Probable Error:	42
3.6.3.5 Coefficient of Variation (C.V):	42
3.6.3.6 Trend Analysis:	43

CHAPTER – IV DATA PRESENTATION AND ANALYSIS

4.1 Financial Ratio Analysis:	44
4.1.1 Liquidity Ratio	44
4.1.1.1 Current Ratio:	45
4.1.1.2 Cash and bank balance to total deposit Ratio:	47
4.1.1.3 Cash and bank balance to current ratio:	49
4.1.2 Leverage Ratio:	50
4.1.2.1 Debt Asset Ratio:	51
4.1.2.2 Debt to Equity Ratio:	53
4.1.2.3 Long-term debt to Total Assets Ratio	55
4.1.2.4 Asset to Equity Ratio:	57
4.1.3 Profitability:	59
4.1.3.1 Return on Total Assets:	59
4.1.3.2 Return on Equity:	61
4.1.3.3 Return on Total Capital Employed:	63
4.1.3.4 Net Profit Margin:	65

4.1.3.5 Gross Profit Margin:	67
4.2 Analysis of Capital Structure:	69
4.2.1 Net Income (NI) Approach (Cost of overall Capitalization Rate) (K_O):	69
4.2.2 Net Operating Income (NOI) Approach:	71
4.3 Correlation coefficient analysis:	73
4.3.1 Coefficient of Correlation between Debt equity Ratio & ROE:	73
4.3.2 Coefficient of Correlation between net income and share holders' equity:	74
4.3.3 Coefficient of Correlation between net income and total deposit:	75
4.3.4 Coefficient of Correlation between ROE and ROA:	76
4.3.5 Coefficient of Correlation between D/E Ratio and ROA:	77
4.4 Trend Analysis:	77
4.4.1 Trend Analysis of Net Profit:	78
4.5 Major Findings of the Study:	83

CHAPTER- V SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary:	86
5.2 Conclusion:	87
5.3 Recommendation:	88

BIBLIOGRAPHY

APPENDIX – I

APPENDIX – II

APPENDIX -III

LIST OF TABLES

		Page No:
Table: 4.1	Current Ratio	45
Table: 4.2	Cash and bank balance to total deposit Ratio	47
Table: 4.3	Cash and bank balance to current ratio	49
Table: 4.4	Debt Asset Ratio	51
Table: 4.5	Debt Equity Ratio	53
Table: 4.6	Long-term debt to Total Assets Ratio	55
Table: 4.7	Asset to Equity Ratio	57
Table: 4.8	Return on Total Assets Ratio	59
Table: 4.9	Return on Equity Ratio	61
Table: 4.10	Return on Capital Employed Ratio	63
Table: 4.11	Net Profit Margin	65
Table: 4.12	Gross Profit Margin	67
Table: 4.13	Net Income (NI) Approach	69
Table: 4.14	Net Income (NOI) Approach	71
Table: 4.17	Correlation coefficient between Debt equity Ratio & ROE	74
Table: 4.18	Correlation coefficient between net income and shareholders' equity	75
Table: 4.19	Correlation coefficient between net income and total deposit	75
Table: 4.20	Correlation coefficient between ROE and ROA	76
Table: 4.21	Correlation coefficient between D/E Ratio and ROA	77
Table: 4.22	Trend Analysis of Net Profit	78
Table: 4.23	Trend Analysis of Total Deposit	80
Table: 4.24	Trend Analysis of Investment	82

LIST OF FIGURES

	Page No:
Figure: 4.1 Current Ratio	46
Figure: 4.2 Cash and bank balance to total deposit Ratio	48
Figure: 4.3 Cash and bank balance to current ratio	50
Figure: 4.4 Debt Asset Ratio	52
Figure: 4.5 Debt Equity Ratio	54
Figure: 4.6 Long-term debt to Total Assets Ratio	56
Figure: 4.7 Asset to Equity Ratio	58
Figure: 4.8 Return on Total Assets Ratio	60
Figure: 4.9 Return on Equity Ratio	62
Figure: 4.10 Return on Capital Employed Ratio	64
Figure: 4.11 Net Profit Margin	66
Figure: 4.12 Gross Profit Margin	68
Figure: 4.13 Net Income (NI) Approach	70
Figure: 4.14 Net Operating Income (NOI) Approach	72
Figure: 4.22 Trend Analysis of Net Profit	79
Figure: 4.23 Trend Analysis of Total Deposit	81
Figure: 4.24 Trend Analysis of Investment	82

ABBREVIATIONS

Σ	:	Summation
V	:	Value
S	:	Value of Stock
CTZBL	:	Citizen International Bank Limited
NRB	:	Nepal Rastra Bank
TU	:	Tribhuvan University
S, D	:	Standard Deviation
C.V	:	Coefficient of Variation
P.E.	:	Probable Error
Pref.	:	Preference
CA	:	Current Assets
CL	:	Current Liabilities
NOI	:	Net Operating Income
D/E	:	Debt to Equity Ratio
EBIT	:	Earnings Before Interest and Tax
EBT	:	Earning Before Income Tax
FY	:	Fiscal Year
K_d	:	Cost of debt
K_e	:	Equity Capitalization Rate
K_o	:	Overall Capitalization Rate
K_s	:	Cost of Equity
Ltd	:	Limited
MM	:	Modigliani-Miller
NI	:	Net Income
ROE	:	Return on Equity
ROA	:	Return on Assets
ROCE	:	Return on Capital Employed

CHAPTER - I

INTRODUCTION

1.1 Background of the Study

Capital structure refers to the combination of long term sources of funds, such as, long-term debt, preference stock and common equity including reserves and surpluses (i.e. retained earnings). Capital structure represents the relationship among different kinds of long-term sources of capital and their amount. Normally, a firm raises long-term capital through the issue of common shares, sometimes accompanied by preference shares. The share capital is often supplemented by debt securities and other short-term borrowed capital. In a going concern, retained earnings or surpluses too form a part of capital structure. Except for the common shares, different kinds of external financing i.e. preference shares as well as the borrowed capital carry fixed return to the investors. (Gautam & Thapa; 2013)

The basic goal of a firm is to maximize the value of the firm or shareholder's wealth. To achieve this goal, the company should have sound investment and financing policy. Company should acquire current assets such as inventory, marketable securities, etc. and fixed assets such as land and building, plant and machinery, equipment, vehicles etc. to run the business smoothly. To finance these assets, a firm can use various sources of financing. These sources of financing may be short term, and long term. Short-term sources of financing mature within one year or less whereas fund raised from long term sources of financing can be used for several years or forever. Thus, when a firm expands its business or activity, it needs capital. The term capital denotes the long-term funds of the firm raised from long-term debt, preferred stock and common equity. All of the items on the liabilities side of firm's balance sheet, excluding current liabilities, are sources of capital. The total capital can be divided into two components: 1) debt capital and 2) equity capital. (Gautam & Thapa; 2013)

Debt Capital can be raised by issuing bond/debentures or negotiating loan from financial institutions. But equity capital is contributed by the shareholders of the firm. There are two categories in ownership capital; preferred stock and common equity,

which common equity includes common share, additional paid in capital and retained earnings.

Financial manager should be very much careful while designing capital structure of the firm because capital structure of a firm affects the cost of capital and value of a firm. The structure at which cost of capital is minimized is called optimal capital structure. Optimal capital structure should also be flexible, less risky, within the debt serving capacity. Capital structure should balance between risk and return of shareholders. (Gautam & Thapa; 2013)

Financial analysis is the process of analyzing various items of financial statements of a firm to identify its comparative strengths and weaknesses. In other words, financial analysis involves analyzing financial statements prepared in accordance with generally accepted accounting principles to ascertain information concerning the magnitude, timing and riskiness of future cash flows.(Paudel, Baral, Gautam & Rana; 2017)

Corporations have variety of stakeholders, such as shareholders, bondholders, bankers, suppliers, employees and management. The stakeholders need to monitor the firm and to ensure that their interests are being served. They rely on the company's financial statements for necessary information. These stakeholders seek to analyze the financial statements for their own interest and purpose. As an insider, the management shows greater concern about the overall financial strength and weaknesses of the firm. Similarly shareholders analyze the financial statements to have information about the earnings of the company. Not only shareholders but also the short and long term creditors, institutional lenders, bondholders and government are equally concerned with analysis of financial statement. Short term creditors analyze financial statements to know about short term solvency position of the firm. They are more eager to know the current debt payment capacity of a firm. Similarly other institutional lenders and bondholders are concerned with fixed charge payment capacity of the firm. Thus, the type of financial analysis undertaken varies according to specific interest of the concerned parties. (Paudel, Baral, Gautam & Rana; 2017)

Financial analysis is essential to make a meaningful conclusion about what a particular figure in the firm's financial statements is stating in the relation to financial performance of the firm. Financial statement analysis involves comparing the firm's

performance with that of other firms in the same industry and evaluating trends in the financial position over time. The use of financial analysis helps financial managers to identify deficiencies in the financial performance and take actions to improve the performance. Financial managers must be equipped with analytical tools to make rational decisions in keeping with objective of the firm. (Paudel, Baral, Gautam & Rana; 2017)

1.1.1 An Introduction of Citizen Bank International Limited

Citizen bank is one of the leading commercial bank which is entirely managed by Nepalese professionals and owned by the general public. This bank started its operation in 21st June, 2007. It has 47 branches in Nepal and also provides Branchless Banking services. The bank has started its Branchless Banking operation from Jestha 30, 2069 at Matiyani of Mahottari District.

The Bank has acquired Nepal Housing & Merchant Finance Ltd. and Peoples Finance Ltd. The acquisition was approved by NRB on 12/26/2071. The bank has begun joint operations from May 8th, 2015. Massive changes and development has taken place during the past two decades in the financial sector. Amidst all these changes, for economic growth and development of New Nepal, Liberalization, Privatization and Globalization in this sector has given birth to the largest commercial bank, “Citizen Bank International Ltd”. The bank is located at Narayanhiti Path, Kathamandu, and the heart of financial sector of the country. It is promoted by eminent personalities/business and industrial houses and reputed individual having high social standing. It is managed by a team of experienced bankers and professionals. (<https://www.ctznbank.com/corporate-profile>)

The Vision of the Citizen International Bank Limited is to be the leading bank known for its excellence service in the region. It is committed to meet the financial needs of our customers and exceed their expectations through innovative solutions. The Bank promises to deliver customer-centered products and services par excellence.

It employs bright, honest, helpful and pleasant people. It nurtures and empowers them to achieve their full potential. Citizen Bank believes in being accountable, conducting business ethically, maintaining transparency and taking social initiatives for the development of the nation. The Mission of the bank is to be trustworthy partner for

the progress of individuals and institutions by designing, producing and delivering the best financial solutions.

1.2 Statement of the Problem

After the liberalization policy was initiated by the government banking sector has been developed dramatically. Now there are 28 commercial banks which are in operation. Commercial banks have huge collection from depositors. Effective utilization of collected fund is possible only through sound investment policy. They are unable to estimate the future. They should make sound capital structure so that they can be able to minimize the overall cost and make profit maximize. The main reason that attributed to unsound capital structure is lack of proper analysis on financial risk, liquidity risk, business risk etc.

The problem that still persists for a bank even today is to find a proper and viable project to ensure healthy profit. They have always feared high degree of risk and uncertainty owing to lack of profitable sectors for their investment. The high liquidity position of banks has resulted in a decrease in investment in productive sectors. In the changed scenario these banks needs to explore their strength and weakness and improve their performance because their success depends upon their ability to boost their productivity and financial performance.

The major problems of banks are about liquidity, profitability, operating expenses and good capital structure. To identify the reason an analysis of financial position should be clearly done. Management uses effective financial tools and analysis for achieving optimal goals. Thus, the present study will make a modest attempt to analyze capital structure and financial analysis of this bank and is expected to answer the following research questions:

- Whether the CTZBL is able to maintain its capital structure properly or not?
- Whether the CTZBL is able to maintain its liquidity position adequately or not?
- Whether the CTZBL is able to maintain its profitability position properly or not?
- What is the trend of net profit, investment and total deposit of a CTZBL bank?

1.3 Objective of the Study

The research aims to investigate the relationship between capital structure and financial analysis of commercial bank. The capital structure indicators refer to cost of overall capitalization; cost of equity, while return on assets and return on equity are the financial analysis. A sound capital structure of the bank helps to increase the market price of the share and securities which in turn lead to increase the value of the firm. And sound capital structure can be determined by the financial statement provided by financial analysis. To achieve such objectives, the following major objectives have been formulated:

1. To analyze the capital structure of sample bank.
2. To examine the liquidity position of the sample bank.
3. To evaluate the profitability position of the sample bank.
4. To make trend analysis of net profit, investment and total deposit of the sample bank.

1.4 Significance of the Study

A sound capital structure of a company helps to increase the market price of shares and securities which in turn, lead to increase in the value of the firm. A good capital structure enables a business enterprise to utilize the available funds fully. A properly designed capital structure ensures the determination of the financial requirements of the firm and raises the funds in such proportions from various sources for their best possible utilization. A sound capital structure protects the business enterprise from over-capitalization and under-capitalization. This study shows the effect in cost of capital with the help of better combination of capital structure.

With this connection, the research tries to find out the capital structure of the commercial banks and financial performance of the bank. It also studies the various sources possible for capital structure. Further, this study tries to review the financial analysis of the banks during the five year period. This research also analyzes the financial performance through the use of appropriate financial tools. This study will provide a useful feedback to academic institutions, bank employees, trainees,

investors, policymaking bodies, brokers, customers, owners, investors, government and those concerned with banks in the formulation of appropriate strategies for improving the performance of banks.

1.5 Limitation of the Study

Like every research study, this study also has some limitations via-inadequate coverage of commercial banks, time period taken and other variables. In context of Nepal, data problem is the foremost problem for the study. There is significant place for arguing about accuracy and reliability. Major limitations are studied as follow:

1. Among 28 commercial banks this study is concerned with only one bank named Citizen International Bank Limited.
2. This study is based on secondary data taken from annual financial report of sample bank.
3. The study only considers 5 years' time period from 2013/14 to 2017/18.
4. Only limited financial and statistical tools are used for the analysis.

1.6 Organization of the Study

This research study has been divided into five chapters. They are as follows:

Chapter – I INTRODUCTION

In the first chapter, it includes a detail introduction part of the study. It has introduction of commercial bank as well as the introduction of selected bank Citizen Bank International Limited. General background of the study, statement of the problem objective of the study, significance of the study, limitation of the study, organization of the study is arranged.

Chapter – II REVIEW OF LITERATURE

The second chapter deals with review of literature. It includes a discussion on the conceptual framework of the capital structure and financial analysis.

Chapter – III RESEARCH METHODOLOGY

The third chapter explains the research methodology use to evaluate capital structure and financial analysis practices of sample bank. It consists of research design, sources of data, population and sample, tools and method of analysis.

Chapter – IV DATA PRESENTATION AND ANALYSIS

The fourth chapter deals with presentation and analysis of data through a definite course of research methodology. This chapter is to analysis different financial ratios and statistical analysis related to capital structure and financial analysis of this sample bank.

Chapter – V SUMMARY, CONCLUSION AND RECOMMENDATIONS

The fifth chapter discusses summary of the study and suggestion as well as recommendations. Besides this at the end of the research the bibliography on appendices are also included.

CHAPTER - II

REVIEW OF LITERATURE

2.1 Conceptual Framework

A literature review surveys books, scholarly articles, and any other sources relevant to a particular issue, area of research, or theory, and by so doing, provides a description, summary, and critical evaluation of these works in relation to the research problem being investigated. Literature reviews are designed to provide an overview of sources you have explored while researching a particular topic and to demonstrate to your readers how your research fits within a larger field of study. (<http://libguides.usc.edu>)

The basic goal of a firm is to maximize the value of the firm or shareholder's wealth. To achieve this goal, the company should have sound investment and financing policy. Company should acquire current assets such as inventory, marketable securities, etc. and fixed assets such as land and building, plant and machinery, equipment, vehicles etc. to run the business smoothly. To finance these assets, a firm can use various sources of financing. These sources of financing may be short term, and long term. Short-term sources of financing mature within one year or less whereas fund raised from long term sources of financing can be used for several years or forever. Thus, when a firm expands its business or activity, it needs capital. The term capital denotes the long-term funds of the firm raised from long-term debt, preferred stock and common equity. All of the items on the liabilities side of firm's balance sheet, excluding current liabilities, are sources of capital. The total capital can be divided into two components: 1) debt capital and 2) equity capital.

Financial analysis is both analytical and judgmental process that helps answer questions that have been properly posed and therefore it is a means to an end. We can stress enough that financial analysis is an aid that allows those who are responsible for the results to make sound decision. Management of an enterprise is interested in all aspects of financial analysis in order to evaluate its operating performance, to audit its internal financial control system and to develop a strategy of bargaining for funds from external resources.

2.1.1 Concepts of Capital Structure:

Capital structure refers to the combination of long term sources of funds, such as, long-term debt, preference stock and common equity including reserves and surpluses (i.e. retained earnings). Capital structure represents the relationship among different kinds of long-term sources of capital and their amount. Normally, a firm raises long-term capital through the issue of common shares, sometimes accompanied by preference shares. The share capital is often supplemented by debt securities and other short-term borrowed capital. In a going concern, retained earnings or surpluses too form a part of capital structure. Except for the common shares, different kinds of external financing i.e. preference shares as well as the borrowed capital carry fixed return to the investors. (Gautam & Thapa; 2013)

Capital structure is one of the most complex areas of financial decision making because of its interrelationship with other financial decision variables. Poor capital structure decisions can result in a high cost of capital, thereby lowering the NPVs of projects and making more of them unacceptable.

Capital structure only indicates long-term sources of funds. Capital structure represents the relationship of different kinds of long- term sources of capital and their amount. Normally, a firm raises long-term capital through the issue of common shares, and debts. Preferred shares as well as the borrowed capital carry fixed return to the investors and common shares provide variable return to the investors. (Koirala, Gautam, Adhikari, Mishra & Mahato; 2012)

A capital structure concerns the composition of the liability of the company, or more specifically, which is the relative participation of the several financing sources in the composition of the total obligations. (Gitman; 1997)

Capital structure is the mix (or proportion) of a firm's permanent long term financing represented by debt, preferred stock and common stock equity. (Van Horne; 1997)

Capital structure is concerned with the analyzing the capital composition of the company. (Weston & Brigham; 1982)

Capital structure refers to the mix of long-term sources of fund, such as debenture, long term debt, preference share capital and equity share capital including reserves and surpluses i.e. retained earnings. (Pandey; 1999)

The term 'capital structure' means the proportion of different types of securities issued by firm. The optimal capital structure is the set of proportion that maximizes the total value of the firm. (Schall & Haley; 1983)

2.1.1.1 Classification of Capital Structure:

Firm obtains its requirements from various sources and invests the same also in various forms of assets. In other words, a firm has to perform a two-fold aspect for its capital structure application, via,

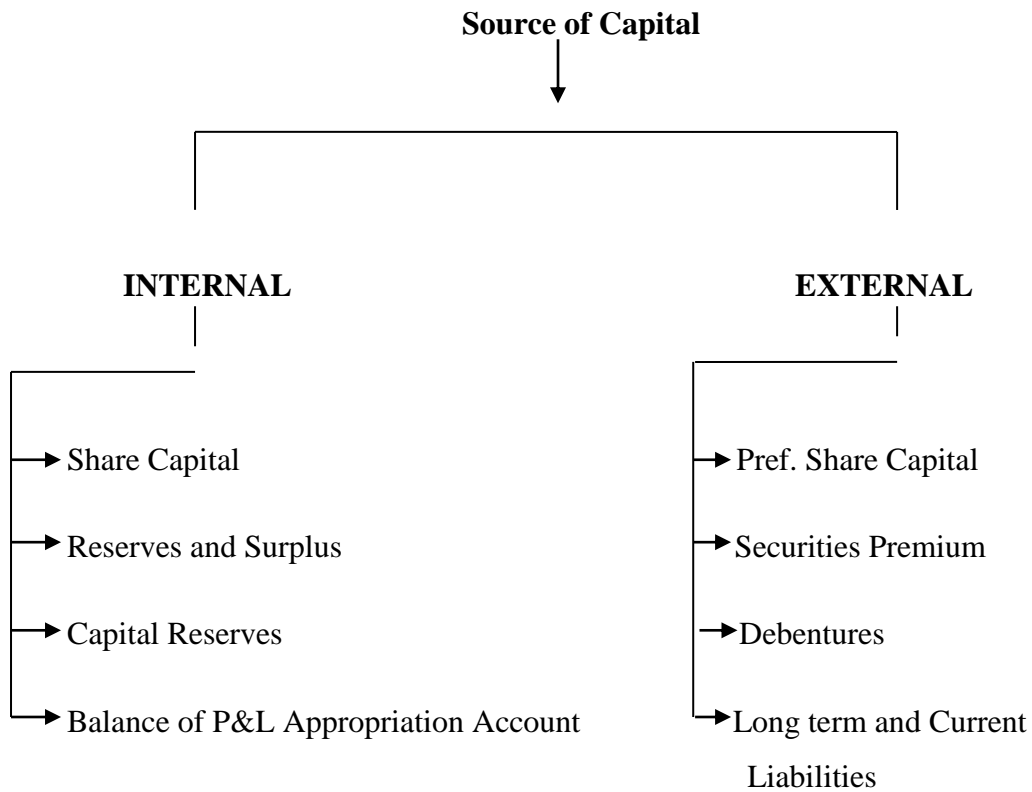
- i. The source of funds
- ii. The application of such funds

Thus, the classification of capital structure can be represented as:

- i. According to Sources
- ii. According to Ownership
- iii. According to Cost
- iv. According to Nature and Type

i) According to Sources:

Sources of funds can be divided into internal source and external source.

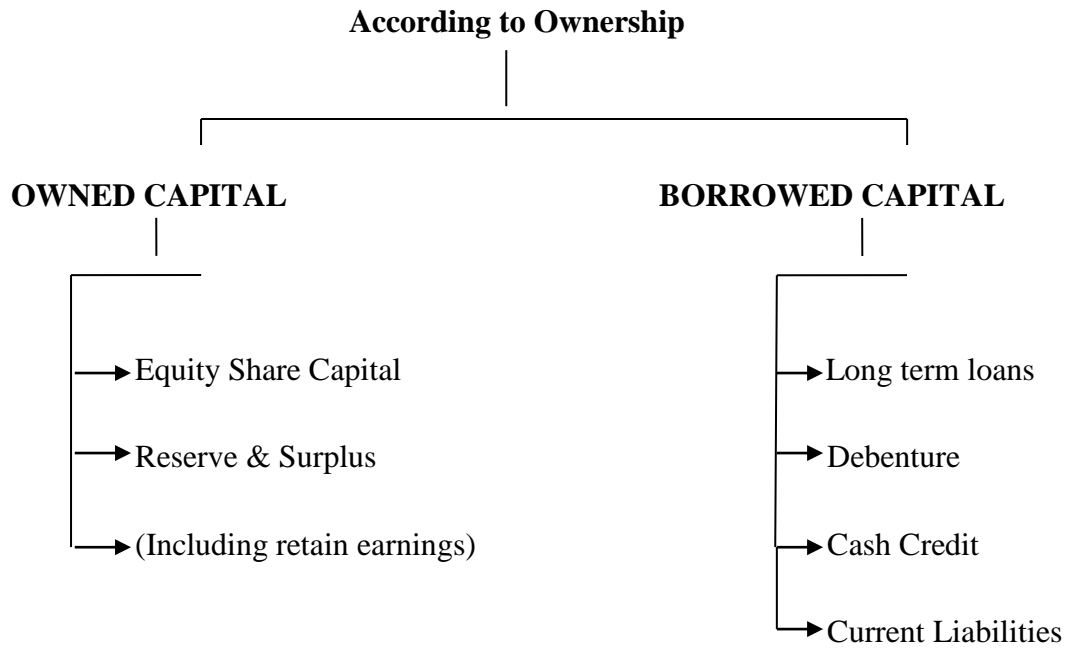


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ii) According to Ownership:

According to Ownership, capital can be divided into

- a. Owned Capital
- b. Borrowed Capital

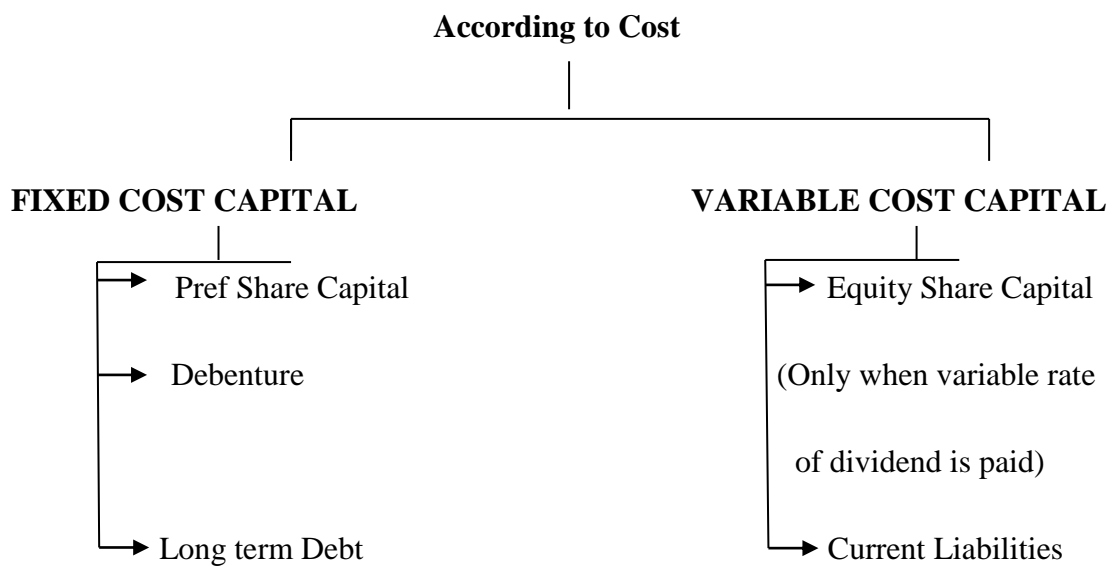


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iii) According to Cost:

According to cost however, capital structure can be classified into:

- a. Fixed Capital
- b. Variable Capital



(Source: www.yourarticlelibrary.com)

iv) According to Nature and Type:

There are two types of capital structure according to the nature and type of the firm:

- a. Simple and
- b. Complex

a. Simple:

When the capital structure is composed of Equity Capital only or with Retained Earnings, the same is known as Simple Capital Structure.

b. Complex:

When capital structure is composed of more than one source or identical nature, the same is known as complex Capital Structure. In other words, if capital structure is composed of Equity share capital, Preference share capital, Retained Earnings, Debentures, Long-term loan and current liabilities etc, the same is known as capital structure.

(<http://www.yourarticlelibrary.com/financial-management/capital-structure/capital-structure-meaning-assumptions-and-classification-accounting/65403>)

2.1.1.2 Theories of Capital Structure:

i. The Net Income (NI) Approach

This approach was developed by David Durand in 1952. According to net income approach, the cost of debt capital and the equity capital remains unchanged when leverage ratio varies. As a result, the weighted average cost of capital declines as the leverage ratio increases. This is because when the leverage ratio increases, the cost of debt, which is lower than the cost of equity, receives a higher weight in calculation of the average cost of capital. Thus, higher leverage results value of the firm. Assumptions of this approach are:

- i. Change in leverage does not change the risk position/risk perception of investors; as a result, the cost of equity (k_s), the cost of equity (k_s), and cost of debt (k_d) remain constant with changes in leverage.
- ii. Cost of debt (k_d) is less than cost of equity (k_s).
- iii. Overall cost of capital (k) decreases as leverage increases.

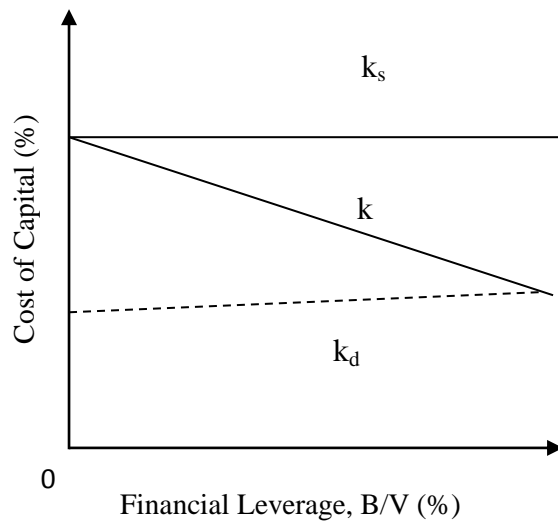


Figure: A

Cost of Capital and financial Leverage
under the NI Approach

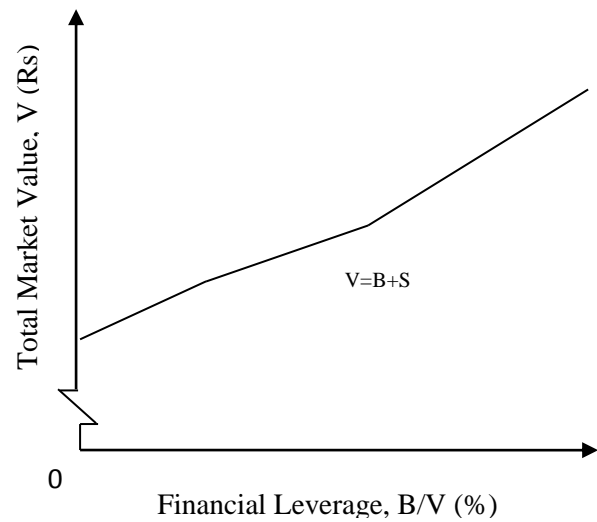


Figure: B

Total Market Value Versus Financial Leverage
under the NI Approach

Graphically, the effects on the firm's cost of capital and its total market value are shown in figure. If k_d and k_s are constant, as assumed in the NI approach, then as the proportion of cheaper debt funds in the capital structure increases, the cost of capital decreases. Thus, under NI approach, the firm can lower its cost of capital and raise its total market value through the addition of debt capital. (Gautam & Thapa; 2013)

ii. Net Operating Income (NOI) Approach

This approach is also developed by David Durand in 1952. In this approach, net operating income is capitalized at an overall capitalization rate to obtain the total market value of the firm. As EBIT and overall capitalization rate remain constant, capital structure does not affect the market value of the firm. Market value of the

equity is computed after deducting market value of the debt from total market value of the firm. Note that in the net operating income approach the overall capitalization rate and the cost of debt remain constant for all degrees of leverage. The required return on equity increases linearly with financial leverage. Assumptions of this approach are:

- i. The market uses an overall capitalization rate k , to capitalize the net operating income; k depends in the business risk. If the business risk is assumed to remain unchanged k is a constant.
- ii. Debt capitalization rate k_d remains constant.
- iii. The use of less costly debt funds increases the risk of shareholders. This causes the equity-capitalization rate to increase. Thus, the advantage of debt is offset exactly by the increase in the equity capitalization rate k_s .
- iv. Market value of equity is residual value.

Under the NOI approach, the capital structure selected is a ‘mere detail’ since the value of the firm is independent of the firm’s capital structure. If the firm increases its use of financial leverage by employing more debt, this is directly offset by an increase in the cost of equity capital.

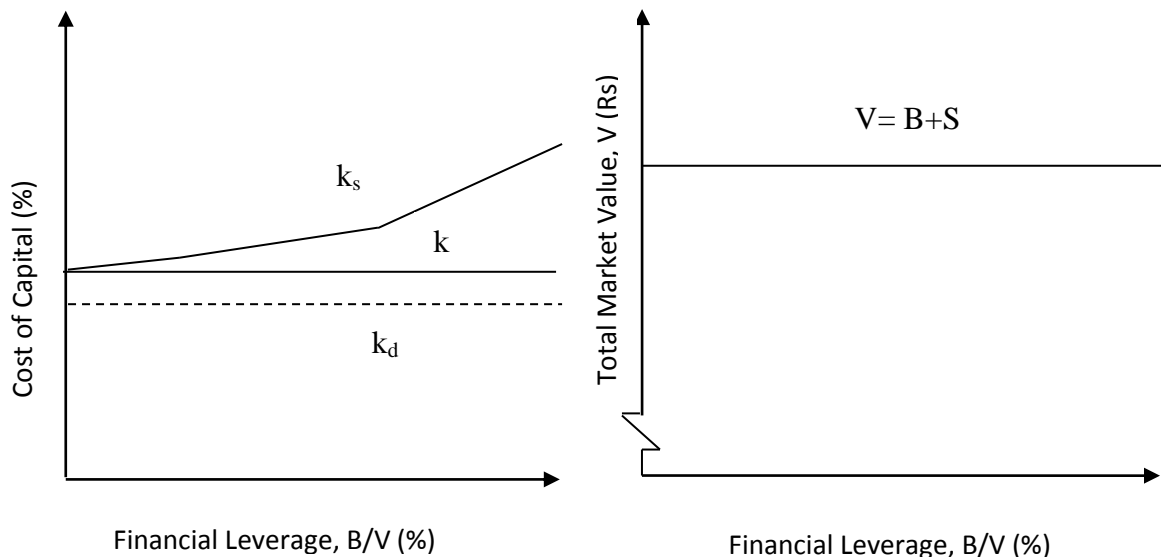


Figure: A

Cost of Capital versus Financial Leverage
Under NOI approach

Figure: B

Total Market Value versus Financial
Leverage under NOI approach

This relationship presented in figure indicated that as more and more debt is added to firm's capital structure, the cost of equity capital rapidly rises. According to NOI approach, the cost of debt has two parts; the explicit cost, which is represented by the interest rate, and an implicit or hidden cost, which results from the increased cost of equity attributable to increases in the degree of financial leverage. At extreme degrees of financial leverage, this hidden cost becomes very high. Hence, the firm's cost of capital and the total market value are not influenced by the use of additional cheap debt funds. (Gautam & Thapa; 2013)

iii. Traditional Approach

This traditional approach is also developed by David Durand in 1952. The traditional capital structure theory, which is taken as middle ground position is also known as an intermediate approach. It is a compromise between the NI and NOI. According to traditional view, which suggested that up to some 'moderate' amount of leverage risk, does not increase noticeably on either the debt or equity. So both K_d and K_s are relatively constant up to some point of leverage. However, beyond this threshold debt ratio, both debt and equity costs begin to rise sharply, and this increase more than offsets the advantages of cheaper debt. The result is (i) a 'U' shaped weighted average cost of capital curve and (ii) a value of the firm which first rises, then hits a peak, and finally declines as the debt ratio increases. Thus, according to the traditionalists, there are some capital structures with less than hundred percent debts which maximize the value of the firm.

Here, it can be concluded that the main proposition of the traditional approach are:

- i. The cost of debt capital remains more or less constant up to a certain degree of leverage but rises thereafter at an increasing rate.
- ii. The cost of equity capital, K_s , remains more or less constant or rises only gradually up to a certain degree of leverage and rises sharply thereafter.
- iii. The average cost of capital, k , as a consequence of the above behavior of K_s and k_d (a) decrease up to a certain point (b) remain more or less unchanged for moderate increases in leverage thereafter and (c) rises beyond a certain point.

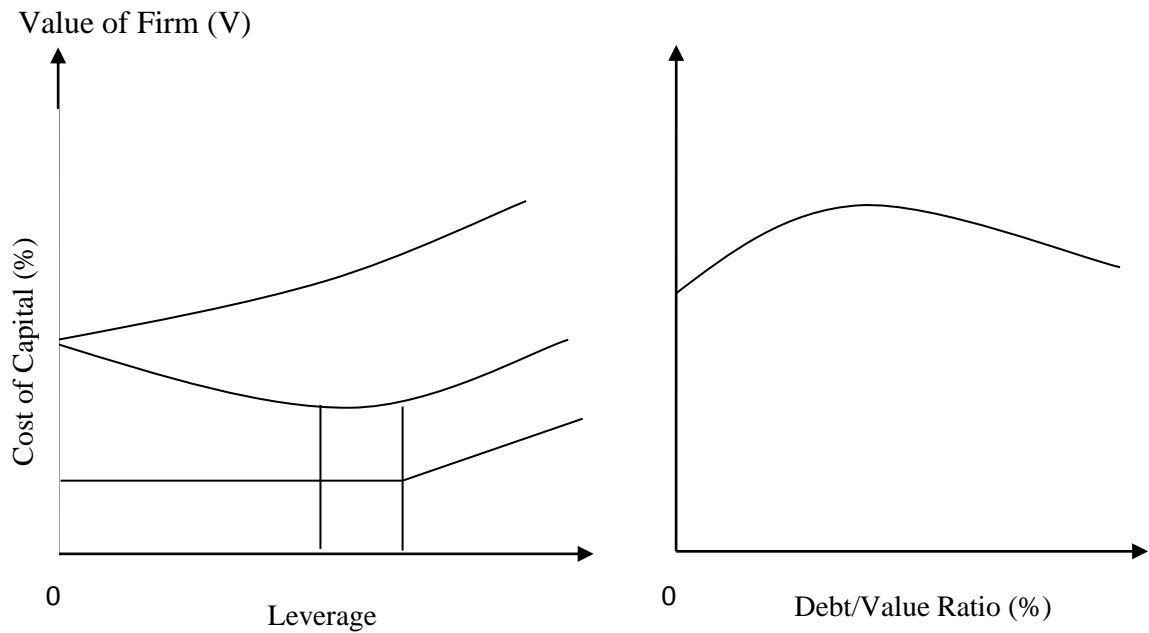


Figure: A

Figure: B

Effect of Leverage: Traditional Approach (Gautam & Thapa; 2013)

iv. a. The Modigliani-Miller Model (MM Hypothesis without Taxes):

Franco Modigliani and Merton Miller (generally referred to as MM) both Nobel Prize winners in financial economics, have had a profound influence on capital structure theory ever since their seminal paper on capital structure was published in 1958. The Modigliani Miller Hypothesis is identical with net operating income approach. In other words, MM have related and amplified the NOI approach. MM argue that, in absence of taxes. A firm's market value and cost of capital remain invariant to the capital structure changes. In their article, they provide analytically sound and logically consistent behavior justification in favor of their hypothesis. To begin, MM made the following assumptions, some of which is later relaxed:

Assumptions of this approach are:

Perfect Capital Market: Information is costless and readily available to all investors, no transaction costs or government restrictions interfere with capital market transactions; and all securities are infinitely divisible. In addition, both firms and individuals can borrow or lend at the same rate.

Homogeneous Expectations:

All present and perspective investors have identical estimates of expected value of the probability distribution for each firm's future EBIT.

Homogeneous or Equivalent return classes of Firm:

Firms can be classified based on their degree of business risk. Since all firms within a class are equally risky, their expected future earnings are capitalized at the same rate. (This assumption is later relaxed)

No Taxes:

There are no taxes on either corporations or individuals. (This assumption is later relaxed)

MM first performed their analysis under the assumption that there are no corporate taxes. Based on the preceding assumptions, and in absence of corporate taxes, MM stated and then proved two propositions:

Proposition I. The value of any firm is established by capitalizing its expected net operating income (NOI or EBIT) at a constant rate (i.e., overall cost of capital) which is appropriate for the firm's risk class.

$$V = \frac{\text{EBIT}}{k_{s(U)}}$$

$$k_{s(U)} = \frac{\text{EBIT} (1-T)}{V_u}$$

Here $k_{s(U)}$ is the required rate of return for an all equity (unlevered firm). Since V as established by proposition I equation is constant, and then under the MM theory the value of the firm is independent of its leverage. This also implies that the weighted average cost of capital (k) to any firm, leveraged or not, is (1) completely independent of its capital structure (2) Equal to the cost of equity to an unlevered firm in the same risk class. Thus, MM's proposition I is identical to the NOI hypothesis. (Gautam & Thapa; 2013)

Proposition II. MM's proposition defines the cost of equity. The cost of equity to a levered firm is equal to (1) the cost of equity to an unlevered firm in the same risk class plus (2) risk premium whose size depends on both the differential between the costs of equity and debt to an unlevered firm and the amount of leverage used.

$$K_{s(L)} = k_{s(U)} + \text{Risk premium}$$

$$= k_{s(L)} + (k_{s(U)} - k_d)(B/S)$$

Here the subscripts L and U designate levered and unlevered firms in a given risk class. Proposition II states that as firm's use of debt increases, its cost of equity also raises, and in an exactly specified manner.

Taken together, the first two-MM propositions imply that the conclusion of more debt in the capital structure will not increase the value of the firm because the benefits of cheaper debt will be exactly offsets by an increase in the cost of equity. Thus the basic MM theory states that in a world without taxes both the value of a firm and its cost of capital are completely unaffected by its capital structure. (Gautam & Thapa; 2013)

b. MM with Corporate Taxes

When taxes are introduced, MM derive a new set of propositions. With corporate income taxes, it is concluded that leverage will increase a firm's value because interest on debt is a deductible expense; hence, more of the operating income flows through to investors. Here are two proposition corporations subject to income taxes:

Proposition I. The value of an unlevered firm is the firm's after tax operating income divided by its cost of equity.

$$V_U = \frac{EBIT(1-T)}{k_{sU}}$$

The value of a levered firm is equal to (1) the value of a unlevered firm in the same risk class plus (2) the gain from leverage, which is the present value of the tax saving and which equals the corporate tax rate times the amount of the debt the firm uses.

$$V_L = V_U + BT_C$$

Where,

V_L = Value of levered firm

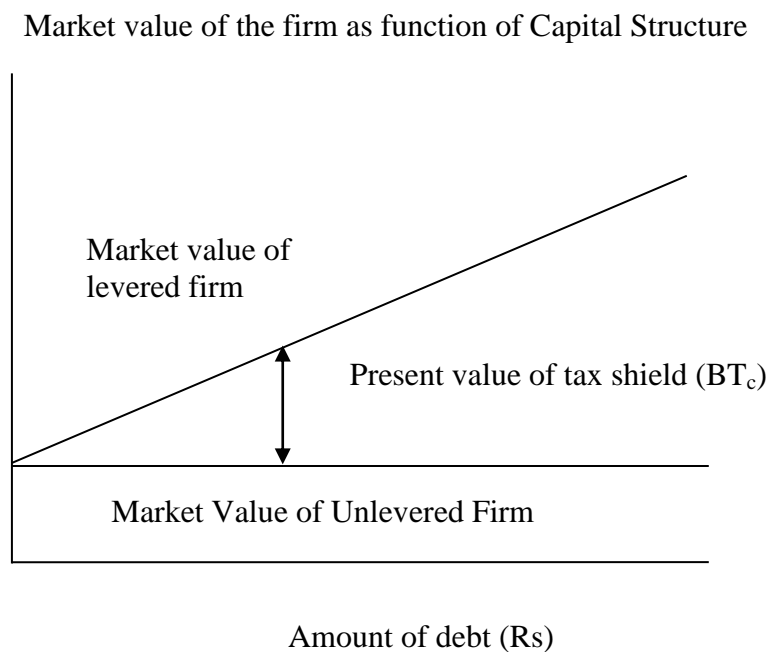
V_U = Value of unlevered firm

BT_C = present value of debt tax shield

T_C = corporate tax rate

It is noted when corporate taxes are introduced, the value of the levered firm exceeds that of the unlevered firm. Additionally, the differential increases as the use of debt increases, so a firm's value is maximized at virtually hundred percent debt financing.

Figure: A



Proposition II. The cost of equity of a levered firm is equal to (1) the cost of equity of an unlevered firm in the same risk class, plus (2) a risk premium whose size depends on the differential between the costs of equity and debt to an unlevered firm, the amount of financial levered and the corporate tax are:

$$K_{SL} = k_{SU} + (k_{SU} - k_d) (1-T) (B/S)$$

Thus, according to Proposition II with taxes, as firm's use of debt increases its cost of equity also raises, and in an exactly specified manner. However, the cost of equity

rises at a slower rate than it did in the absence of taxes. It is this characteristic that produces the increase in firm value as leverage increases, as shown in Proposition I. (Gautam & Thapa; 2013)

c. MM with personal taxes:

Although MM included corporate taxes in the second version of its model, it did not extend the model to include personal taxes. However, in 1976 presidential address to the American Finance Association, Merton Miller did introduce a model designed to show how leverage affects the firm value when both personal and corporate taxes are taken into account. The presence of taxes on personal income, however, may reduce the advantage associated with debt financing. If the returns to investors from purchasing debt instruments are taxed at a higher rate than the returns on common stock, the overall advantage of debt financing in the economy is reduced. In the MM approach, with corporate taxes (and ignoring bankruptcy and agency costs), the net gain from leverage is the difference between the value of the levered and an unlevered firm is:

$$\text{Gain} = V_L - V_u = B_L T_C$$

This shows that the gain from leverage is equal to the debt subsidy, BLT_C . However, once personal taxes on stocks (T_{PS}), and bonds (T_{PD}) are recognized, the gain from leverage is as follows:

$$\text{Gain} = B \left[1 - \frac{(1-T_C)(1-T_{ps})}{(1-T_{ps})} \right]$$

The value of the levered firm is given by following equation:

$$V_L = V_U + \left[1 - \frac{(1-T_C)(1-T_{ps})}{(1-T_{ps})} \right] B$$

When the personal tax rates on set equal to zero, the gain from leverage is equal to the same as originally specified by MM with corporate taxes. If there are no personal taxes, or if personal taxes on stocks are equal to personal taxes on bonds, we are back to the MM approach with corporate taxes.

However, if the tax on stock is less than the tax on bonds, the gain from leverage when personal taxes are considered is then less than the gain from the MM with corporate taxes. If the personal tax on stocks is less than personal tax on bonds, the before tax return on bonds has to be high enough to offset this disadvantage to investors; otherwise, it would not want to hold the bonds. (Gautam & Thapa; 2013)

2.1.2 Financial Analysis:

Financial statements are basically a summary of financial data of corporation. They contain information that is useful for analyzing and understanding the financial performance of a business. The objective of financial analysis is to provide information about the financial position, performance and changes in financial position of a corporation that is useful to a wide range of users in making financial decisions. Financial analysis should be understandable, relevant, reliable and comparable. Reported assets, liabilities and equity are directly related to a corporation's financial position. Reported income and expenses are directly related to corporation's financial performance. An integrated use of the balance sheet, income statement and statement of cash flows provide in-depth view about firm's efforts on maintaining a trade-off between profitability and risk. The major uses of the financial statements are as follows:

- i. Useful in Reporting
- ii. Useful in Business Decision Making
- iii. Useful in Forecasting
- iv. Other Uses. (Poudel, Baral, Gautam & Rana; 2017)

2.1.2.1 I. Objectives and purposes of financial analysis:

- i. Providing information to the management of an organization, this is used for the purpose of planning, analysis, bench marking and decision making.
- ii. Providing information to the investors, promoters, debt providers and creditors which are used to enable them to male rational and prudent decisions regarding investment, credit etc.
- iii. Providing information to shareholders & public at large, in case of listed companies about various aspects of an organization.

- iv. Providing information about the economic resources of an organization claims to those resources (liabilities & owner's equity) and how these resources and claims have undergone change over a period of time.
- v. Providing information as to how an organization is procuring & using various resources.
- vi. Providing information to various stakeholders regarding performance of management of an organization as to how diligently & ethically they are discharging their fiduciary duties and responsibilities.
- vii. Provides information to the statutory auditors which facilitate the audit.
- viii. Enhancing social welfare by looking into the interest of employees, trade union and Government.

(<https://www.quora.com/What-is-the-main-objective-of-financial-analysis>)

II. Importance of financial Analysis:

- i. **Supply of Valuable Information to the Management:**
The main purpose of analysis of financial is to find out the strength and weaknesses of the business. When all types of information are analyzed, they must be provided to the management which is useful to them in forecasting future, preparing plans and policies.
- ii. **Measurement of the managerial Efficiency:**
Financial analysis helps us to compare the manufacturing, financial and selling and distribution expenses of the current year with the corresponding item of last year. It helps to determine the managerial efficiency of a business.
- iii. **Performance of Comparative Study:**
Analysis of financial statement of a business firm helps to compare its performance with the performance of other firms of the same size and nature. Intra firm analysis also gives us a benefit of self-evolution.
- iv. **Disclosure of Profitability Position:**
Financial analysis shows the gross profit, net profit and other required information. By analysis, we can easily know about the present as well as future earning capacity of the business rate of interest on invested capital and whether the profit earned is increasing or decreasing over the year etc (Mehta; 2015)

2.2 Review of related Studies

2.2.1 Review of Articles and Journals

Gajurel, (2005), in his article, “*Capital Structure Management in Nepalese Enterprises*” attempts to explain the mix of securities and financing sources used by corporations of finance real investment.

The major objective is to examine determinants of the capital structure choice in Nepalese context. The specific objectives are to determine structure and pattern of the capital structure. Examination of the relationship of leverage with different financial indicators (ratios) and to undertake an international comparison of debt ratios. To identify and analyze the determinants of capital structure. To investigate the extent to which the capital structure theories can explain capital structure choice by firms. To examine managements’ views on various aspects of the capital structure.

The major findings of the study may be summarized that Nepalese firms are highly levered and rely more on short-debt. The trend of debt ratio (total and short-term) is increasing over the period. It may be the consequences of the regressive (recession) economic scenario, which results into the lower profitability and higher leverage (Booth et al, 2001). Similarly, the decreasing or negative profitability increases the payables, which ultimately increases the short term debt. It would be the cause to increase the short term debt ratio of the firm since 1999. The high debt ratio could not result into profitability because the marginal analysis for debt function is concave. The optimal level of debt-equity combination results in profitability and optimal value of the firm. The retained earnings and the bank loads are the most preferred sources of financing among Nepalese practitioners.

Gadtaula, (2016), in his article, “*Critical Evaluation of Capital Structure Policy on Nepalese Manufacturing Firms*” The Capital structure policy is guided more by pecking order and less by static trade-off theory. The preference of internal financing and maintenance of target debt (59%) support both theories partially.

The basic objective of the survey views of CFO’s on capital structure policy in Nepalese context. The other subsequent and complimentary to the basic objective are to find whether capital structure is relevant or not, to see how far established capital

structure theories explain the observed policy, to sort out firm specific factor of capital structure, to measure the impact of non-firm specific of capital structure policy.

The formulation of policy is found less affected by non-firm specific factors rather than firm specific factor. The opinion survey shows that Nepalese firms rely heavily on short-term debt rather than long-term debt. The choice between long-term debt and short-term debt, as pointed by respondents, depends mainly on the rate of interest and volume of borrowing. Most of companies were running into losses and no tax-advantage accrued to these companies. It can be said that firm specific factors were more responsible than non-firm specific factors in determining effective capital structure policy of Nepalese firms on the basis of information provided by respondents.

Bhandari & Nakarmi, (2014), in their article, *“Performance Evaluation of Commercial Banks in Nepal using AHP”* it explores the determinants of performance exposed by the financial ratios and determines the financial performance of the commercial banks in Nepal through Analytical Hierarchy process based on their financial characteristics.

The study is based on objective like Review of AHP based bank assessment literature and contributing to the rap, Establishment of priorities for performance measurement of commercial banks among liquidity, efficiency, profitability, capital adequacy and asset quality indicators. Development and utilization of AHP based framework to evaluate commercial banks in Nepal.

Two public sector banks Nepal Bank Limited and Rastriya Banijya Bank were ranked in the bottom of two in the ranking list. This study has added one more literature to demonstrate the utility of AHP based bank evaluation to Nepalese banking community in particular, which not only evaluates the performance of the bank but also gives insights to focus in the area of improvement to a particular bank in comparison to others. The ability of dynamic sensitivity analysis feature available with the AHP processing software further helps to overcome the accuracy of data presented by individual banks, which could be the added value to the Bank regulators.

Jha & Hui, (2012), in their article, *“A Comparison of Financial Performance of Commercial Bank: a Case Study of Nepal”* the purpose of study is to evaluate the factors determining the financial performance of the Nepalese commercial banks.

The objective of this study was to compare the financial performance of different ownership structured commercial banks in Nepal based on their financial characteristics and identify the determinants of performance exposed by the financial ratios, which were based on CAMEL Model. To estimate the impact of capital adequacy ratio, non-performing loan ratio, interest expenses to total loan, net interest margin ratio and credit to deposit ratio on the financial profitability namely return on assets and return on equity of these banks.

Though financial ratios analysis compares the financial performance among commercial banks, the same bank had different ranks under the different financial ratios. Furthermore, it can be concluded from the multiple regression analysis that the capital adequacy ratio, interest expenses to total loan and net interest margin were significant but had a negative effect on ROA while non-performing loan and credit to deposit ratio did not have any considerable effect on ROA.

Pradhan, Shrestha, Bhandari, Limbu, Acharya & Maharjan, (2016), *“Impact of Firm Capital Structure Decisions on Debt Agency Problem: Evidence for Nepal”* this paper examines the impact of capital structure decision on agency cost of debt.

The purpose of this study is to examine the impact of capital structure decision on agency cost of debt. The study shows the capital structure on non-fixed assets and liquidity of assets in the financial institutions. There is a positive significant impact of long-term debt with non-fixed assets whereas short term debt ratio and firm size has negative significant with non-fixed assets.

The study concludes that a non-fixed asset to total debt i.e dependent variable has not significant relationship with the specified independent variables such as total debt and profitability. Similarly, the liquidity does not have the significant relationship with the specified independent variables such as profitability.

Shrestha, Sitaula, Koirala, Darai & Shrestha, (2016), "*Capital Structure in Developing Countries with Reference to Nepal*" this paper tries to study the capital structure of the developing countries like Nepal"

Capital structure remains as a controversial issue in modern corporate finance. Companies which do not formally plan their capital structure are likely to have uneconomical and imbalanced capital structure and could face difficulties in raising capital on favorable terms in long run.

The main objective of this study is to analyze determinants of the capital structure in developing countries with reference to the banking industry of Nepal. To test the determinants of firm's leverage and capital structure determinants.

The study revealed that, average debt ratio is 91.56 percent while the average debt equity is 14.94 percent. The average ratio of fixed assets to total assets is observed to be 1.63 percent. The beta coefficients are negative for assets structure, liquidity and profitability, while they are positive for growth, size, dividend payout ratio and net worth. However, the coefficients are significant for liquidity, size and profitability only at 5 percent level of significance. Thus, this study concludes that major determinants of capital structure of commercial banks in Nepal are liquidity, size and profitability.

2.2.2 Review of Previous Related Thesis

Mehta (2015), has made her research on the topic of "*Financial Statement Analysis of Commercial Banks*"

The main objective of the study was to examine and in analyze the financial statement of commercial banks.

To achieve such objectives, the following objectives had been formulated:

- To analyze the financial performance through the use of appropriate financial tools.
- To evaluate the liquidity, profitability, capital structure, activity and growth position of the sample banks.
- To compare the financial position among these two banks.

- To provide appropriate suggestions.

The major findings of the study were analyzed through secondary data available by using various statistical and financial tools:

- This ratio analysis shows that short term solvency of the EBL and HBL. It also shows the short term capability of the fund.
- This analysis is made to understand whether the funds of EBL and HBL have been used efficiently in the business activities or not, the research aims to analyze the activity analysis of these two banks and compare which of these two banks is ahead in utilizing funds during the study period.
- The analysis shows the proportion of debt and equity used in financing the both bank's assets. Leverage ratio is used to test the long term solvency of the banks. There are two headings in this analysis they are debt-equity ratio and total debt ratio.
- Profitability ratio of the bank is classified into following heads namely (1) return on net worth (2) return on total assets (3) return on total deposit (4) return on total investment and (5) earnings per share.

Kandel (2012), conducted the study on "*A Comparative Financial Analysis of Nabil Bank Limited, Himalayan Bank Limited & Nepal Investment Bank Limited*" Financial performance is analyzed using two important tools. The first important tools are the financial tools, which includes ratio analysis, asset management ratio, profitability ratio, risk ratio and other ratio and other one is statistical tools which includes average mean, standard deviation, coefficient of variation, coefficient of correlation, trend analysis. The specific objectives of the study are as follows:

- To see the comparative financial position of these three banks NABIL HBL and NIBL.
- To examine the relative financial performance of NABIL HBL and NIBL in terms of different kinds of ratios.
- To see the trend and relation of the deposits, lending investment and profit of selected banks.
- To provide suggestions and possible guideline according to finding of the study.

The major findings of the study, based on financial and statistical tools can be presented as follows:

- The current ratios of NABIL HBL and NIBL have been decreasing. All banks have in better liquidity position because the standard ratio is more than 1:1.
- The average current ratio of NABIL is greater than HBL and NIBL. The C.V. of NIBL indicated high volatile in its current ratio.
- The cash and bank balance to current assets ratio of NABIL HBL and NIBL have been fluctuating. The average ratio of NABIL is greater than NABIL and HBL. It indicates that NIBL has high portion cash and bank balance from its current asset. The lower C.V. of NIBL indicates consistently in the ratio than other banks.
- The investments on Govt. Treasury bill to current asset ratio of NABIL HBL and NIBL have fluctuating. It indicates that NABIL has invested little high portion of its current asset. The NIBL has lowest current ratio which depicts less investment in Govt. treasury bills. The C.V. and S.D of NABIL has lower which indicates low risky and consistency in ratio.

Acharya (2014), had conducted the study on *“A comparative study of Capital Structure Management between Kumari Bank Limited and Siddhartha Bank Limited”*

The main objectives were:

- To find out comparative position in capital structure between two banks.
- To analyze the various source of capital and their cost.
- To highlight the relationship between operating profit and interest expenses to measure the debt service capacity of the banks.
- To analyze the return on capital in relation to capital employed.
- To study capital structure and adequacy ratio.

The Major Findings were:

- The shareholder’s equity of both the banks is in increasing trend during the entire study period.
- Higher overall capitalization rate of KBL is more capable to utilize the value of the firm compare to SBL.

- KBL is more capable to utilize its long term capital.
- Debt equity ratio of both banks is significant in generating more return on equity.

Basnet (2015), has conducted a study on “*Analysis of Capital Structure in Selected Joint Banks of Nepal*”

The Main Objectives were:

- To find out the profitability of the banks in respect to its capital structure.
- To determine the interest burden of debts over the banks.
- To examine the efficiency of working capital of the joint venture banks.

The major findings were:

- The utilization of total assets is not adequate to generate earning.
- The banks using more debt capital to procure total assets.
- The profitability situation of the banks is poor due to nominal return rate.

Basnet (2014), has conducted the study on “*A comparative Analysis of Financial Performance of Kumari Bank Ltd and Machhapuchchhre Bank Ltd*”

The main objectives were:

- To analyze and compare the liquidity position, profitability, efficiency and leverage positions among two commercial banks.
- To make comparative analysis of other indicators with reference to earnings per share and dividend per share.
- To analyze and compare solvency ratio such as capital adequacy ratio.
- To examine the position of NPA in the banks.
- To compare growth trend of banks as regards to investment to total deposit and loan an advances to net profit.
- To analyze the relationship between net profit and investment, total deposit and net profit etc.

The major findings were:

- The current ratio of KBL is better than that of MBL, as the current ratio of KBL is higher than that MBL, it is concluded that the liquidity position of the KBL is better than that of MBL.
- Comparing two banks on the basis of cash reserve ratio, it can be considered the liquidity position of KBL is better than that of MBL. However the liquidity of the MBL is also sound, as the CRR is above the NRB's requirement in each fiscal year.
- From the above analysis, it can be concluded that KBL is aggressive than MBL in mobilizing the total deposit in loans and advances. Further, the variability in the ratio is more consistent than in KBL than in MBL. And MBL is efficient in utilizing the total deposit than KBL.
- Comparing the sampled banks, it can be concluded that KBL has remained more successful than MBL in mobilizing total assets in loans and advances. However, the higher ratio also indicated that the total assets of KBL are more risky than that of MBL.

Bhattarai (2017), has made his research on the topic "*A Study on Capital Structure and Its Impact on Profitability in Nepalese Commercial Banks*"

The main objectives were:

- To find out the position of the capital structure of sample banks.
- To analyze the relationship of the capital structure with variables like earning per share (EPS) and dividend per share (DPS).
- To forecast the trend of long term debt, short term debt, equity and net profit of the selected bank.

The major findings were:

The following findings have been derived from the analysis and interpretation of the data, during the study period.

- The average debt equity ratio of NSBL is highest than EBL. It indicates that NSBL shows a large share of financing by the creditors.

- The average short term debt equity ratio of EBL is highest than NSBL but both banks are fluctuating trend. It seems that EBL is more aggressive than NSBL by using higher proportion.
- The average equity of both banks has a positive rate which denotes that with every unit change in the year, the value of equity will increase additional.
- Both banks i.e. EBL and NSBL have a positive which denotes that with every unit change in the year, the value of net profit will increase.

2.3 Research Gap:

There is gap between present research and previous research; most of the previous research works cover either Capital Structure or Financial Analysis but this research work focus on both capital structure and financial analysis. This research work covers latest data published by this bank.

After the study it was found that the previous scholars couldn't submit the present facts and ignored the powerful aspect like financial analysis of the bank. Hence, present study tries to use the same ignored but important tool (liquidity ratio, leverage ratio, profitability ratio) to forecast the components of capital structure. This study tries to show financial analysis by applying and analyzing various financial tools like liquidity ratio, leverage ratio, profitability ratio. Probably this will be the appropriate research in the area of financial analysis as well as capital structure of the bank. Although this study is a continuity of previous studies but it manage to provide complete and latest information above Capital Structure and Financial Analysis of Citizen International Bank Limited which will serve as a source of reference in the similar field.

CHAPTER - III

RESEARCH METHODOLOGY

3.1 Introduction:

Research methodology is a way to systematically solve the research problem. It may be understood as a science of studying how research is done scientifically. In it we study the various steps that are generally adopted by a researcher in studying the research problem along with the logic behind them. It is necessary for the researcher to know not only the research methods/techniques but also the methodology.

The topic of the study has been done for overall study on capital structure and financial analysis of Citizen International Bank Limited. In order to reach and accomplish the objectives of the study, different activities are carried out. For this purpose, the chapter aims to present and reflect the methods and techniques that are carried and followed during the study period. The research methodology that is adopted for the present study is mentioned in this chapter, which deals with research design, source of data, data collection, processing and tabulating procedure and methodology.(Kothari; 1990)

3.2 Research Design:

The formidable problem that follows the task of defining the research problem is the preparation of the design of the research project, popularly known as the “research design”. Decisions regarding what, where, when, how much, by what means concerning an inquiry or a research study constituted research design.

The main objective of this study is to analyze and evaluate the capital structure and financial analysis of Citizen International Limited Bank. This study follows the analytical and descriptive research design. To complete this study following design and format has been used. First of all information and data are collect. The important information and data are selected. Then data is arranged by using manner. After that data are analyzed by using approach like financial and statistical tools. In analysis part interpretation and comments are also made where ever necessary. Result and

conclusion are given after analyses of data; recommendation and suggestion is also given. The design has been adopted from previous research works.

3.3 Nature and Source of Data:

The research is based on secondary source of data. All the adequate data are collected from secondary sources. This refers that the data are already used and gathered by others. Secondary data are mostly used for this research purpose. Therefore, the major sources of secondary data are Annual Report of concern bank, Internet, NRB directives, Newspaper, Journals, articles, and thesis of Central Library of T.U and Library of Public Youth Campus.

3.4 Population and Sample:

A sample is a collection of items or elements from a population or universe. Hence, a sample is only a portion or subset of the universe or population. It comprises some observations selected from the population.

Population or universe refers to the entire group of people, events, or things of interest that the researcher wishes to investigate. (Pant; 2016)

Among 28 commercial banks operating in the country “A” class commercial bank “Citizen International Bank Limited” is selected for the study as a sample.

3.5 Data Collection Procedure:

The task of data collection begins after a research problem has been defined and research design plan is selected for the research. There are two types of data primary and secondary. The methods of collecting primary and secondary data differ since primary data are to be originally collected, while in case of secondary data the nature of data collection work is merely that of compilation. For this research, secondary data are used; as primary data are not possible to extract due to the bank privacy. So in order to collect the secondary data following sources are used:

- Annual reports of Citizen International Bank Limited.
- Internet browsing.
- Bulletins, articles published by the bank.
- Citizen Bank official website.

3.6 Tools and Techniques for Analysis:

After data collection is completed, the data will be in what researchers call “the raw form”. The data will still be on questionnaires, data collection forms, and note cards. It is necessary to arrange the data so that it makes some sense to the researcher and extract appropriate amount of data required to the research.

For this purpose of data analysis, various financial and statistical tools used to achieve the objective of the study. The evaluation of the data is carried out to the pattern of data available. Different tools have been selected according to the nature of data as well as subject matter. The major tools employed for the analysis of data is ratio analysis, which shows the numerical relationship between two variables of the financial statement. Besides financial tools, statistical tools are also used.(Kothari; 1990)

3.6.1 Financial Tools:

Ratio Analysis is a form of Financial Statement Analysis that is used to obtain a quick indication of a firm's financial performance in several key areas. The ratios are categorized as Liquidity Ratios, Leverage Ratios, Profitability Ratios and Capital structure analysis.

The following ratios are going to be analyzed under financial performance analysis and Capital structure analysis of selected bank.

1. Liquidity ratio
 - a) Current ratio
 - b) Cash and bank balance to total deposit ratio
 - c) Cash and bank balance to current ratio
2. Leverage Ratio
 - a) Debt to asset ratio

- b) Debt to equity ratio
- c) Long-term debt to total assets ratio
- d) Asset to equity ratio
- 3. Profitability Ratio
 - a) Return on equity
 - b) Return on total assets
 - c) Return on total Capital Employed
 - d) Net profit margin
 - e) Gross profit margin
- 4. Capital Structure Analysis
 - a) Cost of capitalization rate (k_o)
 - b) Cost of Equity (k_e)

1) Liquidity Ratio:

Liquidity ratio measure a firm's ability to pay its short-term obligations out of current or liquid assets. These ratios focus on current assets and liabilities. They are used to ascertain the short-term solvency of a firm. The two primary ratios used to test the liquidity of a firm are current ratio and quick ratio.

i) Current Ratio:

A current ratio is the quantitative relationship between current assets and current liabilities. Current assets are those assets which can be converted into cash within a year. They include cash, inventories, accounts receivable, bank balance, prepaid expenses, marketable securities and so on. On the other hand current liabilities are the obligations that must be paid within a year. They include account payable, bank overdraft, notes payables, accruals, and so on. Current ratio is calculated as follows:

$$\text{Current ratio} = \frac{\text{Current Assets (CA)}}{\text{Current Laibilities (CL)}}$$

ii) Cash and bank balance to total deposit Ratio:

Cash Deposit ratio (CDR) is the ratio of how much a bank lends out of the deposits it has mobilized. It indicates how much of a bank's core funds are being used for

lending, the main banking activity. It can also be defined as Total of Cash in hand and Balances with NRB divided by Total deposits.

$$\text{Cash and bank balance to total deposit ratio} = \frac{\text{Cash and Balance}}{\text{Total Deposit}}$$

iii) Cash and bank balance to current ratio:

Cash and bank to currents assets ratio shows the liquidity capacity n the basis of Cash and bank balance that is the most liquid asset. So the ratio visualizes higher liquidity position than current ratio.

$$\text{Cash and bank balance to total deposit ratio} = \frac{\text{Cash and bank Balance}}{\text{Current Asset}}$$

2) Leverage Ratio:

Leverage ratio is also known as Debt Management ratios, indicate the extent to which debt financing is being used by a firm. It is the measure of long-term solvency of a firm. Debt management ratios are used to analyze long-term solvency position from two prospects: first how firm is using the borrowed funds to finance its assets; second, how far the firm is able to serve its debts in terms of satisfying regular fixed interest charges. Following debt management ratios are used for the purpose.

i) Debt-Asset Ratio:

The debt-asset ratio (DA), simply known as debt ratio, shows the proportion of total debts used in financing total assets of a firm. It is calculated as:

$$\text{DA ratio} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

ii) Debt Equity Ratio:

Debt-equity ratio (DE) is the most widely used leverage ratio to evaluate the long-term solvency of a firm. This ratio expresses the relationship between debt capital and equity capital, and reflects the relative claim of them on the assets of the firm. It is calculated by dividing total debt by total equity:

$$\text{DE Ratio} = \frac{\text{Total Debt}}{\text{Total Equity}}$$

iii) Long-term debt to Total Assets Ratio:

The long-term debt to total assets ratio presents the relationship between long-term debts to total assets of a firm. It is another way to express the use of long-term debt capital in comparison to total assets of the firm. It is calculated as follows:

$$\text{Long-term to Total Assets Ratio} = \frac{\text{Longterm Debt}}{\text{Total assets}}$$

iv) Asset to Equity Ratio:

The asset/equity ratio shows the relationship of the total assets of the firm to the portion owned by shareholders. This ratio is an indicator of the company's leverage (debt) used to finance the firm.

$$\text{Asset to equity ratio} = \frac{\text{Total Assets}}{\text{Total shareholders's Equity}}$$

3) Profitability Ratios:

Profitability is the end result of a number of corporate policies and decisions. It measures how effectively the firm is being operated and managed. Besides owners and managers, creditors are also interested to know the financial soundness of the firm. Owners are eager to know their returns whereas managers are interested in their operating efficiency. So they calculate profitability ratios because expectations of both owners and managers are evaluated in terms of profit earned by the firm. Following are the major ratios used to measure the profitability of a firm.

i) Return on Assets:

The return on assets (ROA), which is often called the firm's return on total assets, measure the overall effectiveness of management in generating profit with its available assets. The higher the firm's return on assets the better it is doing in operation and vice versa. It is calculated as follows:

$$\text{ROA} = \frac{\text{Net Income}}{\text{Total Assets}}$$

ii) Return on Equity:

The return on equity (ROE) measures the profitability of equity funds invested in the firm. It is the ratio of management and the more profitability enjoyed by the shareholders. It is calculated as follows:

$$\text{ROE} = \frac{\text{Net Income}}{\text{Total Equity}}$$

iii) Return on Total Capital Employed:

Return on total capital employed (ROCE) is a financial ratio that measures the company's profitability and the efficiency with which its capital is employed. ROCE is calculated as:

$$\text{ROCE} = \frac{\text{Net profit after income and tax}}{\text{Total capital Employeed}}$$

iv) Net Profit Margin:

Net profit margin is the ratio between net income and sales of a firm. It shows the firm's ability to generate net income per rupee of sales and is calculated as:

$$\text{Net profit margin} = \frac{\text{Net Income}}{\text{Sales}}$$

v) Gross Profit Margin:

It is the ratio between gross profit and sales of a firm. It is calculated as:

$$\text{Gross profit margin} = \frac{\text{Gross profit}}{\text{Sales}}$$

(Paudel, Baral, Gautam & Rana; 2017)

3.6.2. Capital Structure Analysis:

Various approaches have been made under the relevancy of capital structure, which helps to evaluate value of the firm, such as Net Income Approach (NI), Net Operating Income Approach (NOI), Traditional Approach and MM Approach. These all approach are based on the market value. Practical usualness of other approaches is bit complex thus NI and NOI approaches are used in this study.

i) Net Income (NI) Approach (Cost of overall Capitalization Rate, K_O):

According to net income approach, the cost of dent capital and the equity capital remains unchanged when the leverage ratio varies. As a result, the weighted average cost of capital declines as the leverage ratio increases. This is because when the leverage ratio increases, the cost of debt, which is lower than the cost of equity, receives a higher weight in calculation of the average cost of capital. Thus higher leverage results higher value of the firm. The overall capitalization rate can be calculated simply by dividing EBIT by the value of the firm.

$$\text{Cost of overall Capitalization Rate } (K_O) = \frac{\text{Net Operating Income (EBIT)}}{\text{Total Market Value of the Firm}}$$

ii) Net Operating Income (NOI) Approach (Cost of Equity, K_e):

In this approach, net operating income is capitalized at an overall capitalization rate to obtain the total market value of the firm. As EBIT and overall capitalization rate remain constant, capital structure does not affect the market value of the firm. Market value of the equity is computed after deducting market value of the debt from total market value of the firm. Note that in the net operating income approach the overall capitalization rate and the cost of debt remain constant for all degrees of leverage. The required return on equity increases linearly with financial leverage. Equity capitalization rate k_e is calculated here by simply dividing EBT by the market value of common equity.

$$\text{Cost of Equity } (K_e) = \frac{\text{Earning Available to Common Stock Holder (NI)}}{\text{Market Value of Stock (S)}}$$

(Gautam & Thapa; 2013)

3.6.3 Statistical Tools: In order to achieve the objective statistical tools proves to be very important technique. It analyzes the relationship between two variables. In this research following statistical tools are used to analyze the data collected.

3.6.3.1 Arithmetic Mean:

The sum of all observations divided by the total number of observations is known as the arithmetic mean or simply mean. It is simply a single value, which is expected to lie around controlling the position of the mass of the data.

$$\text{Arithmetic Mean} = \frac{\text{Sum of Observations}}{\text{Number of Value}}$$

Or

$$\bar{X} = \frac{\sum X}{N}$$

3.6.3.2 Standard Deviation:

Standard deviation is an absolute measure of dispersion. The standard deviation is the square root of mean squared deviation from the arithmetic mean. It can be calculated by using the following formula:

$$s = \sqrt{\frac{\sum (X - \bar{X})^2}{N}}$$

3.6.3.3 Correlation Coefficient (r):

Correlation analysis in the statistical tools generally used to describe the degree which our variable is related to another. This tool is used for measuring the intensity or the magnitude of linear relationship between two variables X and Y is usually denoted by ‘r’ can be obtained as:

$$r = \frac{N \sum XY - \sum X \sum Y}{\sqrt{N \sum X^2 - (\sum X)^2} \sqrt{N \sum Y^2 - (\sum Y)^2}}$$

Where,

N = No of Observations in series X and Y

$\sum X$ = Sum of observation in series X

$\sum Y$ = Sum of observation in series Y

$\sum X^2$ = Sum of square observation in series X

$\sum Y^2$ = Sum of square observation in series Y

$\sum XY$ = Sum of the product of observation in series X and Y

3.6.3.4 Probable Error:

Probable error is an old measure of ascertaining the reliability of the value of Pearsonian coefficient of correlation. If r is the calculated correlation coefficient in a sample of n pairs of observations given by

$$P.E. = 0.6745 \frac{1-r^2}{\sqrt{n}}$$

Probable error (r) may be used to test if calculated value of sample correlation coefficient is significant. A few rules for the interpretation of the significance of correlation coefficient are as follow:

- i. If $r < P.E. (r)$, then the value of r is not at all significant.
- ii. If $r > 6 P.E. (r)$, then r is definitely significant.
- iii. In other situation, nothing can be calculated with certainty.

$P.E. (r)$ may lead to fallacious conclusions particularly when n , the number of pairs observations, is small.

Also, the probable error of correlation coefficient may be used to determine the limits, within which the population correlation coefficient may be expected to lie,

Limits for population correlation coefficient are $r \pm P.E. (r)$.

3.6.3.5 Coefficient of Variation (C.V):

It is relative method of standard deviation. If standard deviation is divided by its arithmetic mean, then it is known as coefficient of variation. It is always expressed in percentage. It is depicted by C.V.

$$\text{C.V.} = \frac{\sigma}{\bar{X}} \times 100\%$$

Where,

σ = Standard Deviation

\bar{X} = Mean Value of Variables

The distribution having less C.V. is said to be less variable or more consistent.

A distribution having greater C.V. is said to be more variable or less consistent.

3.6.3.6 Trend Analysis:

Trend analysis quantifies and explains trends and patterns in a noisy data over time. A “trend” is an upwards or downwards shift in a data set over time. It is very useful and commonly applied tool to forecast future event in quantitative term on basis of tendencies in the dependent variables in the past period. The linear trend values from a series in arithmetic progression.

Mathematically,

$$Y = a + bX$$

Where,

Y = Value of dependent variable

a = Y – intercept

b = slope of trend line

X = value of independent variable i.e. time

Normal equation of the above are

$$\sum Y = Na + \sum X$$

$$\sum XY = a\sum X + \sum X^2$$

CHAPTER – IV

DATA PRESENTATION AND ANALYSIS

After data collection is completed, the data will be in what researchers call “the raw form”. The data will still be on questionnaires, data collection forms, and note cards. It is necessary to arrange the data so that it makes some sense and so that it can later be presented to the readers of the project.

In this chapter, collected raw data will be screened, analyzed and presented in mathematical manner in reference to the research methodology of third chapter. All the relevant data collected for the selected bank will be presented, analyzed and interpreted in order to achieve its objective. All the above financial and statistical tools will be used to present the data. The analysis of data consists of organizing, tabulating and evaluating the collected data.

4.1 Financial Ratio Analysis:

In this section, the financial data obtained from secondary source of Citizen International Bank Limited are analyzed to measure the financial performance. In financial analysis it evaluates the financial position and performance of a firm. It acts as a bank’s performance indicator which shows the position of the bank. This research work analyzes the various key performance indicators.

4.1.1 Liquidity Ratio:

Liquidity ratio measure a firm’s ability to pay its short-term obligations out of current or liquid assets. These ratios focus on current assets and liabilities. They are used to ascertain the short-term solvency of a firm, commercial bank must maintain adequate liquidity. The two primary ratios used to test the liquidity of a firm are current ratio and quick ratio. Liquidity ratio should neither be inadequate nor high. If the liquidity ratio of the bank is not enough, it will result in credit ratings, less creditors, confidence, eventually may lead to the bankruptcy.

4.1.1.1 Current Ratio:

A current ratio is the quantitative relationship between current assets and current liabilities. Current assets are those assets which can be converted into cash within a year. They include cash, inventories, accounts receivable, bank balance, prepaid expenses, marketable securities and so on. On the other hand current liabilities are the obligations that must be paid within a year. They include account payable, bank overdraft, notes payables, accruals, and so on. Current ratio is calculated as follows:

$$\text{Current ratio} = \frac{\text{Current Assets (CA)}}{\text{Current Liabilities (CL)}}$$

Table: 4.1
Current Ratio

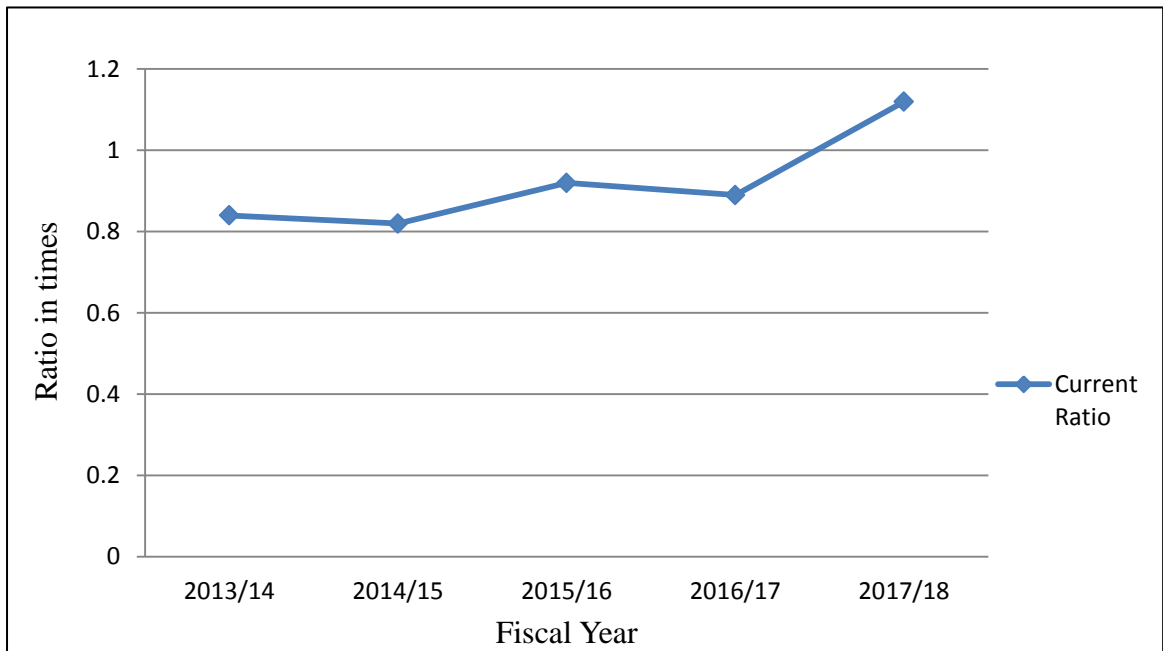
(Amount in Millions)

Fiscal Year	Current Asset	Current Liabilities	Current Ratio (%)
2013/14	19883	23670	84
2014/15	23418	28558	82
2015/16	35584	38678	92
2016/17	52109	58549	89
2017/18	55958	49963	112
Mean			91.8
Standard Deviation (S.D)			10.68
Coefficient Variation (C.V)			11.63

Source: Appendix 1

Table 4.1 is presented in figure to show the trend line of current ratio of Citizen International Bank Limited.

Figure: 4.1
Current Ratio



Source: Table 4.1

The table 4.1 and figure 4.1 shows the current ratio of Citizen International Bank Limited. The current ratio of Citizen International Bank Limited from the fiscal year 2013/14 to 2017/18 are 84%, 82%, 92%, 89% and 112% respectively. Current ratio is in increasing trend except in fiscal year 2014/15 and 2016/17. Higher percentage indicates better maintain of current ratios. Citizen bank has not been able to maintain safety margin to protect the interest of creditors. Comparing the 5 sample fiscal year on the basis of CR it can be concluded that the liquidity position of the bank is not good as it is not able to meet the standard unit 2:1. The average proportion of the bank is 91.8. S.D of the sample bank is 10.68 and C.V. of current ratio of the sample bank is 11.63%. The average proportion of the bank 91.8 means the bank is able to manage its liquidity only by 91.8. The CV of current ratio is high which means there is less uniformity in the ratio of current ratio.

4.1.1.2 Cash and bank balance to total deposit Ratio:

This ratio shows ability of bank's fund to cover their current margin call and saving deposits. It is calculated in order to see the position of cash and bank balance to make the payment of deposits when demanded. This ratio is calculated by dividing cash and bank balance by total deposits. The following table and figure shows the comparative cash and bank balance to deposits ratio.

$$\text{Cash and bank balance to total deposit ratio} = \frac{\text{Cash and Balance}}{\text{Total Deposit}}$$

Table: 4.2

Cash and bank balance to total deposit Ratio

(Amount in Millions)

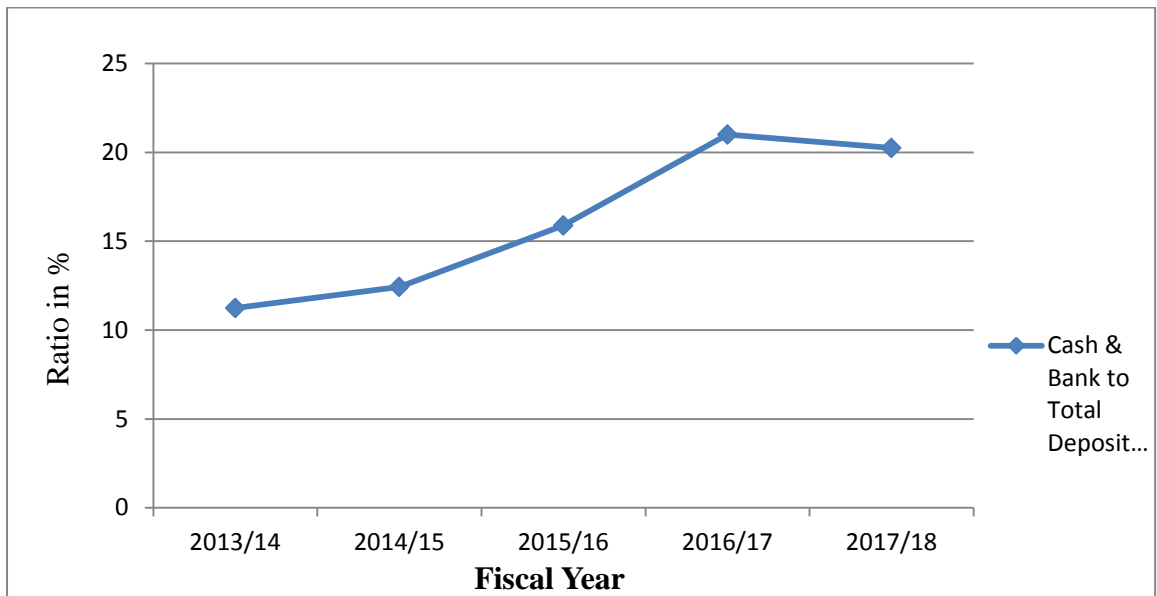
Fiscal Year	Cash and bank balance	Total Deposit	Cash & Bank to Total Deposit Ratio (%)
2013/14	4581	22743	11.24
2014/15	5873	27963	12.43
2015/16	5685	35782	15.88
2016/17	5893	47394	21
2017/18	5926	52719	20.24
Mean			16.15
Standard Deviation			3.95
Coefficient of Variation			24.48

Source: Appendix 1

Table 4.2 is presented in figure to show the trend line of cash & bank to total deposit ratio of Citizen International Bank Limited.

Figure: 4.2

Cash and bank balance to total deposit Ratio



Source: Table: 4.2

The table 4.2 and figure 4.2 shows the cash and bank to total deposit ratio of Citizen International Bank Limited. The cash and bank to total deposit ratio of Citizen International Bank Limited from the fiscal year 2013/14 to 2017/18 are 11.24%, 12.43%, 15.88%, 21% and 20.24% respectively. Cash and bank to total deposit of the bank is in increasing trend except in the year 2017/18. It continuously increased till the year 2016/17. The bank is able to utilize its deposit better in the year 2016/17 but the liquidity is low due to utilization of the deposit. On average basis, higher average ratio is better and on basis of CV lower CV is better. The average ratio of cash and bank to total deposit ratio is 16.15% which means the bank is able to maintain its liquidity upto 16.15% of its total deposit. The CV of cash and bank to total deposit ratio is high which means there is less uniformity in the ratio of cash and bank to total deposit ratio.

4.1.1.3 Cash and bank balance to current ratio:

Cash and bank to current assets ratio shows the liquidity capacity on the basis of Cash and bank balance that is the most liquid asset. So the ratio visualizes higher liquidity position than current ratio.

$$\text{Cash and bank balance to total deposit ratio} = \frac{\text{Cash and bank Balance}}{\text{Current Asset}}$$

Table: 4.3

Cash and bank balance to current ratio

(Amount in Millions)

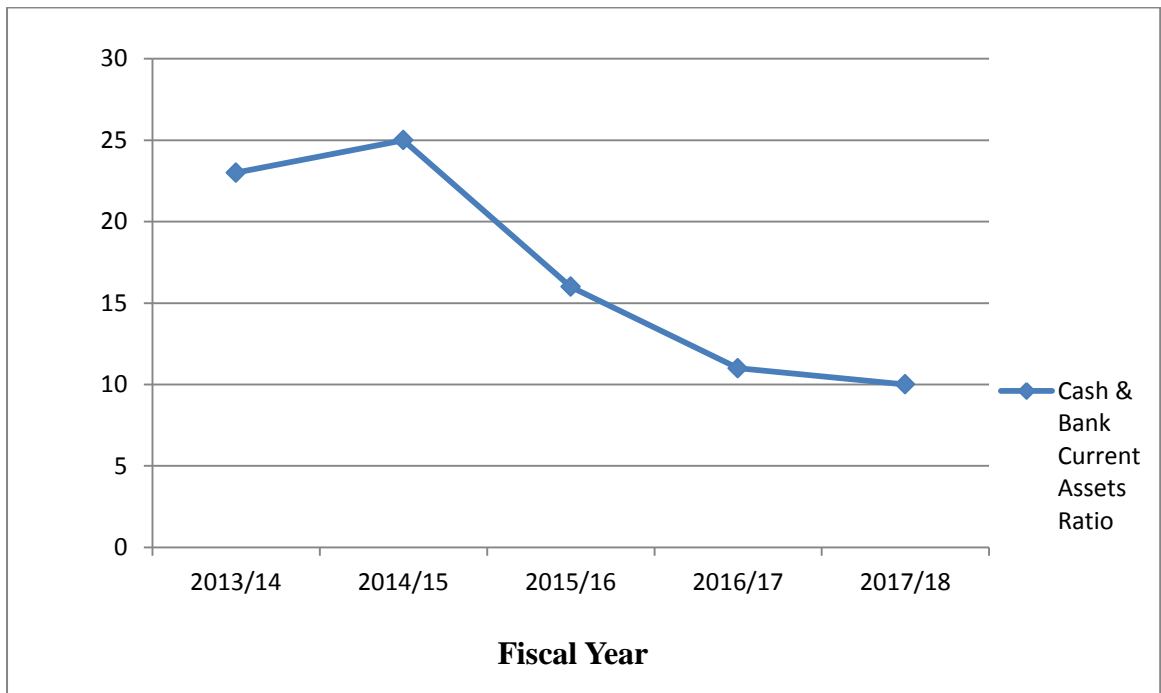
Fiscal Year	Cash and bank balance	Current assets	Cash & Bank Current Assets Ratio (%)
2013/14	4581	19883	23
2014/15	5873	23418	25
2015/16	5685	35584	16
2016/17	5893	52109	11
2017/18	5926	55958	10
Mean			17
Standard Deviation			18
Coefficient of Variation			1.06

Source: Appendix 1

Table 4.3 is presented in figure to show the trend line of cash & bank to current ratio of Citizen International Bank Limited.

Figure: 4.3

Cash and bank balance to current ratio



Source: Table: 4.3

The table 4.3 and figure 4.3 shows the cash and bank to current ratio of Citizen International Bank Limited. The cash and bank to current ratio of Citizen International Bank Limited from the fiscal year 2013/14 to 2017/18 are 23%, 25%, 16%, 11% and 10% respectively. Cash and bank to total deposit of the bank is in decreasing trend. It shows that the bank is decreasing the cash and bank balance every year. On average basis, higher average ratio is better and on basis of CV lower CV is better. The average ratio of cash and bank to current ratio is 17% which means the bank is able to utilize the resources upto 17% of its current ratio. The CV of cash and bank to current ratio is less which means there is uniformity in the ratio of cash and bank to current ratio.

4.1.2 Leverage Ratio

Leverage ratio reflects the extent to which the banks depend on debt capital structure. Financial leverage is magnification of risk and return introduced through the use of fixed cost financing such as debt and preferred stock. In order to know the long-term financial position, leverage ratios are calculated. These ratios are also called 'capital

structure ratios'. These ratios will indicate the proportion of debt equity in the capital structure of a bank.

4.1.2.1 Debt Asset Ratio:

The debt asset ratio simply known as debt ratio, it is the ratio between total debt and total assets. It is also the leverage ratio, which is generally called debt ratio. This type of capital structure ratio is a variant of debt equity ratio. This ratio measures the extent to which borrowed funds supports the assets of the firm, debt to total assets ratio is used to analyze the long-term solvency of the firm.

$$\text{DA ratio} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

Table: 4.4
Debt Asset Ratio

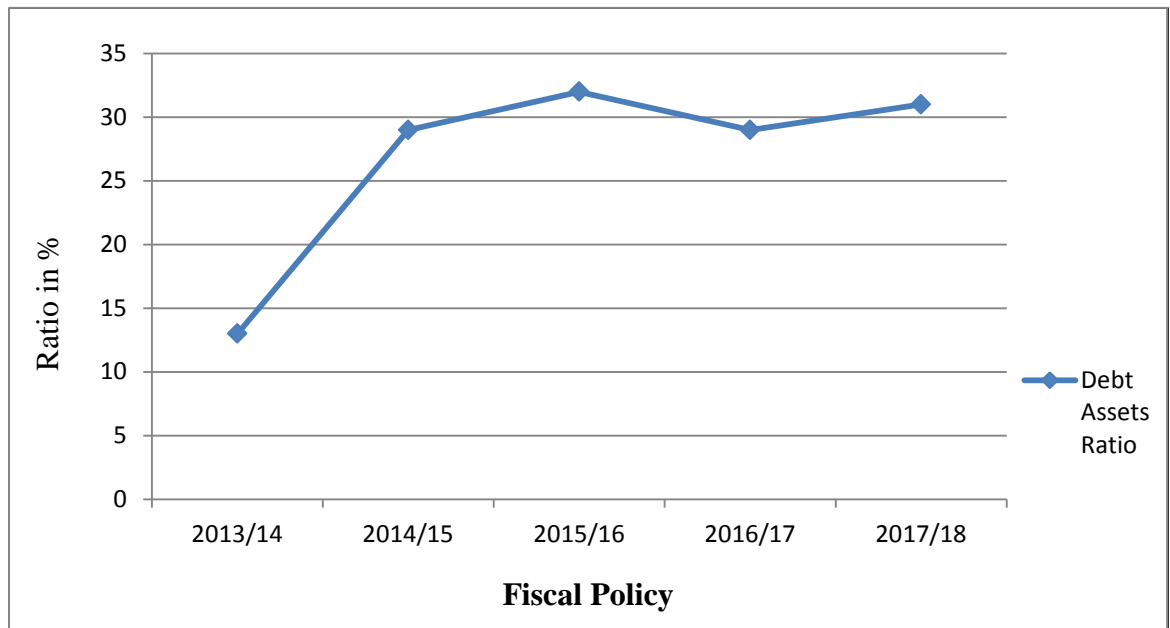
(Amount in Millions)

Fiscal Year	Total Debt	Total Assets	Debt Assets Ratio (%)
2013/14	333	25980	13
2014/15	964	32222	29
2015/16	1368	41493	32
2016/17	1645	55062	29
2017/18	2065	65405	31
Mean			26.80
Standard Deviation (S.D)			6.99
Coefficient Variation (C.V)			26.08

Source: Appendix 1

Table 4.4 is presented in figure to show the trend line of debt asset ratio of Citizen International Bank Limited.

Figure: 4.4
Debt Asset Ratio



Source: Table 4.4

The table 4.4 and figure 4.4 shows the debt to asset ratio of Citizen International Bank Limited. The debt asset ratio of Citizen International Bank Limited from the fiscal year 2013/14 to 2017/18 are 13%, 29%, 32%, 29% and 31% respectively. The ratio of debt assets is in increasing order except in the year 2016/17. The debt assets ratio is highest 32% in the fiscal year 2015/16 and lowest 13% in the fiscal year 2013/14. Highest debt assets ratio is 32% in the year 2015/16 which indicates that Citizen bank is success in exploiting debts to the more profitable assets. Low debt equity ratio is preferred by the creditors as it provides cushion against the possible losses at the time of liquidation. The average ratio is 26.8% and standard deviation is 6.99%. The coefficient of variation is 26.08%. The average ratio 26.8% shows that the borrowed funds support the assets of the firm by 26.8%. The CV of current ratio is high which means there is less uniformity in the ratio of debt to asset ratio.

4.1.2.2 Debt to Equity Ratio:

Debt on equity ratio is used to measure the financial risk of the firm and creditors. A higher debt equity ratio shows the large share of financing by the creditors as compared to that of owners. It indicates the margin of safety to the owners. The creditors prefer low debt-equity ratio. A low debt equity ratio implies larger safety margin for creditors. Low debt equity ratio provides a cushion protection to the creditors against lower.

$$\text{DE Ratio} = \frac{\text{Total Debt}}{\text{Total Equity}}$$

Table No: 4.5
Debt Equity Ratio

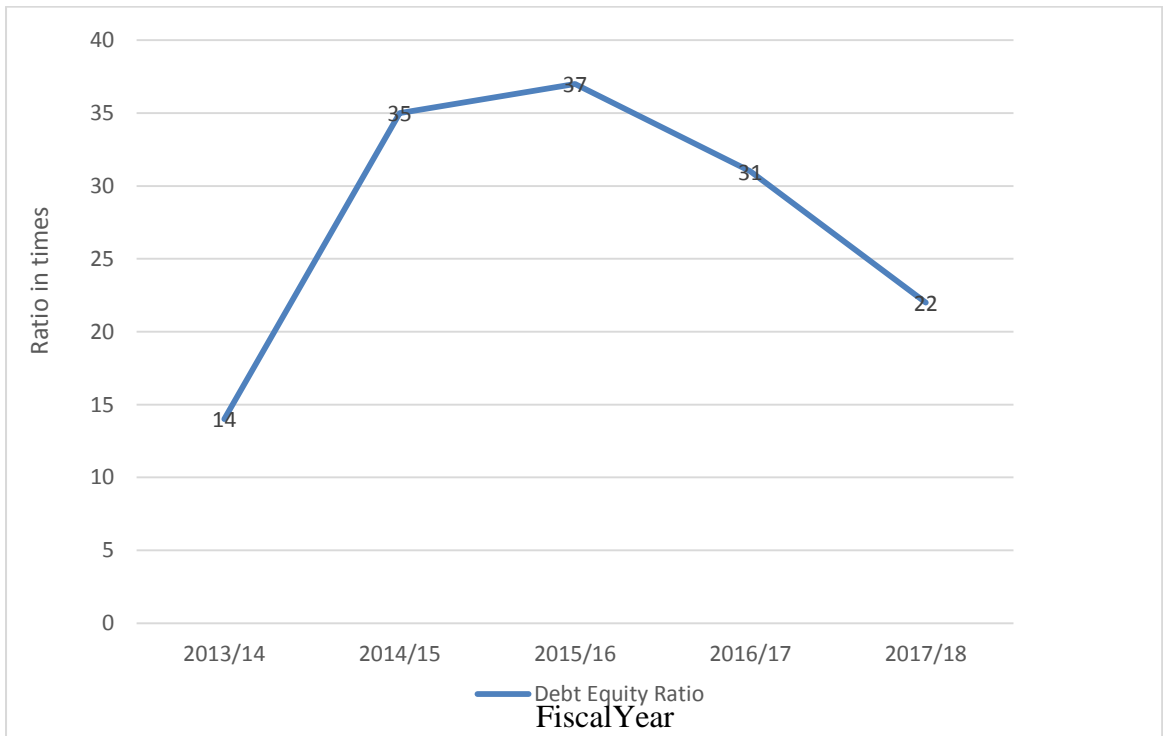
(Amount in Millions)

Fiscal Year	Total Debt	Total Equity	Debt Equity Ratio (%)
2013/14	333	2380	14
2014/15	964	2753	35
2015/16	1368	3697	37
2016/17	1645	5305	31
2017/18	2065	9389	22
Mean			28
Standard Deviation (S.D)			8.57
Coefficient Variation (C.V)			30.82

Source: Appendix 1

Table 4.5 is presented in figure to show the trend line of debt equity ratio of Citizen International Bank Limited.

Figure: 4.5
Debt Equity Ratio



Source: Table 4.5

The table 4.5 and figure 4.5 shows that debt equity ratio of CTZBL. The debt equity ratios of Citizen International Bank Limited from the fiscal year 2013/14 to 2017/18 are 14%, 35%, 37%, 31% and 22% respectively. The ratio is in fluctuating trend. Debt to equity ratio is used to measure the financial risk of the firm and creditors. The ratio is higher in the year 2015/16 which means the large share of financing is by the creditors as compared to that of owners. It indicates the margin of safety to the owners is less. The creditors prefer low debt equity ratio so the fiscal year 2013/14 is more preferable by creditors as a low debt equity ratio implies larger safety margin for creditors. Low debt equity ratio provides a cushion protection to the creditors against losses. Investor's interest is better protected in the year 2013/14 by 14 % debt equity ratio which has the debt equity ratio is lower than the compare fiscal year. The average ratio of debt equity ratio of CTZBL is 28%. The standard deviation is 8.57% and coefficient of variation is 30.82%. Average proportion of the bank is 28 % means the bank is able to protect the investor's interest only by 28%.The CV of current ratio is high which means there is less uniformity in the ratio of debt equity ratio.

4.1.2.3 Long-term debt to Total Assets Ratio:

The long-term debt to total assets ratio presents the relationship between long-term debts to total assets of a firm. It is another way to express the use of long-term debt capital in comparison to total assets of the firm. It is calculated as follows:

$$\text{Long-term debt to Total Assets Ratio} = \frac{\text{Longterm Debt}}{\text{Total assets}}$$

Table: 4.6

Long-term debt to Total Assets Ratio

(Amount in Millions)

Fiscal Year	Long-term Debt	Total assets	Long-term debt to Total Assets Ratio (%)
2013/14	7558	25980	29
2014/15	5866	32222	18
2015/16	12373	41493	30
2016/17	14108	55062	26
2017/18	36761	65405	56
Mean			32
Standard Deviation			13
Coefficient of Variation			0.4029

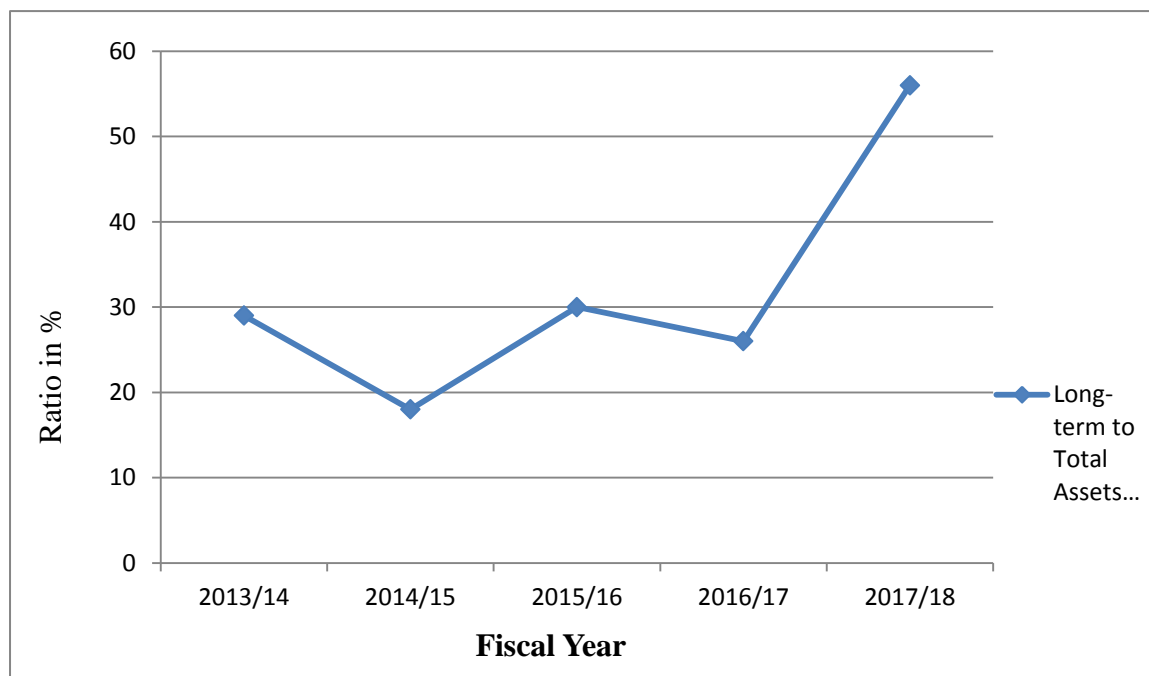
Source: Appendix 1

Table 4.6 is presented in figure to show the trend line of Long-term debt to Total Assets Ratio of Citizen International Bank Limited.

Figure: 4.6

Long-term debt to Total Assets Ratio

(Ratio in %)



Source: Table 4.6

The table 4.4 and figure 4.4 shows the long-term debt to total assets ratio of CTZBL. The long-term debt to total assets ratio of Citizen International Bank Limited from the fiscal year 2013/14 to 2017/18 are 29%, 18%, 30%, 26% and 26% respectively. The ratio of long-term debt to total assets ratio is in fluctuating trend. The ratio of long-term debt to total assets ratio is highest 56% in the fiscal year 2017/18 and lowest 18% in the fiscal year 2014/15. Long-term debt to total assets ratio is 56% highest in the year 2017/18 which means the large share of financing is by the creditors as compared to that of owners. Creditors prefer low debt equity ratio as it provides cushion protection to the creditors against losses. The average ratio is 31.8% and standard deviation is 13%. The coefficient of variation is 40.29. The average ratio is 31.8% that means the borrowed funds support the assets of the firm by 31.8%. The CV of current ratio is high which means there is less uniformity in the ratio of long-term debt to total assets ratio.

4.1.2.4 Asset to Equity Ratio:

The shareholder equity ratio determines how much shareholders would receive in the event of a company-wide liquidation. The ratio, expressed as a percentage, is calculated by dividing total shareholders' equity by total assets of the firm, and it represents the amount of assets on which shareholders have a residual claim. The figures used to calculate the ratio are taken from the company balance sheet.

$$\text{Asset to equity ratio} = \frac{\text{Total Assets}}{\text{Total shareholders' Equity}}$$

Table: 4.7
Asset to Equity Ratio

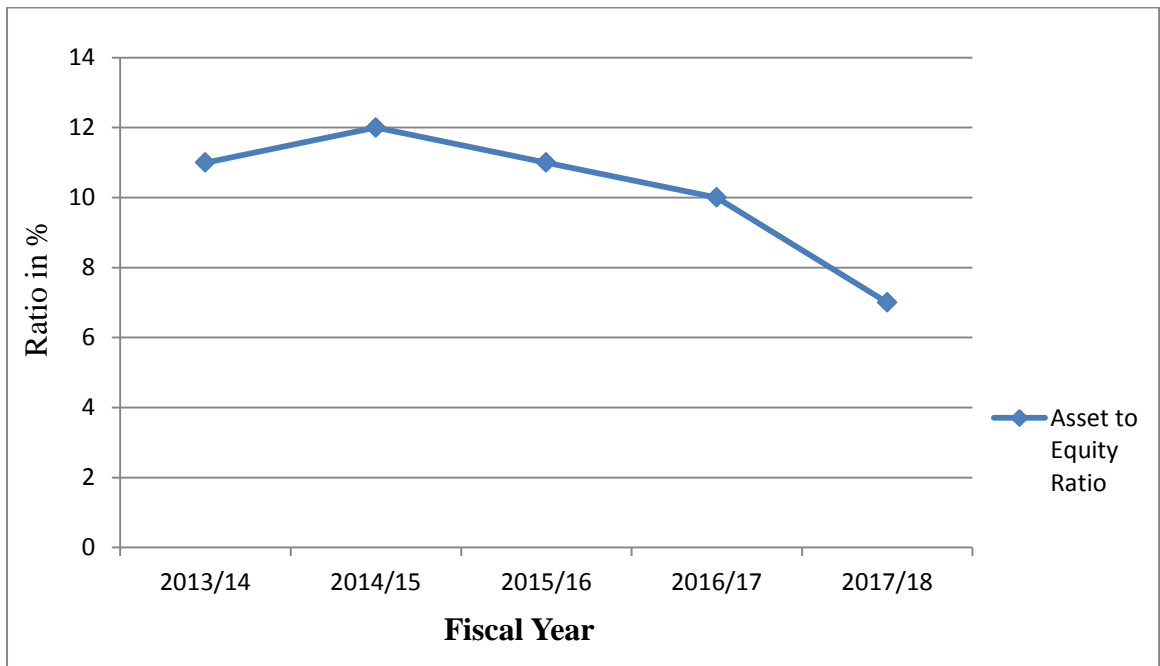
(Amount in Millions)

Fiscal Year	Shareholder's Equity	Total Assets	Asset to Equity Ratio
2013/14	2380	25980	11
2014/15	2753	32222	12
2015/16	3697	41493	11
2016/17	5305	55062	10
2017/18	9389	65405	7
Mean			10.2
Standard Deviation (S.D)			7.24
Coefficient Variation (C.V)			71

Source: Appendix 1

Table 4.7 is presented in figure to show the trend line of asset to equity ratio of Citizen International Bank Limited.

Figure No: 4.7
Asset to Equity Ratio



Source: Table 4.7

The table 4.7 and figure4.7 shows the asset to equity ratio of Citizen International Bank Limited. The asset to equity ratio of Citizen International Bank Limited from the fiscal year 2013/14 to 2017/18 of CTZBL are 9.16%, 8.54%, 8.90%, 9.63% and 14.35% respectively for the five years. The ratio is in fluctuating trend. The ratio is low 7% in the fiscal year 2017/18 which means that a business has been financed in a conservative manner, with a large proportion of investor funding and a small amount of debt in the year 2017/18. The asset to equity ratio is high in the year 2014/15 which indicates that banks can no longer access additional debt financing, since lenders are unlikely to extend additional credit to an organization in this position. The average ratio of the bank is 10.2%. Standard deviation is of 7.24% and coefficient of variation is 71%. The average ratio 1.02% shows that the bank used 1.02% of assets have been to finance the business. The CV of current ratio is high which means there is less uniformity in the ratio of asset to equity ratio.

4.1.3 Profitability:

Profitability is important measure of a company's operating success. There are two areas for judging profitability (1) relationships in the income statement that indicate a company's ability to recover the costs and expenses, (2) relationship of income to various balance sheet measures that indicate the company's relative ability to earn interest from the assets employed. The first measure is the profit margin and the second one is the return on investment.

4.1.3.1 Return on Total Assets:

Return on total assets measures the profitability of all financial resources invested in the firm's assets. Hence higher ratio implies that the available source and tools are employed efficiently. Return on total assets is calculated by dividing net income by total assets of the company.

$$ROA = \frac{\text{Net Income}}{\text{Total Assets}}$$

Table No: 4.8
Return on Total Assets Ratio

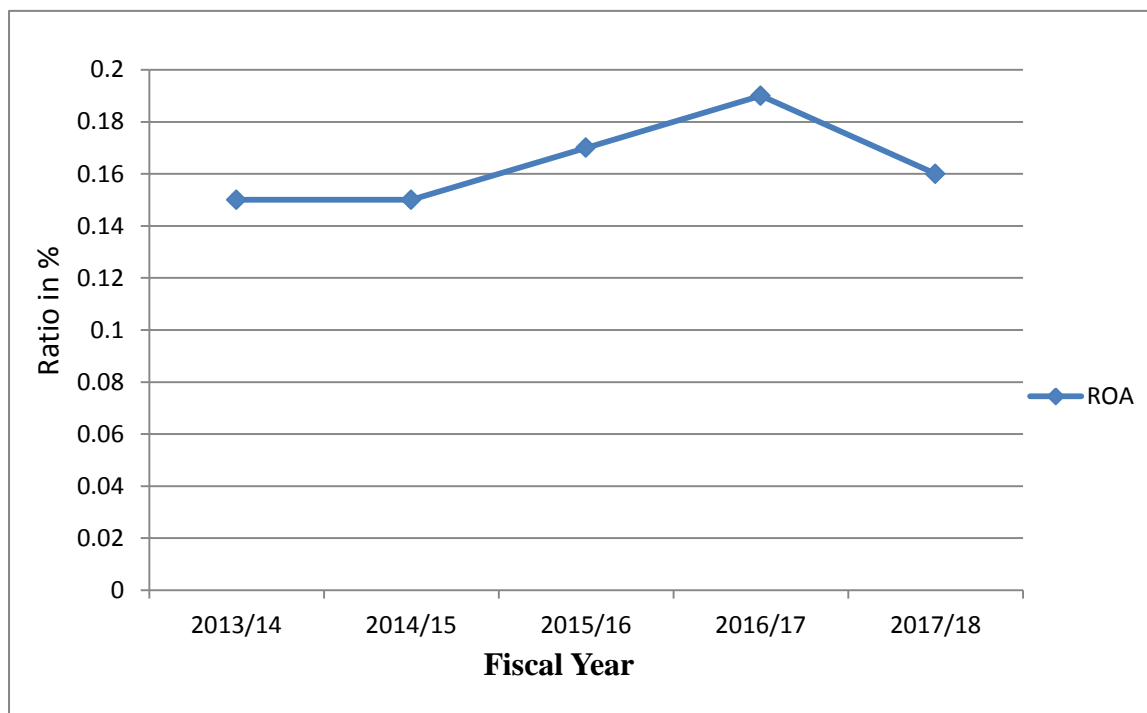
(Amount in Millions)

Year	Net Income	Total Assets	ROA (%)
2013/14	413	25980	16
2014/15	498	32222	15
2015/16	720	41493	17
2016/17	1079	55062	19
2017/18	1082	65405	16
Mean			16.4
Standard Deviation (S.D)			1.49
Coefficient Variation (C.V)			9.08

Source: Appendix 1

Table 4.8 is presented in figure to show the trend line of return on assets ratio of Citizen International Bank Limited.

Figure No: 4.8
Return on Total Assets Ratio



Source: Table 4.8

The table 4.8 and figure4.8 shows the return on assets of CTZBL. The return on assets ratio of Citizen International Bank Limited from the fiscal year 2013/14 to 2017/18 of CTZBL are 16%, 15%, 17%, 19%, and 16% respectively. The ratio is in increasing trend till the year 2016/17 and has dropped in the year 2017/18. Higher rate of return on asset are better so the most preferable year is 2016/17 since its value is 19%. A high return on assets means that the business was able to utilize its resources well in generating high income. The bank is able to generate more percentage of income in the year 2016/17 that is of 19%, as it was able to utilize its resources very well and it was able to generate more income for each rupee of its assets. Till the year 2016/17 the bank performance is able to maintain the increasing order but in the year 2017/18 it has fallen down to 16% and was unable to generate more income by utilizing its resources in the that year. The average percentage of the bank is 16.4%, standard deviation of 1.49% and coefficient of variation is 9.08%.The average percentage of the bank is 16.4% means the bank is able to generate only 16.4% in an average of

profit by utilizing its assets. The CV of current ratio is high which means there is less uniformity in the ratio of return on assets.

4.1.3.2 Return on Equity:

The return on equity (ROE) measures the profitability of equity funds invested in the firm. It reflects extend to which the bank has been successful to mobilize or utilize its equity capital. It is a ratio of net profit available to the equity and computed by dividing net income by equity shareholders.

$$ROE = \frac{\text{Net Income}}{\text{Total Equity}}$$

Table No: 4.9
Return on Equity Ratio

(Amount in Millions)

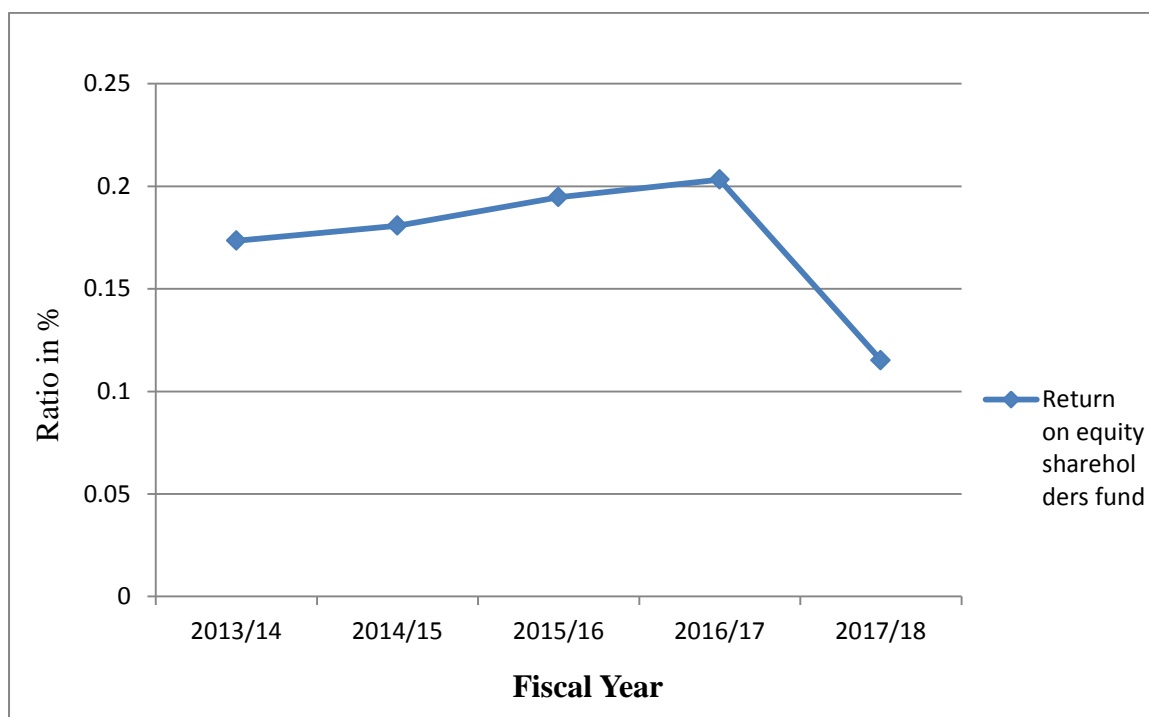
Fiscal Year	Net Income	Equity Shareholders Fund	Return on equity shareholders fund (%)
2013/14	413	2380	17
2014/15	498	2753	18
2015/16	720	3697	19
2016/17	1079	5305	20
2017/18	1082	9389	11
Mean			17
Standard Deviation			17.14
Coefficient of Variation			1.0082

Source: Appendix 1

Table 4.8 is presented in figure to show the trend line of return on equity ratio of Citizen International Bank Limited.

Figure No: 4.9

Return on Equity Ratio



Source: Table 4.9

The table 4.9 and figure 4.9 shows the return on equity ratio of CTZBL. The return on equity ratio of Citizen International Bank Limited from the fiscal year 2013/14 to 2017/18 are 17%, 18%, 19%, 20% and 11% respectively. The ratio is in increasing trend except in the year 2017/18. Higher return on equity is better for owner. Higher ROE reflects the most efficient management of the equity and the more profitability enjoyed by the shareholders. Considering this point, the ROE in the fiscal year 2016/17 of the bank is 20% which means the bank was able to manage its equity efficiently in compared to other fiscal year and has enjoyed the maximum return in equity in the same year. And in the latest previous fiscal year 2017/18 it has reduced to 11% which means it was not able to manage the equity. The average percentage of the bank is 17%, standard deviation of 17.14% and coefficient of variation is 100%.The average percentage of the bank is 17% which means the bank is able to generate only 17% of return by utilizing its equity. The CV of current ratio is high which means there is less uniformity in the ratio of return on equity ratio.

4.1.3.3 Return on Total Capital Employed:

Return on capital employed (ROCE) is a profitability ratio that measures how efficiently a company can generate profits from its capital employed by comparing net profit to capital employed. ROCE is a long term profitability ratio because it shows how effectively assets are performing while taking into consideration long term financing. This is why ROCE is more useful ratio than return on equity to evaluate the longevity of a company.

$$\text{ROCE} = \frac{\text{Operating Profit}}{\text{Total capital Employed}}$$

Table: 4.10

Return on Capital Employed Ratio

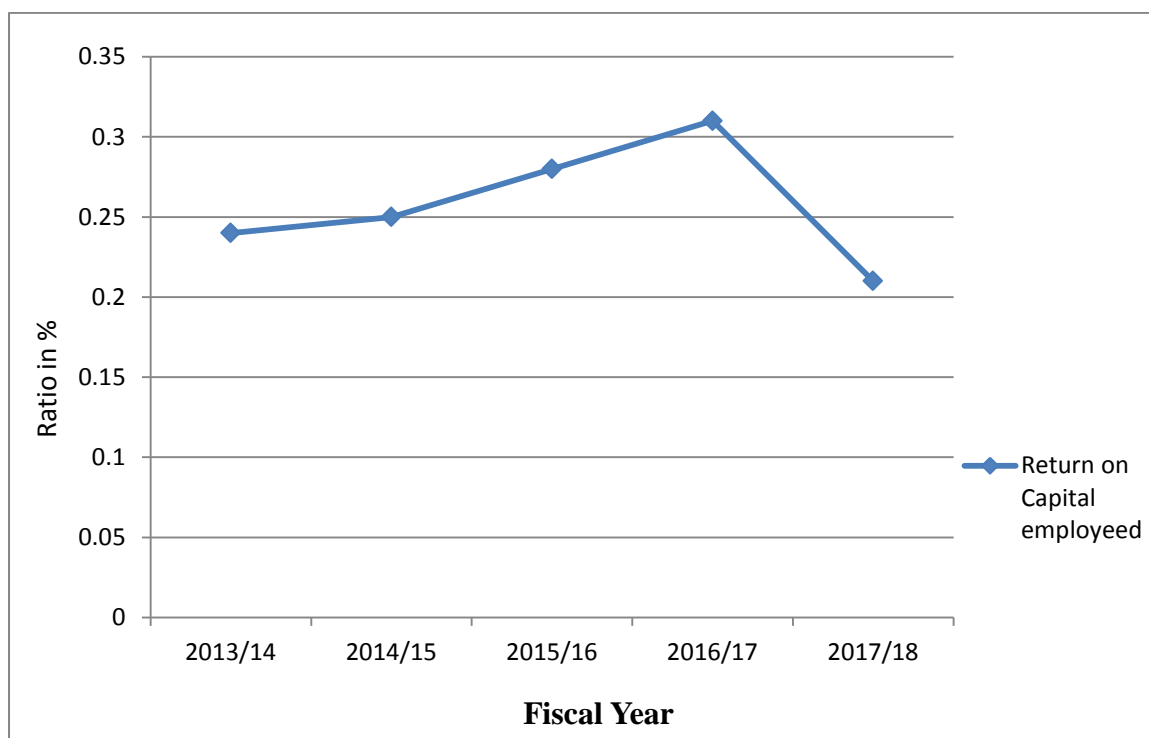
(Amount in Millions)

Fiscal Year	Operating Profit	Capital Employed	Return on Capital employed (%)
2013/14	585	14040	24
2014/15	415	10375	25
2015/16	792	22176	28
2016/17	1110	34410	31
2017/18	1036	21756	21
Mean			26
Standard Deviation			26.02
Coefficient of Variation			1.10

Source: Appendix 1

Table 4.10 is presented in figure to show the trend line of Return on Capital Employed Ratio of Citizen International Bank Limited.

Figure: 4.10
Return on Capital Employed Ratio



Source: Table 4.10

The table and figure 4.10 show the return on capital employed ratio of CTZBL. The return on capital employed ratio of Citizen International Bank Limited from the fiscal year 2013/14 to 2017/18 are 21%, 31%, 28%, 25%, and 24% respectively. The ratio is in increasing trend till the year 2016/17 but it has dropped in the year 2017/18. It is obvious a higher ratio would be more favorable because it means that one rupee of profits is generated by each rupee of capital employed. So the fiscal year 2016/17 is preferable as the return is higher with the percentage of 31% since the bank has been able to efficiently manage to utilize its capital in the same year. The lower ratio 21% in the year 2017/18 indicates that the bank is not able to employ its capital effectively and is not generating capital value in the fiscal year 2017/18. Bank has been able to utilize its capital employed efficiently in the 2016/17 as the return on capital employed is highest during that year which is 31%. The average percentage of the bank is 26%, standard deviation of 25.8% and coefficient of variation is 13.64%. The average percentage of the bank is 26% which means the bank is able to generate 26% of return

in an average by employing its capital. The CV of current ratio is less which means there is uniformity in the ratio of return on capital employed ratio.

4.1.3.4 Net Profit Margin:

Net profit margin is a ratio between net profit and sales and is compute by dividing net profit by sales. A higher ratio is an indication of the higher overall efficiency of the business and better utilization of total resources. Lower ratio indicated the low efficiency or poor financial planning of firm.

$$\text{Net profit margin} = \frac{\text{Net Income}}{\text{Sales}}$$

Table No: 4.11
Net Profit Margin

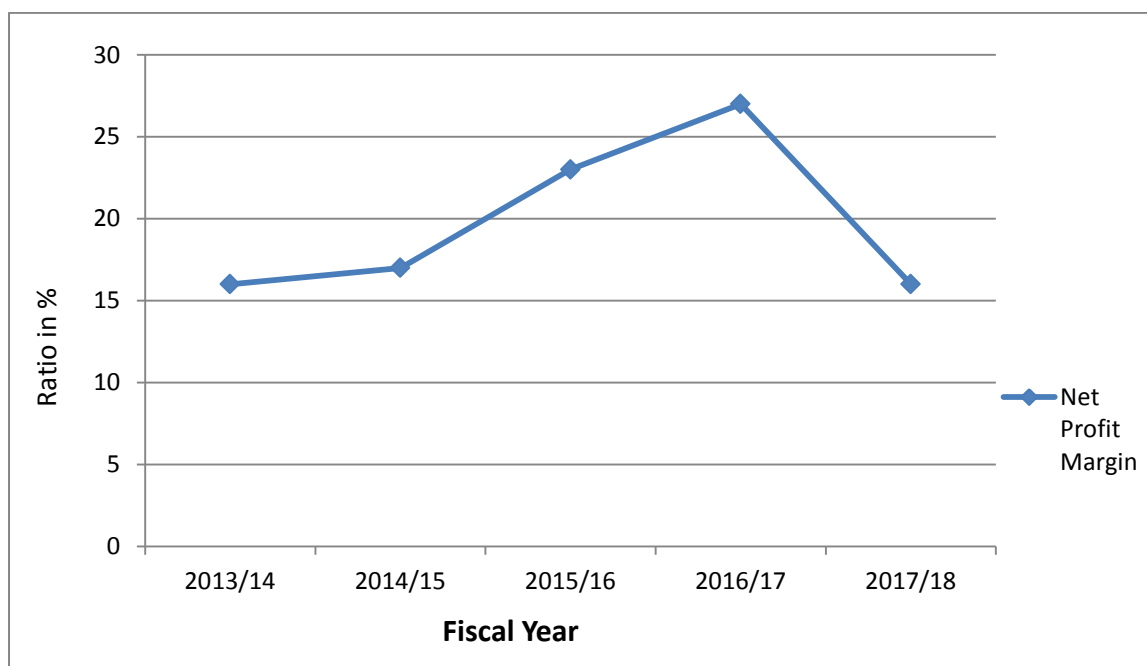
(Amount in Millions)

Fiscal Year	Net Profit	Total Revenue	Net Profit Margin (%)
2013/14	413	2454	16
2014/15	493	2797	17
2015/16	720	3109	23
2016/17	1079	3957	27
2017/18	1082	5588	16
Mean			20.4
Standard Deviation			4.09
Coefficient of Variation			20.04

Source: Appendix 1

Table 4.11 is presented in figure to show the trend line of Net Profit Margin of Citizen International Bank Limited.

Figure No: 4.11
Net Profit Margin



Source: Table 4.11

The table 4.11 and figure 4.11 shows the net profit margin of CTZBL. The net profit margin of Citizen International Bank Limited from the fiscal year 2013/14 to 2017/18 are 16%, 17%, 23%, 27% and 16% respectively. The ratio is in increasing trend till the year 2016/17 but it has dropped in the year 2017/18. A higher ratio is an indication of the higher overall efficiency of the business and better utilization of total resources. With this we can interpret that the bank was most efficient and has utilized resources most efficiently in the 2016/17 with net profit margin of 27% while considering the 5 fiscal year. Similarly Lower ratio indicates the low efficiency or poor financial planning of firm which means 2013/14 and 2017/18 are the fiscal year when the bank was not able to utilize the resources efficiently. The average percentage of the bank is 20.4%, standard deviation of 4.09% and coefficient of variation is 20.04%. The average percentage of the bank is 20.4% which means the bank is able to generate 20.4% of net profit in an average by effectively employing its capital. The CV of current ratio is high which means there is less uniformity in the ratio of net profit margin.

4.1.3.5 Gross Profit Margin:

The gross profit margin is calculated by gross profit by sales. The gross profit reflects the effectiveness of pricing policy and of production efficiency. The higher ratio shows that the gross profit is increasing so the increasing ratio is good for a company.

$$\text{Gross profit margin} = \frac{\text{Gross profit}}{\text{Sales}}$$

Table: 4.12
Gross Profit Margin

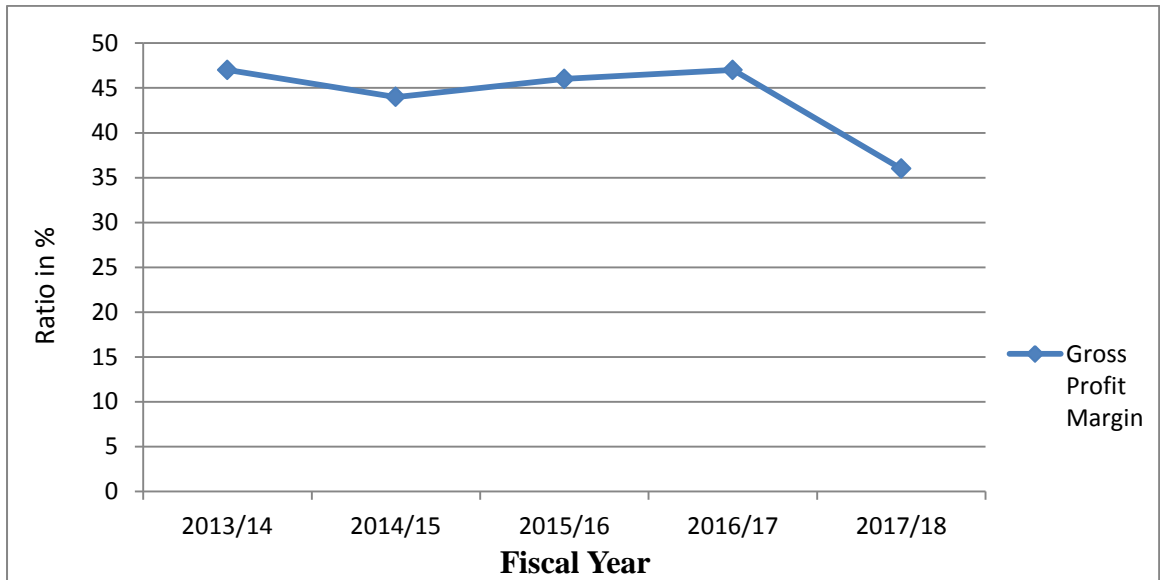
(Amount in Millions)

Fiscal Year	Gross Profit	Total Revenue	Gross Profit Margin (%)
2013/14	115338	2454	47
2014/15	123068	2797	44
2015/16	143014	3109	46
2016/17	185979	3957	47
2017/18	201168	5588	36
Mean			44
Standard Deviation			41.47
Coefficient of Variation			9.425

Source: Appendix 1

Table 4.12 is presented in figure to show the trend line of Gross Profit Margin of Citizen International Bank Limited.

Figure No: 4.12
Gross Profit Margin



Source: Table 4.12

The table and figure 4.12 show the Gross Profit Margin of CTZBL. The gross profit margin of Citizen International Bank Limited from the fiscal year 2013/14 to 2017/18 are 47%, 44%, 46%, 47% and 36% respectively. The trend of gross profit margin is in fluctuating trend. The higher ratio of gross profit is good for the bank and is beneficial for the bank. The higher gross profit ratio has positive effect towards the gross profit of the bank. So in the fiscal year 2013/14 and 2016/17 the gross profit is high 47% which means the both year has been beneficial while comparing among sample fiscal year. The average percentage of the bank is 44%, standard deviation of 4.147% and coefficient of variation is 9.425%. The average ratio of the bank is 44% which means the bank is able to generate only 44% of the gross profit in an average. The CV is less than 10% so there is uniformity in the ratio of gross profit.

4.2 Analysis of Capital Structure:

4.2.1 Net Income (NI) Approach (Cost of overall Capitalization Rate) (K_O):

Net income (NI) approach is also known as dependent hypothesis of capital structure. The essence of this approach is that the firm can reduce its cost of capital by using debt and total valuation of the firm through the reduction in the cost of capital leading to increase in the degree of leverage. This theory assumes that the cost of debt and cost equity remain constant as change in the firm's capital structure. In other words the firm can increase its value or lower the overall cost of capital by increasing the proportion of debt in the capital structure. It gives attention on the overall capitalization rate. According to this theory optimum capital structure is that where the total value of the company is the highest and the overall capitalization is lowest. The overall capitalization rate can be calculated simply by dividing EBIT by the value of the firm.

$$\text{Cost of overall Capitalization Rate } (K_O) = \frac{\text{Operating Profit (EBIT)}}{\text{Total Market Value of the Firm}}$$

Table No: 4.13
Net Income (NI) Approach

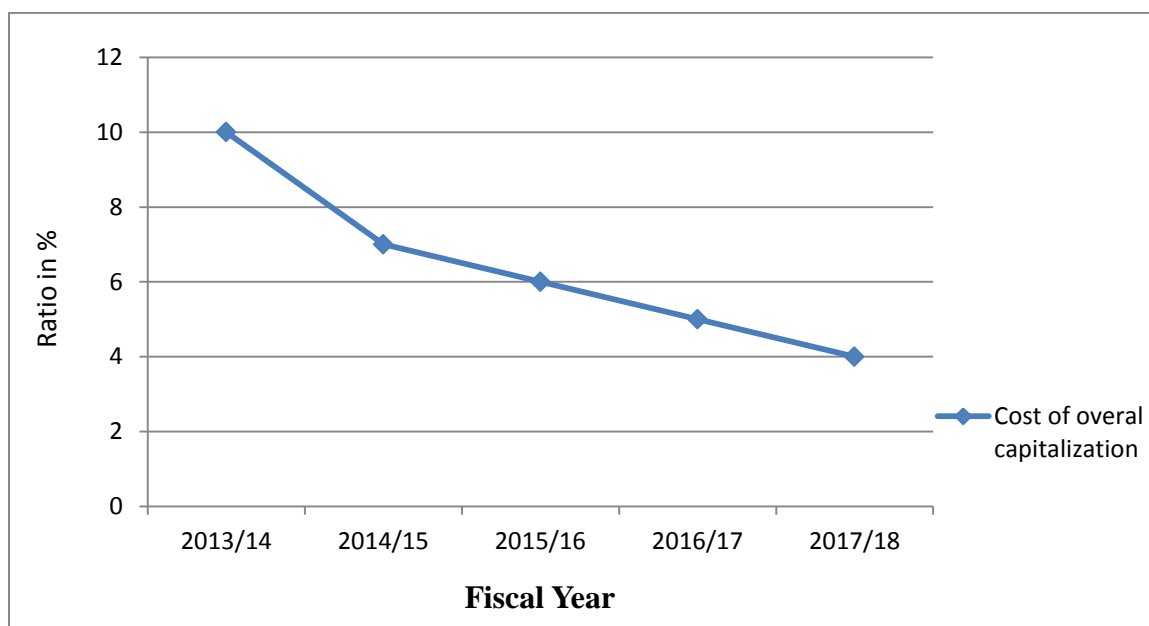
(Amount in Millions)

Fiscal Year	Operating Profit (EBIT)	Total market value of Firm	Cost of overall capitalization (%)
2013/14	568	5612	10
2014/15	415	11329	7
2015/16	793	12491	6
2016/17	1109	20844	5
2017/18	1036	27894	4
Mean			6.40
Standard Deviation (S.D)			2.05
Coefficient Variation (C.V)			0.32

Source: Appendix 1

Table 4.13 is presented in figure to show the trend line of Net Income (NI) Approach of Citizen International Bank Limited.

Figure No: 4.13
Net Income (NI) Approach



Source: Table No: 4.13

The table 4.13 and figure 4.13 shows the cost of overall capitalization of CTZBL. The cost of overall capitalization of Citizen International Bank Limited from the fiscal year 2013/14 to 2017/18 are 10%, 7%, 6%, 5% and 4% respectively. The cost of overall capitalization ratio is in decreasing trend. The highest percentage of capitalization rate for five years study period is 10%. On the basis of NI approach, it can be seen in the figure that on the decrease in the cost of capital the value of the firm has increased, which Matches to the theory of NI approach. So in the fiscal year 2017/18 there is a decrease in the cost of capital 4% whereas the value of the firm has increased 27,894. It says if we increase the ratio of debt in the capital structure the cost of capital will decline and the value of firm will increase. From the overall calculation it is clear that the bank should make an effort to trim down the overall cost of capital to secure high percentage of return for collected capital. The average cost of overall Capitalization Rate (K_O) is 6.4%, standard deviation is 2.05% and coefficient of variation is 32.17%. The average percentage of the bank is 6.40% which means cost of overall Capitalization Rate (K_O) is 6.4%. The CV of cost of overall capitalization is high which means there is less uniformity in the ratio of cost of overall capitalization.

4.2.2 Net Operating Income (NOI) Approach:

It is a dependent hypothesis of capital structure decision of the firm and which is irrelevant to the value of firm and overall cost of capital. Change in leverage will not lead to any change in the total value of the firm and market price of the share as the overall cost of the capital is independent of the degree of leverage. Increase in leverage leads to increase in financial risk of the ordinary shareholders. To minimize the financial risk, the shareholders want a higher return on their investment. Increase in cost of equity (k_e) are exactly offset by using cheaper debt fund keeping k_e constant. So, equity capitalization rate k_e is calculated here by simply dividing EBT by the market value of common equity which is presented in the following table.

$$\text{Cost of Equity (K}_e\text{)} = \frac{\text{EBT}}{\text{Market Value of Stock (S)}}$$

Table No: 4.14
Net Income (NOI) Approach

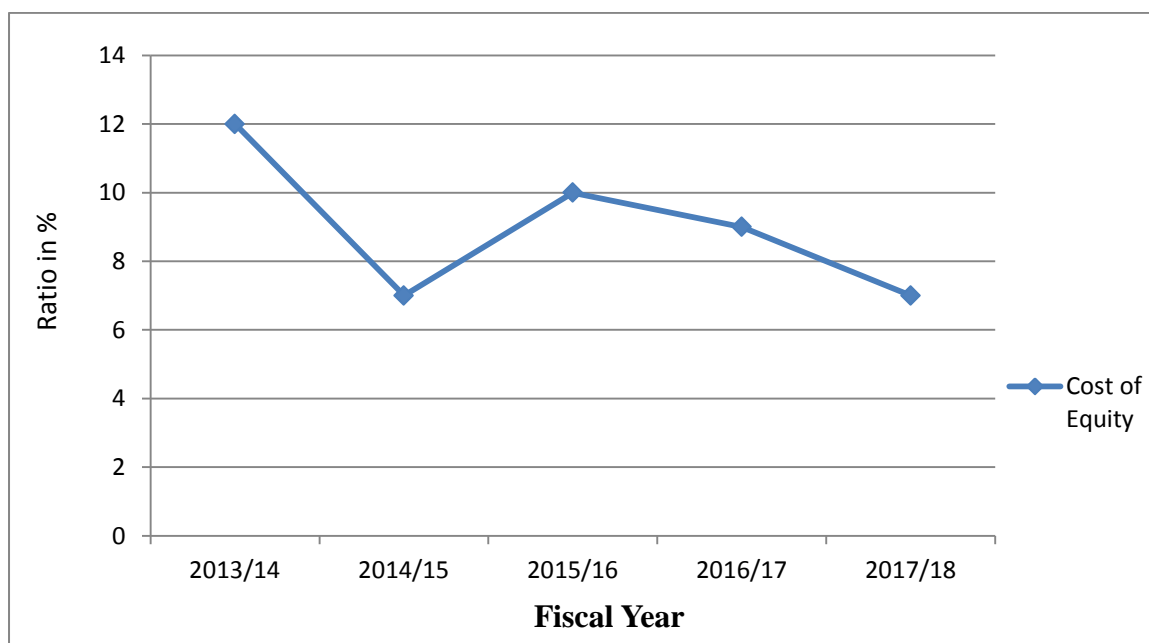
(Amount in Millions)

Fiscal Year	EBT	Value of equity	Cost of Equity (%)
2013/14	627	5279	12
2014/15	739	10365	7
2015/16	1123	11123	10
2016/17	1692	19199	9
2017/18	1736	25829	7
Mean			9
Standard Deviation			3.06
Coefficient of Variation			34

Source: Appendix 1

Table 4.13 is presented in figure to show the trend line of Net Operating Income (NOI) Approach of Citizen International Bank Limited.

Figure No: 4.14
Net Operating Income (NOI) Approach



Source: Table 4.13

The table 4.13 and figure 4.14 shows the equity capitalization rate of the Citizen International Bank Limited. The cost of equity capitalization of Citizen International Bank Limited from the fiscal year 2013/14 to 2017/18 are 12%, 7%, 10%, 9% and 7% respectively. The cost of equity capitalization ratio is in fluctuating trend. The cost of equity ratio is lowest in the year 2014/15 and 2017/18 which 7% and in the year 2013/14 the ratio has increased 12% but again started to decline. Equity capitalization rate is less than average of all 'A' class commercial banks equity capitalization rate. The average equity capitalization rate k_e in is 9%. The standard deviation of capitalization rate is 3.06%. The coefficient of variation is 34%. The average equity capitalization rate k_e of the bank is 9% which means the average cost of equity capitalization rate (K_e) is 9%. The CV of equity capitalization ratio is high which means there is less uniformity in the ratio of equity capitalization.

4.3 Correlation coefficient analysis

Two variables are said to have “correlation” when they are so related that the change in the value of once variable is accomplished by the change in the value of the other. The measure of correlation is called correlation coefficient summarized in one figure, the degree and direction of movement. But the important things that is to be noted here is that correlation analysis only helps in determining the extent to which the two variables are considered but does not tell us about cause and effect relationship. Though, there is a high degree of correlation between two variable one cannot say which one is the cause and which one the effect. Under this topic the study tries to find out the relationship between the following variables:

- Coefficient of Correlation between Debt equity Ratio & ROE.
- Coefficient of Correlation between net income and share holders’ equity.
- Coefficient of Correlation between net income and total deposit.
- Coefficient of Correlation between ROE and ROA.
- Coefficient of Correlation between D/E Ratio and ROA.

4.3.1 Coefficient of Correlation between Debt equity Ratio & ROE:

Debt on equity ratio is used to measure the financial risk of the firm and creditors. It is calculated as total debt divided by total equity. ROE is calculated as net profit after tax divided by the total shareholders’ equity. This ratio measures the shareholders rate of return on their investment in the company. Here correlation coefficient of Debt equity and return on equity has been presented of concerned bank to analyze whether there is positive or negative correlation between Debt equity and return on equity which are calculated on the basis of Karl Pearson’s correlation coefficient. The table shows the relationship between these variables of sampled bank which are included in this study and to check the significance of the calculated correlations. P.E is also presented which is referred from appendix.

Table no: 4.17

Correlation coefficient between Debt equity Ratio & ROE

S. No.	Particular	Evaluation Criteria				
		r	r ²	P.E	6 P.E.	Remarks
1.	Debt Equity ratio & ROE	0.5143	0.2601	0.22	1.32	Insignificant

Source: Appendix 2

Karl Pearson's correlation coefficient between Debt equity Ratio & ROE is 0.5143 which represents the moderate degree of the correlation between debt equity and return on equity. There is a positive relation between these two variables. Coefficient of determinations (r^2) is 0.2601 which shows that only 26% variation in debt equity ratio has been explained by ROE. Since the value of $r < 6PE(r)$ the value of r is not significant .

4.3.2 Coefficient of Correlation between net income and share holders' equity:

Net income is the portion of a company's revenues that remains after it pays all expenses. Owner's equity is the difference between the company's assets and liabilities. The relationship between net income and owner's equity is through retained earnings, which is a balance sheet account that accumulates net income. Here correlation coefficient of net income and shareholders' equity has been presented of concerned bank to analyze whether there is positive or negative correlation between net income and shareholders' equity which are calculated on the basis of Karl Pearson's correlation coefficient. The table shows the relationship between these variables of sampled bank which are included in this study and to check the significance of the calculated correlations. P.E is also presented which is referred from appendix.

Table no: 4.18

Correlation coefficient between net income and share holders' equity

S. No	Particular	Evaluation Criteria				
		r	r ²	P.E.	6 P.E.	Remarks
1.	Net Income & Shareholder Equity	0.8519	0.7257	0.0827	0.4962	Significant

Source: Appendix 2

Coefficient of Correlation between net income and shareholders' equity is 0.8519 which represents the high degree of correlation between net income and shareholders' equity and there is a positive relation between these two variables. A coefficient of correlation determination (r^2) is 0.7257 which shows that 75.57% variation in net income has been explained by shareholders' equity. Since the value of $r > 6PE(r)$ the value of r is significant.

4.3.3 Coefficient of Correlation between net income and total deposit:

Here correlation coefficient of net income and total deposit has been presented of concerned bank to analyze whether there is positive or negative correlation between net income and total deposit. The table shows the relationship between these variables of sampled bank which are included in this study and to check the significance of the calculated correlations. P.E is also presented which is referred from appendix 16.

Table no: 4.19

Correlation coefficient between net income and total deposit

S. No	Particular	Evaluation Criteria				
		r	r ²	P.E.	6 P.E.	Remarks
1.	net income and total deposit	0.9882	0.9761	0.00718	0.04308	Significant

Source: Appendix 2

Coefficient of Correlation between net income and total deposit is 0.98802 which represents the high degree of correlation between net income and total deposit. There is a positive relation between these two variables. A coefficient of correlation determination (r^2) is 0.9761, which shows that 97.61% variation on net income is explained by total deposit. Since the value of $r > 6PE(r)$ the value of r is significant.

4.3.4 Coefficient of Correlation between ROE and ROA:

ROA is calculated as net profit after tax divided by the total assets. This ratio measure for the operating efficiency for the company based on the firm's generated profits from its total assets. ROE is calculated as net profit after tax divided by the total shareholders' equity. This ratio measures the shareholders rate of return on their investment in the company. Here correlation coefficient of ROE and ROA has been presented of concerned bank to analyze whether there is positive or negative correlation between ROE and ROA. The table shows the relationship between these variables of sampled bank which are included in this study and to check the significance of the calculated correlations. P.E is also presented which is referred from appendix

Table no: 4.20

Correlation coefficient between ROE and ROA

S.No	Particular	Evaluation Criteria				
		R	r^2	P.E.	6P.E.	Remarks
1.	ROE & ROA	0.4226	0.1785	0.2477	1.4862	Insignificant

Source: Appendix 2

Coefficient of Correlation between ROE and ROA is 0.4226 which represents the low degree of correlation between ROE and ROA and there is a positive relation between these two variables. A coefficient of correlation determination (r^2) is 0.1785, which shows that 17.85% variation on ROE is explained by ROA. Since the value of $r < 6PE(r)$ the value of r is not significant.

4.3.5 Coefficient of Correlation between D/E Ratio and ROA:

Increased debt has the potential to lower revenues as more money is spent servicing that debt. If it is spent to increase production and production leads significantly increased revenues, increased debt may increase ROA. That depends on whether the debt burden is so costly it cuts into net income. If revenues rise as a result of debt financing of production, but net income falls due to increased expenses, ROA declines. Here correlation coefficient of D/E Ratio and ROA has been presented of concerned bank to analyze whether there is positive or negative correlation between debt equity ratio and ROA. The table shows the relationship between these variables of sampled bank which are included in this study and to check the significance of the calculated correlations. P.E is also presented which is referred from appendix

Table no: 4.21

Correlation coefficient between D/E Ratio and ROA

S.no	Particular	Evaluation Criteria				
		R	r ²	P.E.	6P.E.	Remarks
1.	Debt Equity ratio & ROA	0.6723	0.4519	0.1653	0.9918	Insignificant

Source: Appendix 2

Coefficient of Correlation between ROE and ROA is 0.6723 which represents the high degree of correlation between D/E Ratio and ROA and there is a positive relation between these two variables. A coefficient of correlation determination (r²) is 0.4519, which shows that 45.19% variation on D/E Ratio is explained by ROA. Since the value of $r < 6PE(r)$ the value of r is not significant.

4.4 Trend Analysis:

Trend analysis is done to predict the future scenario. It helps in forecasting and planning future operation. Trend analysis is the statistical tool, which shows the future financial results and forecasted future trend from previous and present circumstances of the financial performance and condition of the firm. This statistical tools help

business man to estimate future. Among various methods of estimating trend the least square method is used in this research.

4.4.1 Trend Analysis of Net Profit:

Trend line helps to forecast the values of dependent variable for future periods of time. For this purpose, trend line is computed and estimated the trend values of net profit of banks for five years from F/Y 2018/19 and 2022/23. Net profit is the major ultimate objective of any business so as for any commercial banks. It acts as a mechanism to attract investment which helps entrepreneur to introduce new technology, new product. It also shows the health of the firm or company. Trend analysis is conducted to predict future net profit.

Table: 4.22

Trend Analysis of Net Profit

(Rs in Millions)

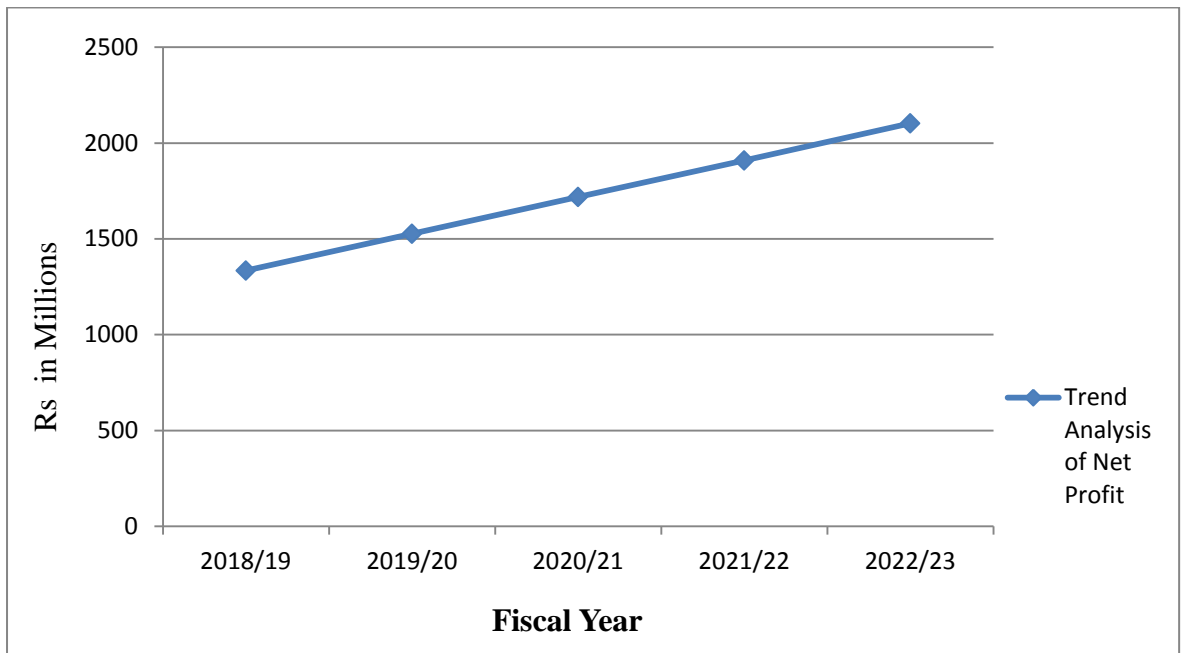
Fiscal Year	Trend Analysis of Net Profit
2018/19	1334
2019/20	1526
2020/21	1718
2021/22	1909
2022/23	2102

Source: Appendix 3

Table 4.22 is presented in figure to show the trend analysis of Net Profit of Citizen International Bank Limited.

Figure no: 4.22

Trend Analysis of Net Profit



Source: Table 4.22

The table and figure 4.22 reveals the trend of Net profit of Citizen International bank limited. It shows the forecasted net profit from the 2018/19 to 2022/23. The forecasted net profits are 1334, 1526, 1718, 1909 and 2102 respectively. The trend of forecasted net profit is in increasing order. The net profit of the bank is increasing every year by 192 million. The trend of net profit has been projected to 2018/19 for the further five years. Overall the bank is able to increase its net profit every fiscal year.

Trend Analysis of Total Deposit:

Deposits are the important part in the banking sector. Hence its trend for next five year will be forecasted for the future analysis. Here the effort has been made to calculate the trend values of total deposit of the bank for the further five years.

Table: 4.23

Trend Analysis of Total Deposit

(Rs in Millions)

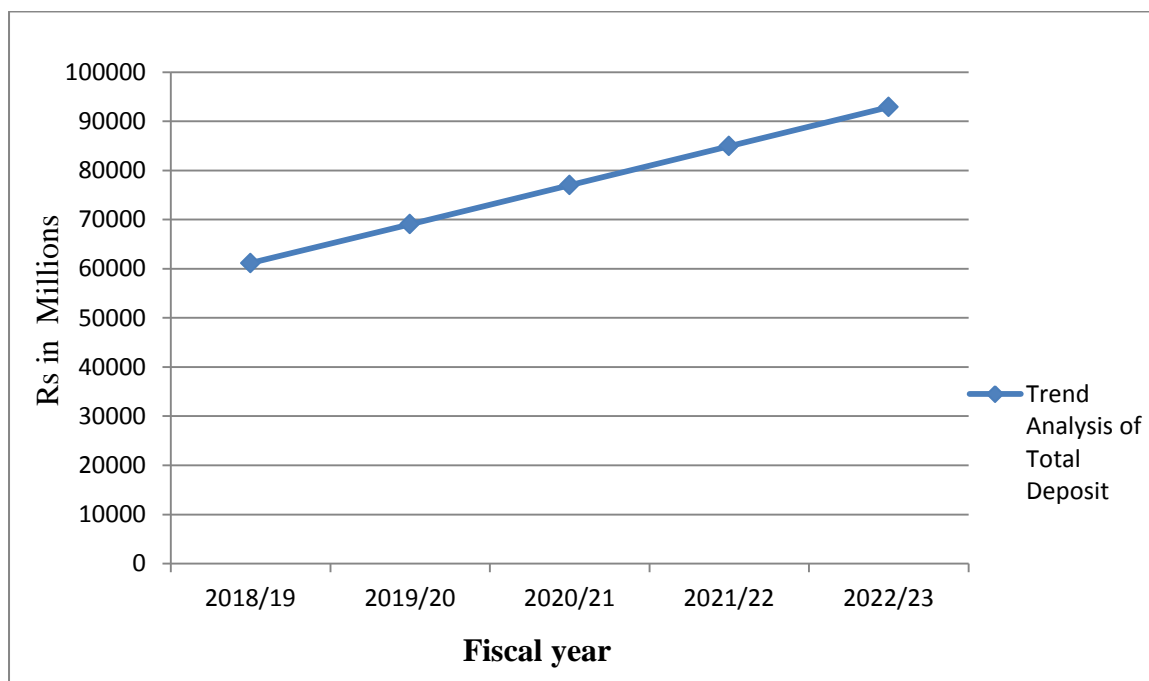
Fiscal Year	Trend Analysis of Total Deposit
2018/19	61135
2019/20	69073
2020/21	77012
2021/22	84950
2022/23	92888

Source: Appendix 3

Table 4.23 is presented in figure to show the trend analysis of Total Deposit of Citizen International Bank Limited.

Figure: 4.23

Trend Analysis of Total Deposit



Source: Table 4.23

The table and figure 4.23 shows the trend analysis of total deposit. It shows the forecasted total deposit from the year 2018/19 to 2022/23. The forecasted deposits are 61135, 69073, 77012, 84950 and 92888. The trend of forecasted total deposit is in increasing order. There is an increment of equal amount of 7938 rupees each year. The trend analysis has projected the total deposit amount in the fiscal year 2018/19 to 2022/23. Through calculated trend analysis it is clear that the bank has equal position in collecting deposit every fiscal year.

Trend Analysis of Investment:

Classification and valuation of the bank's investments are carried in accordance with NRB directives. Bank's investment portfolios are segregated in the following categories via. the investment as gold for trade, investment available for sale and investment held till maturity.

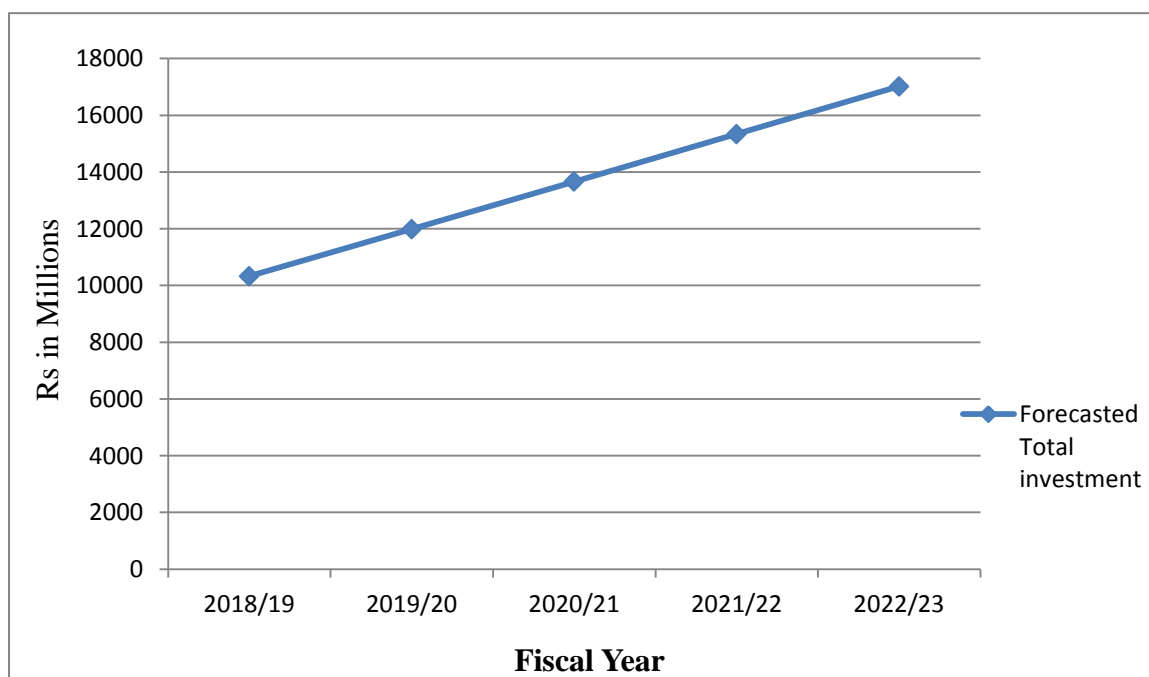
Table: 4.24
Trend Analysis of Investment

Fiscal Year	Forecasted Total investment (In Millions)
2018/19	10328
2019/20	11986
2020/21	13663
2021/22	15340
2022/23	17017

Source: Appendix 3

Table 4.24 is presented in figure to show the trend analysis of investment of Citizen International Bank Limited.

Figure: 4.24
Trend Analysis of Investment



Source: Table 4.24

The above figure shows the total investment trend line for the fiscal year 2018/19 to 2022/23. The trend line of the total investment is 10328, 11986, 13663, 15340 and 17017 respectively. The trend line is in increasing order. Since the investment of available resources is one of the major functions of commercial bank to earn maximum income, higher trend line is preferable.

4.5 Major Findings of the Study:

- Current ratio of the bank is in increasing trend except in the year 2016/17. The bank is unable to maintain the standard unit of 2:1 which is required for having sound liquidity. It is not able to meet the standard unit in any of the sample fiscal year and have struggled to maintain its liquidity.
- Cash and bank to total deposit of the bank is in increasing trend except in the year 2017/18. The bank is able to utilize its deposit better in the 2016/17 but the liquidity is low due to utilization of the deposit. The average ratio of cash and bank to total deposit ratio is 16.15% which means the bank is able to maintain its liquidity only upto 16.15% of its total deposit.
- The average ratio of cash and bank to current ratio is 17% which means the bank is able to utilize the resources upto 17% of its current ratio. The CV of cash and bank to current ratio is less which means there is uniformity in the ratio of cash and bank to current ratio.
- Average ratio of the debt to total assets is 26.80% which means the debt amount is used up to 26.80% in an average to asset forecasting. It means the creditors have greater contribution on assets financing of the banks.
- Debt equity ratio shows that the creditors have 28% claims on assets which is a high ratio, so the bank has more amounts to be paid as interest on debt. The creditors claim is high due to high leverage and has greater contribution by debt holders than equity holders.
- The average long-term debt to total assets ratio is 31.8% that means the borrowed funds support the assets of the firm by 31.8%. Low ratio is preferable as provides a cushion protection to the creditors against losses. Long-term debt to total assets

ratio is 56% highest in the year 2017/18 which means the large share of financing is by the creditors as compared to that of owners. So there is relatively high degree of risk and eventually may not be able to repay its debt hence, it is not preferable by the creditors.

- The asset to equity ratio is low in the fiscal year 2017/18 which means the bank has financed in a conservative manner, with a large proportion of investor funding and a small amount of debt in the year 2017/18. The asset to equity ratio is high in the year 2014/15 which indicates that bank can no longer access additional debt financing, since lenders are unlikely to extend additional credit to an organization in this position. Also high asset to equity ratio mean the return on borrowed capital exceeds the cost of that capital.
- Return on total assets is in decreasing trend except in the year 2017/18. In average of 5 sample fiscal year the bank is able to generate the profit of 16.4% from the investment in total assets. The bank is able to generate more percentage of income in the year 2016/17 that is of 19%, as it was able to utilize its resources very well and it was able to generate more income for each rupee of its assets.
- Comparing return on equity for 5 sample years it is found that the shareholders remained more satisfied in the year 2016/17 as it is able to generate more percentage of return from shareholders equity. The average of 17% means that the bank is able to generate only 17% of return to shareholders equity.
- Bank has been able to utilize its capital employed better in the year 2016/17 as the return on capital employed is highest during that year which is 31%. Lower value 21% is found in the year 2017/18 which shows that the bank is not able to employ its capital effectively and is not generating shareholders value.
- The bank is able to earn more profit on the sale in the year 2016/17 with net profit of 27% while considering the 5 fiscal year. Higher net profit margin is preferred by both company and creditors. Similarly 16% net profit in the year 2013/14 and 2017/18 indicate the low efficiency or poor financial planning of firm.
- The correlation coefficient between NI and Shareholders equity, NI and Total deposit are significant and has a positive relationship between them whereas Debt equity and ROE, ROE & ROA, Debt equity ratio & ROA are insignificant. The relationship between them is positive.

- Under the NI approach, the interest rate and the cost of overall capital are dependent of the capital structure. With the high use of leverage, overall cost of capital declines and the total value of firm rise. The bank has the optimal capital structure in the year 2017/18 as it has the least cost during that year.
- Net operating income (NOI) approach is an independent hypothesis of capital structure. Any changes in leverage will not lead to any change in the total value of the firm and market price of share. From the calculation of the cost of equity it is found that the bank has the least cost in the year 2014/15 and 2017/18. So the bank has optimal capital structure in the year 2014/15 and 2017/18 with 7%.

CHAPTER- V

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary:

The study is focused to examine the Capital structure management and financial analysis of the sampled bank on basis of liquidity, profitability, leverage and capital structure analysis. For the study Citizen International Bank Limited is chosen as a samples bank. The research hopes to provide valuable information regarding the capital structure and financial analysis for the future reference. The first chapter is a introduction part of the study. It has introduction of commercial bank as well as the introduction of selected bank Citizen Bank International Limited, General background of the study, commercial banking scenario in Nepal, statement of the problem objective of the study, significance of the study, limitation of the study, organization of the study are arranged.

The second chapter deals with review of literature. It includes a discussion on the conceptual framework of the capital structure and financial analysis. It also reviews the major relevant studies with capital structure and financial analysis of a commercial Bank. The third chapter explains the research methodology use to evaluate capital structure and financial analysis practices of commercial bank in Nepal. It consists of research design, sources of data, population and sample, tools and method of analysis. The fourth chapter deals with presentation and analysis of data through a definite course of research methodology. This chapter is used to analysis different financial ratios and statistical analysis related to capital structure and financial analysis of this sample bank. The fifth chapter discusses summary of the study and suggestion as well as recommendations. Besides this at the end of the research the bibliography on appendices are also included.

5.2 Conclusion:

The study attempts to explain the Capital Structure and Financial Analysis for the selected bank “Citizen International Bank Limited” for the fiscal year 2013/14 to 2017/18. The capital structure decision and financial analysis is crucial because of the need to maximize returns to various organizational constituencies and also because of the impact of such decision has on an organization’s ability to deal with its competitive environment.

Liquidity position of the bank on the basis of current ratio is not good as it is not able to meet the standard unit of 2:1. The average ratio of cash and bank to total deposit ratio is 16.15% which means the bank is able to maintain its liquidity upto 16.15% of its total deposit. The average ratio of cash and bank to current ratio is 17% which means the bank is able to utilize the resources upto 17% of its current ratio.

By using analytical and descriptive method it is found that the bank is highly leveraged. Leverage ratios like debt to equity, debt to total assets, long-term debt to total assets, asset to equity ratio are used to measure the leverage position of the bank. Entire ratios used to measure the leverage position are high. So the bank is highly leveraged and has more obligations to pay the interest of the debt. Hence, it is concluded that the leverage position of the bank is not satisfactory and is highly. Profitability is important measure of company’s operating success. Profitability ratios like return on total assets, ROE, ROCE, Net profit and gross profit is not satisfactory as the return ratios are low. Hence it can be concluded that the profitability position of the bank is not good as it is not able to utilize its resources properly to generate an adequate percentage of profit.

The correlation coefficient between debt equity and ROE, ROE and ROA, debt equity and ROA is lower than their respective 6 P.E, so it can be concluded that the relation between them is not significant. Coefficient of Correlation between net income and share holders’ equity, net income and total deposit is higher than their respective 6 P.E, so it can be concluded that the relation between them is significant. The trend analysis forecast the increasing rate of net profit, total deposits and investment. The bank will struggle for better financial performance as it is highly leverage and has struggle for better profitability.

5.3 Recommendation:

- The bank needs to increase the current ratio to have sound liquidity position, since the current ratio maintained is not satisfactory.
- The average ratio of cash and bank to total deposit ratio is 16.15% which means the bank is able to maintain its liquidity only upto 16.15% of its total deposit. The ratio is low which means the bank is not able to utilize its resources properly. So the bank is suggested to renovate its investment policy to make a balance between liquidity and use of resources.
- The debt assets ratio is high which means the bank is able to exploit debt to get better advantage. But creditors view point the high debt assets ratio could not provide a cushion protection against the losses during the possible liquidation. As a result debt holders may put unnecessary pressure and intervene in the firm's management and management may have to accept stringent and costlier terms and conditions to employ further amount of capital.
- The bank has higher portion of debt equity ratio. Do the bank should be inflexible in the operation of the firm because the firm is legally liable to pay the interest. So it suggested that the bank should try to maintain the debt equity ratio.
- The long-term debt ratio is high which means the bank is relatively high degree of risk and eventually may not be able to repay its debt. So the bank is suggested to minimize its term debt and employ its total assets more which will increase the strength of the business.
- An asset to equity ratio is low 10.2% which means the bank is using conservative way to finance its capital. So the bank is suggested to adapt the modern innovative strategy so that there will be equal use of asset and debt.
- Return on total assets is in decreasing and is not satisfactory. So the bank is suggested to adopt the new innovative investment policy which properly utilizes its resources to generate more income.
- The ratio of equity is high only in the year 2016/17 and its average ratio for overall 5 sample fiscal year is only 17%. Shareholders invest with the expectation to get high return; if the bank is not able to provide the good return to shareholders then it will hard to collect the capital. So it is suggested to renovate the investment policy which will increase the return and decrease the risk.

- Return on capital employed is high which signifies the proper use of capital employed and is generating proper value of the capital. So the bank is suggested to maintain this pattern continuously in near future as well.
- The net profit of the bank is not satisfactory, so the bank is suggested to reduce the costs to achieve operational efficiency. By decreasing the cost profit of the bank can grow considerably, they also need to search for loop holes in their operations where unnecessary costs are being incurred and should eliminate them.
- The gross profit of the bank is quite satisfactory and there uniformity in increasing trend. So the bank is suggested to either increase or try to maintain the increasing ratio.
- The value of the firm can be maximized either by minimizing the overall cost of capital. The ratio of overall capitalization is in decreasing order so it is suggested to continue the decreasing ratio, if not then maintain the minimum ratio. The organization should focus more on optimal capital structure rather than increasing debt or equity proportion.

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APPENDIX – I

BALANCE SHEET AND PROFIT & LOSS ACCOUNT OF CITIZEN INTERNATIONAL BANK LIMITED

Citizens Bank International Limited					<i>Amt. in Rs. Million</i>	
Capital and Liabilities	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Capital	2,102	2,102	2,375	3,065	4,401	8,029
Reserves and Surplus	180	278	378	675	904	1,360
Debenture & Bond	0	0	500	500	500	500
Borrowing	88	336	457	902	1,119	1,533
Deposit	17,355	22,743	27,963	35,782	47,394	52,719
Bills Payable	1	4	4	16	93	67
Proposed & Payable Dividend	177	315	125	27	40	69
Tax Liabilities	7	25	0	0	0	0
Other Liabilities	159	176	419	527	611	1,128
Total Liabilities	20,069	25,980	32,222	41,493	55,062	65,405
Cash Balance	692	784	1,046	1,462	1,884	2,033
Balance with NRB	2,635	2,923	3,828	2,850	3,150	2,842
Bank Balance with Banks	442	874	999	1,373	859	1,051
Money at Call	21	244	121	95	247	152
Investment	1,530	2,720	2,710	5,668	7,478	8,450
Loans and Advances	14,130	17,562	22,485	28,481	39,636	47,085
Fixed Assets	324	555	588	907	1,108	1,765
Non- Banking Assets	0	0	0	0	0	0
Other Assets	294	318	444	656	700	2,027

Total Assets	20,069	25,980	32,222	41,493	55,062	65,405
Interest Income	1,980	2,212	2,456	2,767	3,443	4,927
Interest Expenses	1,406	1,177	1,383	1,499	1,824	3,170
Net Interest Income	574	1,035	1,073	1,268	1,619	1,757
Commission and Discount	40	53	55	62	98	126
Other Operating Income	72	134	206	181	272	353
Exchange Income	23	55	80	99	143	182
Total Operating Income	710	1,277	1,414	1,611	2,132	2,418
Employees Expenses	109	144	166	248	295	439
Other Operating Expenses	213	245	269	334	373	539
Exchange Loss	0	28	4	0	0	0
Operating Profit Before Provision	388	860	975	1,028	1,464	1,440
Provisions for possible Losses	123	292	561	236	355	404
Operating Profit	265	568	415	793	1,109	1,036
Non- Operating Income/ Expenses	10	10	0	46	144	64
Return From Loan Loss Provision	79	131	316	237	432	716
Profit from Ordinary Activities	355	709	731	1,076	1,685	1,816
Extra Ordinary Income/ Expenses	0	(82)	7	48	7	(80)
Net Profit including all activities	355	627	739	1,123	1,692	1,736
Provision for staff Bonus	32	57	67	102	154	158

Provision for Income Tax	98	157	173	301	459	496
This Year	101	176	168	146	465	265
Up to Last Year	0	(0)	0	0	0	0
Differed Tax	(3)	(19)	6	153	(6)	231
Net Profit / Loss	225	413	498	720	1,079	1,082

(Bank Supervision Report, 2018)

APPENDIX – II

Least Square of Linear Trend of Net Profit

(Rs in millions)

Fiscal Year (t)	Profit (Y)	X = t – 2015/16	x^2	xy
2013/14	413	-2	4	-826
2014/15	498	-1	1	-498
2015/16	720	0	0	0
2016/17	1079	1	1	1079
2017/18	1082	2	4	2164
Sum (Σ)	$\Sigma y = 3792$	0	$\Sigma x^2 = 10$	$\Sigma xy = 1919$

Now,

Since $\Sigma x = 0$, $a = \frac{\Sigma y}{n} = \frac{3792}{5} = \text{Rs. } 758.4$ & $b = \frac{\Sigma xy}{\Sigma x^2} = \frac{1919}{10} = \text{Rs. } 191.9$

Now,

Putting the value of a and b in the trend line $y = a + bx$ we get,

Year	Trend Value	
2013/14	$758.4 + 191.9 \times (-2)$	374.6
2014/15	$758.4 + 191.9 \times (-1)$	566.5
2015/16	$758.4 + 191.9 \times 0$	758.4
2016/17	$758.4 + 191.9 \times 1$	950.3
2017/18	$758.4 + 191.9 \times 2$	1142.2
2018/19	$758.4 + 191.9 \times 3$	1334.1
2019/20	$758.4 + 191.9 \times 4$	1526
2020/21	$758.4 + 191.9 \times 5$	1717.9
2021/22	$758.4 + 191.9 \times 6$	1909.8
2022/23	$758.4 + 191.9 \times 7$	2101.7

Least Square of Linear Trend of Investment

(Rs in millions)

Fiscal Year (t)	Investment (Y)	$X = t - 2015/16$	x^2	xy
2013/14	2720	-2	4	-5440
2014/15	2170	-1	1	-2170
2015/16	5668	0	0	0
2016/17	7478	1	1	7478
2017/18	8450	2	4	16900
Sum (Σ)	$\Sigma y = 26486$	0	$\Sigma x^2 = 10$	$\Sigma xy = 16768$

Now,

Since $\sum x = 0$, $a = \frac{\sum y}{n} = \frac{26486}{5} = \text{Rs. } 5297.2$ & $b = \frac{\sum xy}{\sum x^2} = \frac{16768}{10} = \text{Rs. } 1676.8$

Now,

Putting the value of a and b in the trend line $y = a + bx$ we get,

Year	Trend Value	
2013/14	$5297.2 + 1676.8 \times (-2)$	1943.6
2014/15	$5297.2 + 1676.8 \times (-1)$	3620.4
2015/16	$5297.2 + 1676.8 \times 0$	5297.2
2016/17	$5297.2 + 1676.8 \times 1$	6794
2017/18	$5297.2 + 1676.8 \times 2$	8650.8
2018/19	$5297.2 + 1676.8 \times 3$	10327.6
2019/20	$5297.2 + 1676.8 \times 4$	11986.4
2020/21	$5297.2 + 1676.8 \times 5$	13663.2
2021/22	$5297.2 + 1676.8 \times 6$	15340
2022/23	$5297.2 + 1676.8 \times 7$	17016.8

Least Square of Linear Trend of Deposit

(Rs in millions)

Fiscal Year (t)	Investment (Y)	X= t - 2015/16	x ²	xy
2013/14	22743	-2	4	-45486
2014/15	27963	-1	1	-27963
2015/16	35782	0	0	0
2016/17	47394	1	1	47394
2017/18	52719	2	4	105438
Sum (Σ)	Σy = 186601	0	Σx ² = 10	Σxy = 79383

Now,

$$\text{Since } \sum x = 0, a = \frac{\sum y}{n} = \frac{186601}{5} = \text{Rs. } 37320.2 \text{ \& } b = \frac{\sum xy}{\sum x^2} = \frac{79383}{10} = \text{Rs. } 7938.3$$

Now,

Putting the value of a and b in the trend line $y = a + bx$ we get,

Year	Trend Value	
2013/14	$37320.2 + 7938.3 \times (-2)$	21443.6
2014/15	$37320.2 + 7938.3 \times (-1)$	29381.9
2015/16	$37320.2 + 7938.3 \times 0$	37320.2
2016/17	$37320.2 + 7938.3 \times 1$	45258.5
2017/18	$37320.2 + 7938.3 \times 2$	53196.8
2018/19	$37320.2 + 7938.3 \times 3$	61135.1
2019/20	$37320.2 + 7938.3 \times 4$	69073.4
2020/21	$37320.2 + 7938.3 \times 5$	77011.7
2021/22	$37320.2 + 7938.3 \times 6$	84950
2022/23	$37320.2 + 7938.3 \times 7$	92888.3

APPENDIX -III

Fiscal Year	X	Y	x = X - x mean	y = Y - y mean	x ²	y ²	xy
2013/14	0.14	0.17	-0.138	0	0.019044	0	0
2014/15	0.35	0.18	0.072	0.01	0.005184	0.0001	0.00072
2015/16	0.37	0.19	0.092	0.02	0.008464	0.0004	0.00184
2016/17	0.31	0.20	0.032	0.03	0.001024	0.0009	0.00096
2017/18	0.22	0.11	-0.058	-0.06	0.003364	0.0036	0.00348
sum Σ	$\Sigma x = 1.39$	$\Sigma y = 0.85$	0	0	$\Sigma x^2 =$ 0.03708	$\Sigma y^2 =$ 0.039928	$\Sigma xy =$ 0.001896

Correlation Coefficient between Debt Equity and ROE

Now,

$$\text{Mean (X)} = \frac{\Sigma X}{N} = \frac{1.39}{5} = 0.278$$

$$\text{Mean (Y)} = \frac{\Sigma Y}{N} = \frac{0.85}{5} = 0.17$$

Now,

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \Sigma y^2}} = \frac{0.007}{\sqrt{0.03708 \times 0.005}} = \frac{0.007}{0.01361} = 0.5143$$

Now,

$$r^2 = (0.51)^2 = 0.2601$$

$$\begin{aligned} \text{P.E} &= 0.6745 \times \frac{(1-r^2)}{\sqrt{n}} \\ &= 0.6745 \times \frac{1-0.2601}{\sqrt{5}} \end{aligned}$$

= 0.22 Now,

$$6 \text{ P.E} = 6 \times 0.22$$

$$= 1.32$$

Fiscal Year	X	Y	x = X - x mean	y = Y - y mean	x²	y²	xy
2013/14	413	2380	-345.4	-2324.8	119301	5404695.04	802985.92
2014/15	498	2753	-260.4	-1951.8	67808.2	3809523.24	508248.72
2015/16	720	3697	-38.4	-1007.8	1474.56	1015660.84	38699.52
2016/17	1079	5305	320.6	600.2	102784	360240.04	192424.12
2017/18	1082	9389	323.6	4684.2	104717	21941729.64	1515807.12
sum Σ	$\Sigma x = 3792$	$\Sigma y = 23524$	0	0	$\Sigma x^2 =$ 39 6085.2	$\Sigma y^2 =$ 32531848.8	$\Sigma xy =$ 3058165.40

Correlation Coefficient between Net Income and Shareholders' Equity

Now,

$$\text{Mean (X)} = \frac{\Sigma X}{N} = \frac{3792}{5} = 758.4$$

$$\text{Mean (Y)} = \frac{\Sigma Y}{N} = \frac{23524}{5} = 4704.8$$

4704.8

Now,

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \Sigma y^2}} = \frac{3058165.40}{\sqrt{396085.2 \times 32531848.8}} = \frac{3058165.40}{3589621.68} = 0.8519$$

Now,

$$r^2 = 0.72573361$$

$$\begin{aligned} \text{P.E} &= 0.6745 \times \frac{(1-r^2)}{\sqrt{n}} \\ &= 0.6745 \times \frac{1-0.72573361}{\sqrt{5}} \end{aligned}$$

$$= 0.08273$$

Now,

$$6 \text{ P.E} = 6 \times 0.08273$$

$$= 0.49638$$

Fiscal Year	X	Y	x = X - x mean	y = Y - y mean	x²	y²	xy
2013/14	413	22743	-345.4	-14577.2	119301.16	212494759.8	5034964.88
2014/15	498	27963	-260.4	-9357.2	67808.16	87557191.84	2436614.88
2015/16	720	35782	-38.4	-1538.2	1474.56	2366059.24	59066.88
2016/17	1079	47394	320.6	10073.8	102784.36	101481446.40	3229660.28
2017/18	1082	52719	323.6	15398.8	104716.96	237123041.4	4983051.68
sum Σ	$\Sigma x =$ 3792	$\Sigma y =$ 186601	0	0	$\Sigma x^2 =$ 39 6085.2	$\Sigma y^2 =$ 641022498.8	$\Sigma xy =$ 15743358.6

Correlation Coefficient between Net Income and Total Deposit

Now,

$$\text{Mean (X)} = \frac{\Sigma X}{N} = \frac{3792}{5} = 758.4$$

$$\text{Mean (Y)} = \frac{\Sigma Y}{N} = \frac{186601}{5} =$$

37320.2

Now,

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \Sigma y^2}} = \frac{15743358.6}{\sqrt{396085.2 \times 641022498.7}} = 0.988021611$$

Now,

$$r^2 = 0.9761867038$$

$$\begin{aligned} \text{P.E} &= 0.6745 \times \frac{(1-r^2)}{\sqrt{n}} \\ &= 0.6745 \times \frac{1-0.9761867038}{\sqrt{5}} \\ &= 0.00718317531 \end{aligned}$$

Now,

$$6 \text{ P.E} = 6 \times 0.00718317531$$

$$= 0.0430990$$

Fiscal Year	X	Y	x = X - x mean	y = Y - y mean	x²	y²	xy
2013/14	0.17	0.15	0	-0.014	0	0.0196	0
2014/15	0.18	0.15	0.01	-0.014	0.0001	0.0196	0.00014
2015/16	0.19	0.17	0.02	0.006	0.0004	0.000036	0.00012
2016/17	0.20	0.19	0.03	0.026	0.0009	0.000676	0.00078
2017/18	0.11	0.16	-0.06	-0.004	0.0036	0.000016	0.00024
sum Σ	$\Sigma x = 0.85$	$\Sigma y = 0.82$	0	0	$\Sigma x^2 =$ 0.005	$\Sigma y^2 =$ 0.00112	$\Sigma xy =$ 0.001

Correlation Coefficient between ROE and ROA

Now,

$$\text{Mean (X)} = \frac{\Sigma X}{N} = \frac{0.85}{5} = 0.17$$

$$\text{Mean (Y)} = \frac{\Sigma Y}{N} = \frac{0.82}{5} = 0.164$$

Now,

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \Sigma y^2}} = \frac{0.001}{\sqrt{0.005 \times 0.00112}} = \frac{0.001}{0.002366} = 0.4226$$

Now,

$$r^2 = (0.4226)^2 = 0.1785$$

$$\begin{aligned} \text{P.E} &= 0.6745 \times \frac{(1-r^2)}{\sqrt{n}} \\ &= 0.6745 \times \frac{1-0.1785}{\sqrt{5}} \end{aligned}$$

$$= 0.2477$$

Now,

$$6 \text{ P.E} = 6 \times 0.2477$$

$$= 1.4862$$

Fiscal Year	X	Y	x = X - x mean	y = Y - y mean	x²	y²	xy
2013/14	0.14	0.15	-0.138	-0.014	0.019044	0.0196	0.00014
2014/15	0.35	0.15	0.072	-0.014	0.005184	0.0196	0.00014
2015/16	0.37	0.17	0.092	0.006	0.008464	0.000036	0.000552
2016/17	0.31	0.19	0.032	0.026	0.001024	0.000676	0.000832
2017/18	0.22	0.16	-0.058	-0.004	0.003364	0.000016	0.000232
sum Σ	$\Sigma x = 1.39$	$\Sigma y = 0.82$	0	0	$\Sigma x^2 =$ 0.03708	$\Sigma y^2 =$ 0.039928	$\Sigma xy =$ 0.001896

Correlation Coefficient between Debt Equity and ROA

Now,

$$\text{Mean (X)} = \frac{\Sigma X}{N} = \frac{1.39}{5} = 0.278$$

$$\text{Mean (Y)} = \frac{\Sigma Y}{N} = \frac{0.82}{5} = 0.164$$

Now,

$$r = \frac{\Sigma xy}{\sqrt{\Sigma x^2 \Sigma y^2}} = \frac{0.001896}{\sqrt{0.03708 \times 0.039928}} = 0.04927$$

Now,

$$r^2 = 0.0024275$$

$$\begin{aligned} \text{P.E} &= 0.6745 \times \frac{(1-r^2)}{\sqrt{n}} \\ &= 0.6745 \times \frac{1-0.0024275}{\sqrt{5}} \end{aligned}$$

$$= 0.30091$$

Now,

$$6 \text{ P.E} = 6 \times 0.30091$$

$$= 1.80546$$