FINANCIAL STRUCTURE AND ECONOMIC PERFORMANCES: A CASE OF SALT TRADING CORPORATION LIMITED

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Entitled:
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A Case of Salt Trading Corporation Limited

has been prepared as approved by this Campus in the prescribed format of the Faculty of Management, Tribhuvan University. This thesis is forwarded for examination.

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Declaration

I hereby declare that this study entitled, ***Financial Structure and Economic Performances: A Case of Salt Trading Corporation Limited*** submitted to the Office of the Dean, Faculty of Management, Tribhuvan University, is my original research work carried out to satisfy the partial fulfillment of the requirements for the degree of Master of Business Studies (M.B.S.) under the supervision of Associate Professor Mr.. Bijaya Gopal Shrestha, Patan Multiple Campus.

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At last, guarantee of perfection of the research work can not be given, errors scattered hither and thither comes under my sole responsibility; advices, recommendation and suggestion for further improvement of the research work be heartily welcomed.

Neeraj Shrestha
Patan, Lalitpur

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LIST OF ABBREVIATIONS

AU	:	Asset Utilization
B.S	:	Bikram Sambat
CV	:	Coefficient of Variation
EM	:	Equity Multiplier
EPS	:	Earning Per Share
FY	:	Fiscal Year
i.e.	:	that is
LEV 1	:	Ratio of STD to TA
LEV 2	:	Ratio of LTD to TA
LEV 3	:	Ratio of TD to TA
LTD	:	Long Term Debt
Ltd	:	Limited
MBS	:	Master of Business Studies
NEPSE	:	Nepal Stock Exchange
NI	:	Net Income
NPM	:	Net Profit Margin
PR	:	Percentage Relatives
ROA	:	Return on Assets
ROE	:	Return on Equity
ROI	:	Return on Investment
RONA	:	Return on Net Assets
Rs	:	Rupees
SD	:	Standard Deviation
STCL	:	Salt Trading Corporation Limited
STD	:	Short Term Debt
TU	:	Tribhuvan University
TA	:	Total Assets
TAT	:	Total Asset Turnover
TD	:	Total Debt

CHAPTER 1

Introduction

1.1 Background of the study:

The relationship between financial structure and corporate returns has been of interest to researchers for a long time. To verify the long history of scholarly works with respect to this phenomenon, the seminal work of Modigliani and Miller (1958) about capital structure and firm value can be presented as strong evidence. Similarly, the works of Modigliani and Miller (1963), Ross (1977), Myers (1984) are some of the other pertinent studies regarding financial structure and value of the firm.

Highlighting the financial structure of the firms (Liabilities and Capital section of Balance Sheet), Weston and Copeland (1992) mentioned that there are persistent differences across industries in the financial structure of the liabilities side of their balance sheets. Understanding these differences and why they persist is a central, and as yet unresolved, issue in financial economics (p. 565). Corresponding to this issue, a number of studies have been conducted to elucidate the relationship between financial structure of the companies and their economic performances. Accounting earnings and earnings based financial ratios, such as return on equity (ROE), are the most commonly used proxies to measure economic performances.

So far the subject under study is concern; it covers two dimensions, firstly, the way of financing the assets and secondly the economic performances. Accordingly, the present study has attempted to analyze the overall liabilities and capital side of the balance sheet in conjunction with economic performances of Salt Trading Corporation Limited (STCL). In particular, it has been examined the relationship of leverage factor with economic performances of STCL. ROE

as most commonly used proxy for economic performances of the firms; it has been analyzed by segregating through Du-Pont approach.

1.1.1 Profile of Salt Trading Corporation Limited:

Salt Trading Corporation Limited was established on 27th Bhadra 2020 B.S. (1963 A.D) through the joint efforts of Government of Nepal and the private sector to ensure proper supply and distribution of essential consumer items throughout the country. STCL is the sole organization entrusted by the government of Nepal for the imports and distribution of salt in Nepal. STCL imports salt from India and stores it in its godowns. Its first task was to make edible salt readily available. It also deals with sugar, wheat flour and different edible items as well as other wide range of products.

The primary task of STCL was to make edible salt readily available. As the salt trade then was disordered and unreliable, the irregularities in the distribution of the salt; shortages of salt and unnecessary increment in prices of salt were major problems faced by the consumers then. Such deviations had to be corrected through organized supply and delivery system for which STCL has been established. STCL has been serving to its customer's very honesty and continuously right after its establishment. The quality and price of salt is also very much good even to poor income group. Moreover the corporation has also assured to its customers about the quality supply of its products with reasonable price. The main objective of the corporation is to import and distribute salt and other consumable goods within the country, as an agent of the national and international companies and to establish the industry.

Maintaining high quality, reasonable price, easily available system in the country throughout the year and preventing the dealings of the goods affecting public health is the characteristics and commitment of the Salt Trading Corporation Limited.

The organization began its trading activities by dealing in salt and now imports, exports, produces and supplies goods of vast diversities. The success in supply management led to the addition of essential commodities such as sugar, food grains and processed eatables into its distribution network. Industrial products, agricultural products and industrial raw materials are the major components of its trade. The organization also conducts triangular trade dedicated to the task of promoting more exports for the benefit of exporters and importers alike.

Services provided by STCL

i. Edible Products: Salt, Ghee, Oil, Sugar, Wheat, Rice

ii. Other Products:

- ❖ Agricultural Ingredients
- ❖ Fuel, Coal, Lubricants and Tyre & Tubes
- ❖ Construction Materials
- ❖ Machinery & Tools
- ❖ Paper Products
- ❖ Surgical Equipments
- ❖ Real Estate

iii. Mixture of Nutrition: To avoid the badness seen in public health, corporation has mixed as follows:

- ❖ Iodine in salt
- ❖ Vitamin A and D in plant ghee, and mustard oil
- ❖ Iron in Flour

iv. Corporation has already formed 25 district level agro farm in order provide well facilities to the ultimate uses such as to provide fertilizer, fresh and proceed fruits etc. It has also taken an objective of serving 25% farmers after establishing the agricultural development center in different part of the country.

It has a wide network spread all over the 75 districts of the country. STCL imports about 150,000 metric tons of salt per year iodized in India. About 25 percent of above salt is re-iodized at 14 Iodization Plants in its various branches as and when required. All the salt is imported from 20 Salt Manufacturers located in the Gujarat and Rajasthan State of India. The distribution system of iodized salt, as per UNICEF and WHO is reportedly considered as best in the SAARC region.

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The three most turnover products of STCL are Salt, Sugar and Tyre. Salt and Sugar are the most profitable products of the corporation. STCL operates industries that totally depend on local raw materials as well as industries that import raw materials. STCL has been playing a very significant role in procuring goods from different parts of the country and supplying them in areas where they derive optimum value.

From its infancy as a trading house, STCL has matured into a diversified conglomerate with unmatched distribution network all over the country. Corporation has already established branches and sub branches in 75 districts and more than 10,000 dealers in Nepal. It has also set up liaison and overseas offices in New Delhi India and Doha, Qatar. The employment opportunities that arise through the activities of the organization are hard to quantify as they also provide plenty of self-employment opportunities and has boost the Nepalese entrepreneurial abilities. STCL has directly employees about 400 individuals.

STCL has equity in many pioneering and leading industries in the Nepal. The subsidiary companies of STCL are as follows:

i. Khadya Udyog Limited
ii. Biotech Seed Centre Ltd.
iii. Himalayan Foods Ltd.
iv. Himalayan Foods and Packaging Udyog Ltd.
v. Himal Vegetables Company Ltd.
vi. Janaki Paper Industries Ltd.
vii. Kumari T-Estate Company Ltd.
viii. Lekali Jadibuti Udyog Ltd.
ix. Mountain Floriculture Ltd.
x. Mountain Sericulture Industries Ltd.
xi. Upahar Housing Company Ltd.
xii. STC Gas Industries Ltd.
xiii. Doha Qatar
xiv. Gharelu Hastakala Udyog P. Ltd.

And the associates companies of STCL are mentioned below:

i. Nepal Vegetable Ghee Udyog Limited
ii. Gorakh kali Rubber Udyog Limited
iii. Butwal Spinning Mills Limited
iv. Morang Sugar Mills Limited
v. Metro Kathmandu Gas Industries Limited

The latest investment by STCL was in Metro Kathmandu Gas Industries Limited. The factory was situated in Jungekhola, Dhading. The name of product is STC gas.

The corporation has also promoted and managed different finance and insurance companies like Sagarmatha Insurance Company and National Finance Company Limited. It shoulders management responsibilities of many more industries.

Forty years of dedication and service to the nation and her people has today made STCL a major catalyst in bringing about the desired economic changes and growth in Nepal. The organization has also been assigned the responsibility of implementing the Nepal – India Goiter Control Project.

Beyond business, the corporation is also contributing to the social sector by honoring people and institutions involved in different sectors with awards, rewards and different prizes. STCL provides scholarships and welfare prizes to deserving students, employees as well as candidates every year.

The current status of STCL as NEPSE listed company:

The initial authorized capital of the company was Rs.100, 000,000 (100 million) divided into 1,000,000 ordinary shares of Rs.100 each. As reported by Securities Board of Nepal (SEBON), the ordinary shares of STCL have been listed in Nepal Stock Exchange Limited (NEPSE) on 1984/11/08 as one of the trading companies. NEPSE reports that the number of shares have been listed 247,777 in numbers at Rs.100 paid-up value per share. The total paid up value is Rs 24,777,700.00 Its closing market price Rs 307.00 The total market capitalization of STCL is Rs 76,067,539.00 and the website was last updated in 2011/10/20.

Capital structure

The capital structure of the corporation is as under: -

Government of Nepal	11.68 %
National Trading limited	9.73 %
(Completely owned by Government of Nepal)	
Ordinary shareholders	78.59 %

The reference of capital structure of STCL

Capital structure decision is crucial in the well running of any firm. The effective mix of the debt and equity portion in capital structure makes the firm healthy. The capital structure of any firm should be optimal. Only optimal

capital structure minimizes the overall cost of capital and maximizes the total value of the firm. The capital structure of STCL with reference to fiscal year 2065/66 is appended below:

Equity Capital		
Share Capital	2,85,37,500	
Reserve and Surplus	1,32,62,20,588	
		1,354,758,088
Debt Capital		
Secured Loan	432,886,967	
Unsecured Loan	-	
		432,886,967

The network of Salt Trading Corporation Limited

As a reputed trading corporation of Nepal, STCL has good trading network in country. Different district offices, branch offices, Sub-branches, depot offices are established in different urban as well as remote areas of the country.

District Office:	**Branch Office:**	**Sub-branch Office:**
Kathmandu	Birtamod	Krishna Nagar
Birgunj	Lahan	Surkhet
Bhairahawa	Rajbiraj	Mahendra Nagar
Biratnagar	Janakpur	Dipayal
Pokhara	Narayangadh	
Nepalgunj	Hetauda	
Dhangadi	Koteshwor	
	Dang	

Depot Office:

Banepa	Baglung	Solukhumbu

Manang	Bajura, Martadi	Dolkha
Rukum	Bajura, Kolti	Sindhupalchok
Jajarkot	Humla, Simikot	Dhading
Dolpa	Humla, Hilsa	Rolpa
Jumla	Darchula	Accham
Kalikot	Taplejung	Gorkha
	Shankhuwasabha	Dadheldhura
		Tikapur
Mugu		
Bajhang	Rasuwa	

1.2 Statement of the problem:

Describing the intentions of using debt source of fund in financial structure, Pandey (1998) has mentioned that "the primary motive of a company in using financial leverage is to magnify the shareholders' return under favorable economic conditions" (p. 577). The role of financial leverage in magnifying the return of the shareholders is based on the assumption that the fixed charges funds (such as the loan from financial institutions and other sources or debentures) can be obtained at a cost lower than the firm's rate of return on net assets or return on investment (RONA or ROI). The difference between earnings generated by assets financed by the fixed-charges funds and costs of these funds goes simply to the shareholders. As a result, the earnings per share (EPS) or return on equity (ROE) use to increase. However, EPS or ROE will fall if the company obtains the fixed-charges funds at a cost higher than the rate of return on the firm's assets. It should, therefore, be clear that EPS, ROE, and ROI are the important figures for analyzing the impact of financial leverage.

There are significant numbers of scholarly works recorded in the literature of finance and economics with respect to the financial leverage and its relationship with economic performance of the firm. Based on the theoretical models of Myers (1984), in their study about value relevance of changes in financial

leverage, Dimitrov and Jain (2005) have noted that the changes in the level of financial leverage are negatively correlated with both current returns and one-year ahead future returns although correlations are not large (correlation coefficients of –0.0565 and –0.0232). In a study, Hirshleifer, Hou, Teoh and Zhang (2004) reported that level of debt divided by lagged total assets is negatively related to future stock returns. With these references present study is intended to answer the following questions:

i. What is the status of economic performance of STCL?

ii. What is the practicing pattern of financing the asset of STCL?

iii. Does the use of debt sources support to magnify the economic performance of STCL?

1.3 Objectives of the study:

The main objective of this study is to analyze financial structure and economic performances of STCL. Consequently, this study intends to:

i. Assess the economic performance of STCL with segregation of ROE.

ii. Observe the practicing pattern of financing the assets by STCL.

iii. Examine the relationship between leverage factors and the return on equity.

1.4 Statement of the hypotheses:

Several study works have been recorded with respect to the relationship between leverage and return on shareholders' equity. Among others, Rajopadhyay (2007) has concluded that there is positive relationship between leverage and shareholders' return in both private and public sectors. With these respect this study has been intended to test the following hypotheses to accomplish one of the objectives:

To test the relationship between the ratios of short term debt to total asset (LEV_1) and return on equity (ROE) following hypotheses have been formulated.

H_o: There is no relationship between LEV_1 and ROE.

H_A: LEV_1 and ROE are positively related.

Accordingly, to test the relationship between the ratios of long term debt to total asset (LEV_2) and ROE following hypotheses have been formulated.

H_o: There is no relationship between LEV_2 and ROE.

H_A: LEV_2 and ROE are positively related.

In the same way, to test the relationship between the ratios of total debt to total asset (LEV_3) and ROE following hypotheses have been formulated.

H_o: There is no relationship between LEV_3 and ROE.

H_A: LEV_3 and ROE are positively related.

Where, H_o stands for null hypothesis and H_A stands for corresponding alternate hypothesis. As mentioned above, $LEV_{1,}$ $LEV_{2,}$ and LEV_3 represent the ratios of STD to TA, LTD to TA, and TD to TA.

Therefore this study has been intended to test the direction of relationship between different leverage ratios and ROE of STCL. So it has been used two tailed test of correlation coefficient. However, theoretically, the association has been expected to positive direction. To determine the parametric or non-parametric procedure of correlation it has also been tested the hypothesis with respect to the normality of data.

1.5 Significance of the study:

Main target of the study is to analyze financial structure and economic performances of STCL. This study believed that STCL will be benefited more hence the study is conducted on the basis of annual reports of it. The study evaluates the financial structure & economic performance of the firm that might help the firm to formulate strategies and to achieve the targeted objectives.

This study also highlighted the importance of financial structure to policy makers and overall shareholders of the firm. This study also believed that it will provide valuable inputs for future researchers.

1.6 Limitations of the Study

The study is conducted for the partial fulfillment for the degree of Master of Business Studies (M.B.S). Due to various constraints, it cannot be claimed as free of shortcomings. The study has accepted the following limitations:

i. The whole study is based on secondary data collected from financial statements, financial reports and other available sources. Due to the use of secondary data the reliability of study partly depends on the reliability of the data source.

ii. Due to the inherent assumptions of different statistical procedure some statistical shortcomings cannot be ignored. Accordingly this study is not free from those inherent limitations.

iii. This study covered the time period of only ten years i.e. the fiscal year 2056/57 to 2065/66 B.S.

iv. This study is based mostly on the variables associated with Du-Pont method of financial analysis and financial structure of STCL. Hence, it cannot conclude the overall financial aspects of STCL.

v. Other limitations of this study are time constraints, limited budget/financial resources, lack of experience, up to date information, etc.

1.7 Organization of the study:

Some preliminary pages have been incorporated in the beginning of the report that contains list of tables, list of figures, list of abbreviations and list of contents. This research report is divided into five main chapters. Chapter 1of this study report is about the introduction of study. This chapter contains background of the study, statement of the research problem, objectives of the study, significance of the Study, limitations of the study, and the organization of the study. Chapter 2 of the study report is devoted for review of literatures. This chapter concentrated on detail review of conceptual aspect of STCL. In addition, the review of related studies will highlight consecutively. Chapter 3 attempts to deal about the methodological aspect of the research. It highlights the research design, population and sample, data collection technique, and the methods of data analysis. Chapter 4 concentrates on presentation and analysis of data. This chapter attempts to answer the research questions and tests the formulated research hypothesis. The exploration of respective facts and figures is the main purpose of this chapter. Finally, chapter 5 has been assigned for summary of the study, conclusion, and recommendations, including implication for future study works. This chapter summarizes the overall aspects of research and has been attempted to draw important conclusions along with recommendations for the future research issues.

CHAPTER 2

Review of Literature

Literature review is basically a stock taking work of available literature. To make the research more realistic – review of literature is required. It provides significant knowledge in the field of research. Thus, the review of various books, research studies and articles have been used to make clear about the concept of financial structure as well as recall the previous studies made by various researchers.

The purpose of literature review is thus to find out what research studies have been conducted in ones field of study and what remains to be done. Review of literature provides foundation to the study. The literature survey also minimizes the risk of pursuing the dead-end in research to make meaningful research study conceptual review has been done through the study of various books, journals and articles and researches conducted by the previous researchers in the field of financial structure i.e. research work, thesis and dissertation. So, this chapter has been divided into the following two sections.

- ❖Theoretical review
- ❖Review of related studies

2.1 Theoretical Review

In this section, various books written by different writers are reviewed. This makes clear about the conceptual foundation of this study. It helps to assess new idea by examining views of different writers and scholars. The concept of financial structure, assumptions & definitions, theories of capital structure has been reviewed in this section.

2.1.1 Concept of financial Structure

To describe the phenomenon, Bhattarai (2007) has stated that financial structure refers to the way a firm's assets are financed. The various means of financing represent the financial structure of enterprises. In other means of financing represented by the entire right hand side (In USA) and left hand side (In Nepal) of the balance sheet. It includes short term debt, long term debt as well as shareholders' equity. But, the capital structure of the firm is a bit different from financial structure. The capital structure of a firm is represented by the long-term sources of financing. Long term sources of financing include long-term debt (i.e. bond, debenture etc), preferred stock and shareholders' equity. Conclusively, it can be said that capital structure is a part of financial structure not the whole.

The financing or capital structure decision is a significant managerial decision; it influences the shareholders' return and risk. Consequently, the market value of the firm may be affected by a capital structure decision. There are persistent differences across industries in the financial structure of the liabilities side of their balance sheets. If there is an optimal capital structure for a company, it will minimize the opportunity cost of capital and maximize shareholders' wealth. The mix of the capital structure which maximizes the value of the firm and earning per share and minimizes the cost of capital is the optimal capital structure.

Capital is termed in different ways by different scholars and professionals. Economists speak of it as wealth: businessmen speak of it as total assets whereas the accountant as net assets, or stockholders interest as shown by the balance sheet or the net worth of the stockholders' equity. Whatever may be the term used, capital is the fund raised to finance different assets, short-term or long-term. Therefore, capital is a mix of long-term as well as short-term funds.

The goal of optimal capital structure is to maximize wealth by increasing the stock price and to minimize the overall cost of capital or weighted average cost of capital. But while setting the different objectives, a firm should not exclude

the risk factor associated with the components of funds or overall risk. A number of factors affect the firm's optimal or target capital structure.

Capital is an important factor of production. Every new business requires capital and still more capital is needed if the firm is to expand. It is a source of financing investment. In financial terminology the term ‘capital’ includes equity as well as debt capital. Equity capital contains capital generated from issuing common stocks, preferred stocks, and retained earnings. Debt capital may be the composition of payable bearing no interests rate, short term bonds, long term bonds, debentures and term loans. However all capital can be classified into two basic types –debt and equity as classified by Bringham, Gapenski and Ehrhardt (1999), among others.

Capital is considered as the mix of long term source of funds as debt, preference share, and equity. Firm can raise funds either by debt capital or by share capital. Debt holders also known as creditors, they receive interest as their return form the company where they invested capital. Interest is tax deductible which lower the effective cost of debt, debentures holders who are limited to the fixed return, do not have voting right. So stockholders can control the business with less money than would otherwise require. The higher the debt ratio, the greater the risk and thus, higher the interest rate. Shareholders are the actual owners of the firm. But preference shareholders have preference right to get return from the company than the equity shareholders. So equity shareholders receive the remaining portion of net return after paying the preference dividend to preference shareholders, which is pre-determined.

Theory of capital structure is the composition of debt and equity securities that comprise a firm’s financing of its assets. Both debt and equity securities are used in most large corporation. The choice of amount of debt and equity is made after a comparison of certain characteristics of the each kind of security of internal factors related to the firms operation and of external factors that can affect the firm.

Every firm has two types of financing options making rational decision on firm's financing structure and capital structure. The capital structure does not create short-term burden on firm's operating profit but enhance it by its judicious mixture.

2.1.2 Concept of Capital Structure

A capital structure of a company refers to the composition or make up of its capitalization and it includes all long-term capital resources, via loans, reserve and shares and bonds. The term 'Capital Structure' means the proportion of different types of securities used by a firm. The optimal capital structure is the set of proportion that maximize the total value of the firm.

Capital is an important factor of a new and existed company or capital is lifeblood for the existence of company. A new business requires capital for production and expansion. Capital is a scarce source and much more essential to maintain smooth operation of any firm. The required funds can come from different sources and many different firms. The available capital and financial resources should be utilized so effectively that it could generate maximum return. 'However all capital can be classified into two basic types- debt and equity.

Capital is concerned with the analyzing the capital composition of the company. It is considered as the mix of long-term source of funds, which are debt, preference shares, and equity shares. It's essential factor to concentrate in its proportion for a firm. There are various types of financial instruments to raise required funds. A firm can issue either debt capital or share capital. Raising capital as debt has several advantages and disadvantages. It's obligation of a firm to provide interest to Debt holders, which is also known as creditors. Creditors receive interest as their return from the company where they have invested capital. Interest is tax deductable which lower the effective cost of debt, debenture holders are limited to the fixed return, and they do not have voting

right, on the other hand, stockholders they have voting right so they can control the business. These are the advantages of raising capital through debt. Capital structure form by the ratio of equity and debt. Higher debt ratio is burden to a firm. If a firm has higher debt ratio, greater will be the risk. The firm has to pay high interest rate as well. If the firms operating income is insufficient to cover the interest charges, the firm cannot achieve its targeted goal. At last, the firm may be forced into bankruptcy. These are the disadvantages of financing by debt capital.

Shareholders are the actual owners of the firm. But preference shareholders have also preference right to get return from the company than the equity shareholders. Preference shareholders have second priority to get return after debenture holders. So equity shareholders receive the remaining portion of net return after paying the preference dividend to preference shareholders, which is predetermined. So the company should make the appropriate financial mix while raising capital.

As mentioned above capital can be raised through debt or equity financing. Risk is associated in proportion of its uncertainty in being paid off. A firm should pay certain amount to debt holder according to cost of capital. Cost of capital, which is the required rate of return expected by investors according to their risk. Therefore a firm should always try to obtain necessary funds at lower cost. But a firm acquired fund from different resources and the firm should evaluate overall cost of capital according to the proportion of debt and equity.

This proportion is also known as financial leverage, which is actually the capital structure of the firm. So, overall cost of capital, value of the firm and earning per share are affected by the mix of components of capital structure. ‘One of the most perplexing issue facing financial managers is the relationship between capital structure, which is the mix of debt and equity financing, and the stock prices.’

The ethics of capital structure has important implication in the theory of financial management, which is basically known as financial structure, financial plan or leverage. It's not so appropriate to compare financial structure with capital structure because financial structure is defined in the broader sense than capital structure. The capital structure is a combination of long term debt and equity; it is a part of financial structure i.e. compromised to the total combination of preferred stock, common stock, long-term debt and current liabilities. If current liabilities are removed from it, capital structure is calculated. So capital structure is a main part of financial structure, which includes only long-term sources of funds such as equity share capital, preference share capital and long-term debt.

Capital structure policy involves a trade off between risk and return using more debt raises the risk of the firm's earning stream but a higher debt ratio generally leads to higher expected rate of return. Higher risk associated with greater debt tends to lower the stock's price but the higher expected rate of return arises it.

The target capital structure varies from company to company. 'The target capital structure is the mix of debt, preferred stock and common equity that the firm would like to have in its capital structure.'

Capital structure is the permanent financing of the firm, represented primarily by long-term debt, preferred stock and common stock, but excluding all short-term credit. Thus firm's capital structure is only a part of financial structure.

The capital structure of the firm, defined as the mix of financial instruments use to finance the firm, is simplified to include only long-term interest bearing debt, common stock and preferred stock. 'Capital structure is the combination of long-term sources of financing i.e. debt preferred stock and common stock that are used to finance the firm.'

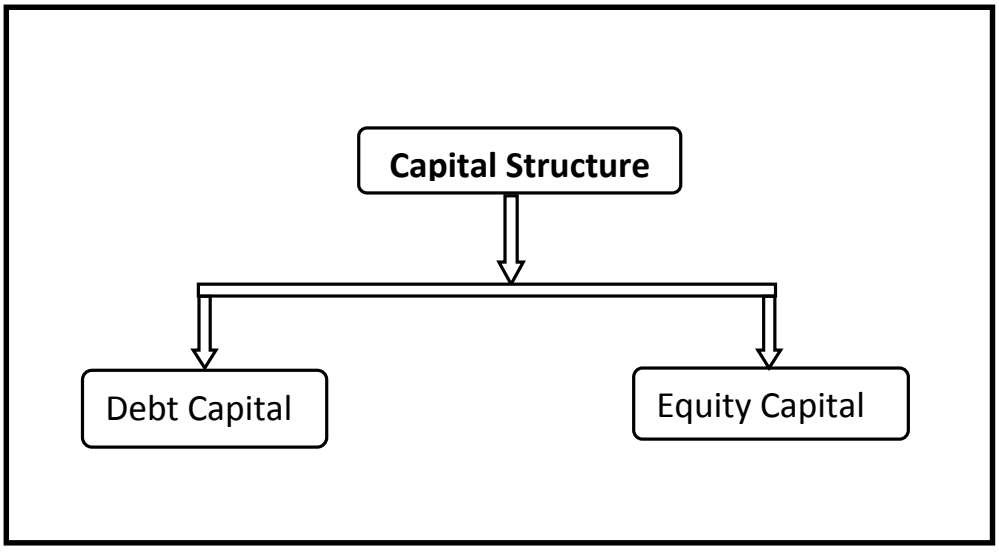
The natures of capital structure differ from company to company, which is directly guided, regulated and controlled by the management of the company.

‘However a reasonable satisfactory capital structure can be determined by considering relevant factors and analyzing the impact of alternative financing proposals on the earning per share.’

Shareholders, the owners of the company have the main objective of maximizing of their wealth. So, it is a tough decision to select such a financial mix, which maximizes shareholders’ wealth and value of the firm. Thus the most important goal of the company is the maximization of the value of the firm. The company should mix the long-term sources of financing to maximize the value of the firm at most and appropriately.

Capital structure refers to the combination of debt equity capital, which a firm uses to finance its long-term operations. Capital in this context refers to the permanent of long-term financing arrangements of the firm. Debt capital therefore is the firm’s long-term borrowings and equity capital is the long-term funds provided by the shareholders, the firm’s owners. Capital structure is illustrated in the following figure.

Figure 2.1
Combination of Capital Structure



Assumptions & Definitions

Barges (1963) stated that – "A firm's decision to use debt capital to finance its projects not only adversely affects its potential for using debt in the future by proportionately lowering its equity base, but also creates financial risk to the shareholders such risks in turn will influence the cost of equity which moves upward. Similarly, a firm decision to use equity capital for financing its projects would enlarge its potential for borrowing in the future. Because of this connection between the method of financing and their cost, it has been now agreed the term cost of capital should be used in the composite sense i.e. weighted average cost of capital".

Weston, Besley, and Brigham (1996) have explained about target capital structure as the mix of debt, preferred stock, and common equity with which the firm plans to finance its investments. Capital structure policy involves a trade-off between risk and return:

- Using more debt raises the riskiness of the firm's earnings stream.
- However, a higher debt ratio generally leads to a higher expected rate of return.

Ezra (1969), Capital structure is the combination of the long term source of fund i.e. debt, preferred stock, common stock that are use to finance the firm. Optimum capital structure can be defined as that mix of debt and equity which will maximize the market value of a company, i.e. aggregate value of the claims an ownership interest represented as the credit side of the balance sheet. Further, the advantage of having an optimum financial structure, if such an optimum does exist is tab-fold, it maximizes the value of the company and hence the wealth turn increases its ability to find new wealth creating investment opportunities. Also by increasing the firms' opportunity to engage in future wealth creating investment in increases the economy's rate of investment and growth.

According to Iqwal (1979), the capital structure plays a vital role in the theory of financial management. It is also known as financial structure, plan or leverage. The capital structure is a combination of long-term debt and equity; which includes preferred stocks, common stock, long term debt and current liabilities. It is a part of financial structure. If current liabilities are removed from it we get capital structure.

As per Weston and Copeland (1989) financial structure refers to the way the firm's assets are financed. It is represented by the entire right-hand side of the balance sheet that includes short-term debt, long-term debt as well as shareholder's equity. Capital structure or the capitalization of the firm is the permanent financing – a part of financial structure – represented by long term debt, preferred stock, and shareholders' equity.

Helfert (1997) has stated in this context two key areas of strategy and trade-off decisions that are identified as:

- the disposition of profit
- shaping of the company's capital structure

As the choices are crucial to the firm's long-term viability, this set of decision is made at the highest level of management and endorsed by the board of directors.

The first area, disposition of profits, undergoes a basic three-way split of after-tax operating profit among: owners, lenders, and retention for reinvestment in the business. Here, the critical trade-off choice is the relative amount of dividends to be paid out versus the alternative of retaining these funds to invest in the company's growth. Payment of interest to lenders is a matter of contractual obligation. The level of interest payments incurred relative to operating profit, however, is a direct function of management policies and actions regarding the use of debt.

The second area, the planning of capital structure proportions, involves selecting and balancing the relative proportion of funds obtained over time from

ownership sources and long-term debt obligation. The chosen combination is intended to support an acceptable level of overall profitability of the business. In this context business risk and debt service requirements should be taken into account. At the same time it should match the degree of risk exposure deemed appropriate by management and the board of directors.

Johnson (1973), a sound or appropriate capital structure should have the following features.

❖**Return -** The capital structure of the company should be most advantageous. Subject to other considerations, it should generate maximum returns to the shareholders without additional cost to them.

❖ **Risk -** Optimal capital structure should be less risky. The use of excessive debt threatens the solvency of the company. Company should use debt to that extent up to which debt does not add significant risk, otherwise its use should be avoided.

❖**Flexibility -**The capital structure should be flexible. Flexibility in capital structure helps to grab market opportunity as company can raise required funds whenever it is needed for profitable investment opportunities. It also helps to reduce costs (cost of debt and preferred stock) when funds rose from debt and preferred stock are no more required in the business.

❖**Capacity -**The capital structure should be determined within the debt capacity of the company, and this capacity should not be exceeded. The debt capacity of a company depends on its ability to generate future cash flows. It should have enough cash to pay creditors' fixed charges and principal sum.

❖**Control -** The management always wants to maintain control over the firm. The capital structure should involve minimum risk of loss of control of the

company. Issue of excess equity shares to new investors may bring threats to the control by existing manager.

2.1.3 The optimal Capital Structure

Weston and Brigham (1981) are determined to the fact that whenever the return on assets fairly exceeds the cost of debt, leverage is favorable. And the probable return on equity is raised using it. However, leverage is a two-edged sword, and if the returns on assets are less than the cost of debt, then leverage reduces the returns on equity. The more leverage a firm employs, the greater this reduction becomes. As a result, leverage may be used to boost stockholder returns, but it is used at the risk of increasing losses if the firm's economic fortunes decline. Thus gains and losses are magnified by leverage. The higher the leverage employed by a firm, the greater will be the volatility of its returns.

Asch and Kaye (1996) concludes that the optimal capital structure for an actual firm has never been specified, not has the precise cost of capital for any given capital structure. This should not be a surprise as decisions concerning the firm's capital structure are a matter of judgment by the management.

Capital Structure is the composition of debt and equity securities that make up the firm's financing of its assets. Both debt and equity securities are used in most large companies. The choice of amount of debt and equity are made after the comparison on certain characters of each kind of security of internal factors related to the firms operation and external factors that can affect the firm.

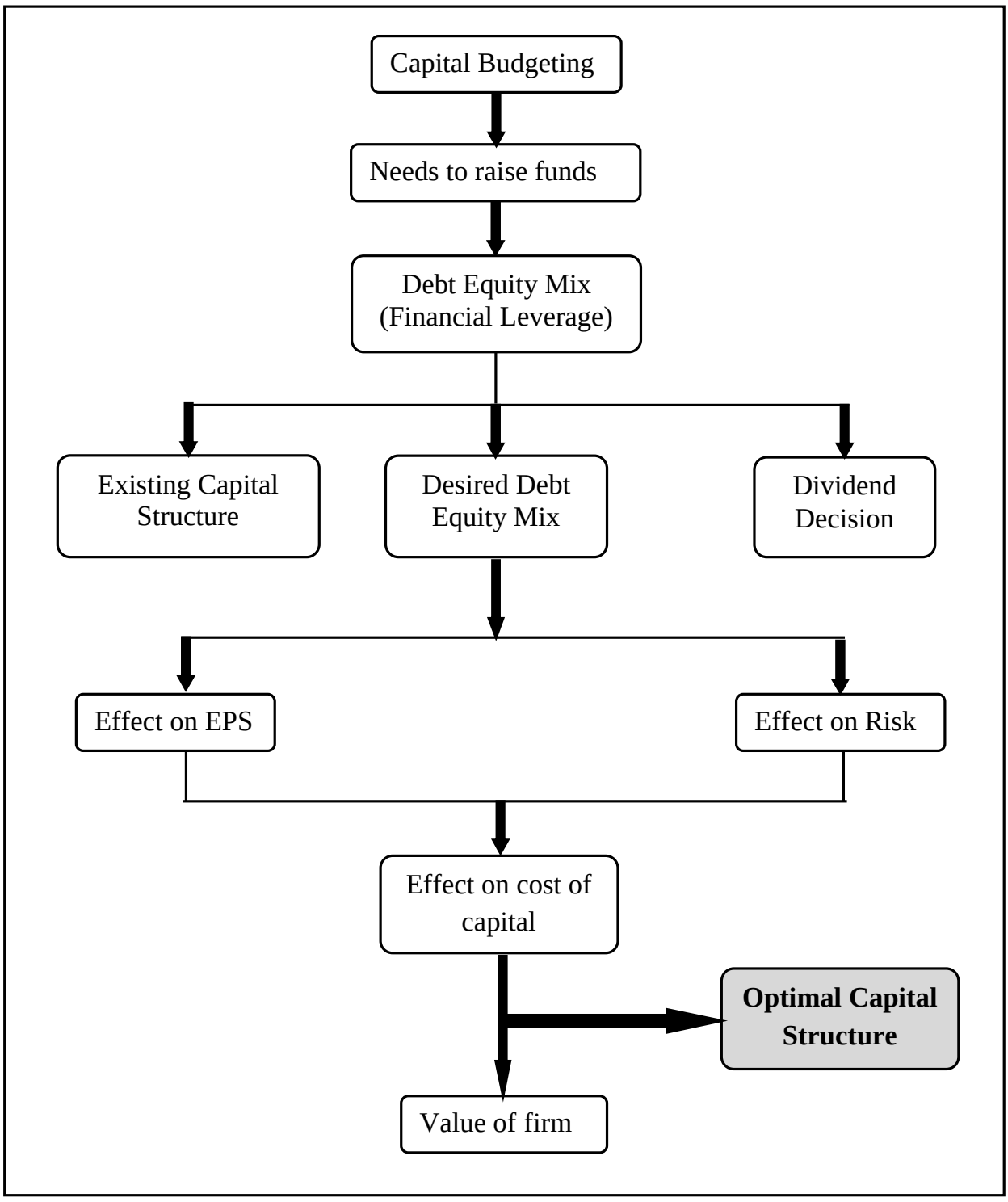
Optimal capital structure can be defined as that mix of debt and equity, which will maximize the market value of the company. If such an optimal does exist, it maximizes the value of the company and hence the wealth of its owners: it minimizes the companies' cost of capital which in turn increases its ability to find new wealth creating investing opportunities.

The optimal capital structure is one that strikes the optimal balance between risks and returns and thereby maximizes the price of the stock. A firm's optimal

capital structure is that mix of debt and equity, which maximizes the stock price. At any point in time, management has specific target capital structure to make presumably the optimal one, although this target may change over time.

So, the optimal capital structure is that combination of capital structure, which maximizes the value of the firm, earning per share, and minimizes the weighted average or overall cost of capital. Therefore, the firm should determine appropriate capital structure, to achieve its targeted objective of maximizing the shareholders wealth. Although it is theoretically possible to determine the optimal capital structure as a practical manner, estimation of this structure will not be precise.

Figure 2.2
The relationship of optimal capital structure with other elements of financial management and capital structure decision process



Assumptions

According to Horne, to have better understanding of capital structure theory, the following assumptions are made:

i. There are no corporate or personal tax and no bankruptcy costs. (Later we shall remove these assumptions.)
ii. The operating earnings of the firm are not expected to grow the expected value of the probability distribution of expected earnings for all future periods are same as present operating earnings.
iii. The firm has policy of paying 100 percent of its earning in dividends. Thus we abstract from the dividend decision.
iv. The ratio of debt to equity for a firm is changed by issuing debt to repurchase stock to issuing stock play off debt. In other words, a change in capital structure is effected immediately. In this regard, we assume to transactions costs.
v. The expected value of the subjective probability distributions of expected future operating earnings for each company are the same for all investors in the market.
vi. Two types of capital employed: long term debt and share holders' equity.
vii. The firm is expected to continue indefinitely.

2.1.4 Factors affecting a target Capital Structure:

Capital structure decision is the most important aspect of financial management. The main function of the financial manager is to compose the mix of long term sources of funds. Optimal capital structure is the mix of debt and equity that maximizes the value of the firm and earning per share and minimizes the overall cost of capital of the firm.

According to Pandey, firm should consider many factors that affect the optimal capital structure. Some of those important factors, which affect the target capital structure, are as follows:

i. Management Attitude:

A firm's capital structure depends upon the attitudes of management towards the handling of risk and return. Risk taking management is capable of handling risk and uses more debt whereas the conservative management uses more equity.

ii. Control:

Capital structure decision depends upon the control position of the management. If the management has voting control and not in position to buy any more stock, it may use the debt capital. However, a management group may employ more equity than debt in a situation of weak financial position if the group is not concerned with voting control.

iii. Assets Structure:

Firms whose assets are suitable security for loans tend to employ more debt than the firms having no suitable assets for necessary pledging as security for loan. Thus real estate companies are highly levered, whereas firms engaged in technological research employ less debt.

iv. Sales Stability:

A firm whose sales are relatively stable can employ more debt and incur higher fixed charges than a company with unstable sales. For instance, utilities companies whose sales are historically stable can employ more debt or higher financial leverage than the industrial and manufacturing firms.

v. Operating leverage:

A firm with less operating leverage can employ more debt than the firm with higher operating leverage. In a way, the interaction of the operating leverage and financial leverage determine the overall impact of a decline in sales on operating and net cash flow.

vi. Cash Flow:

The key concern of firm when considering capital structure must centre up on its ability to generate the necessary cash flows to meet obligations. Sale of stock can improve the firm's cash flow hence using more equity funds in capital structure.

vii. Profitability:

The other factor determining the capital structure of the firm is the ability to achieve a higher rate of return on investment. Little debt is employed if the firm can achieve higher return on investment, although there is no theoretical justification to it. But, higher rate of return enables the firm to do most of their financing with retained earnings.

viii. Growth rate:

Faster growing firms must rely heavily on external capital. Further, the floating costs involved in selling stock exceed those incurred when selling debt. Thus rapidly growing firms tend to use somewhat more debt than slower growing companies.

ix. Taxes:

Interest is deductible expenses and deductions are most valued by firm with high tax rates. Hence, the higher a firm's corporate tax rate, the great the advantage of using debt.

The factors explained above are the main one affecting the target capital. Flotation costs, contractual obligation, timing, solvency should also be considered while making capital structure decision.

2.1.5 Du-Pont Financial Analysis Model

Horne, Wachowicz and Bhaduri (2009) mentioned that in about 1919 Du-Pont Company began to use a particular approach to ratio analysis to evaluate the

firm's effectiveness. One variation of this DU-Pont approach has special relevance to understanding a firm's return on investment.

The Du-Pont system for financial analysis is a means to fairly quickly and easily assess where the business strengths and weaknesses potentially lie and thus where management time may optimally be spent. Brigham and Houston (2004) have stated the profit margin times the total assets turnover is called the Du Pont Equation, and it gives the rate of return on assets (ROA). Here, we should note that, if the company were financed by only with common equity, the ROA and the ROE would be the same because total assets would equal common equity. However, if there is leverage (debt financing) as well, the extended Du Pont equation can be formed, which shows how the profit margin, the total asset turnover ratio, and the equity multiplier combine to determine the ROE.

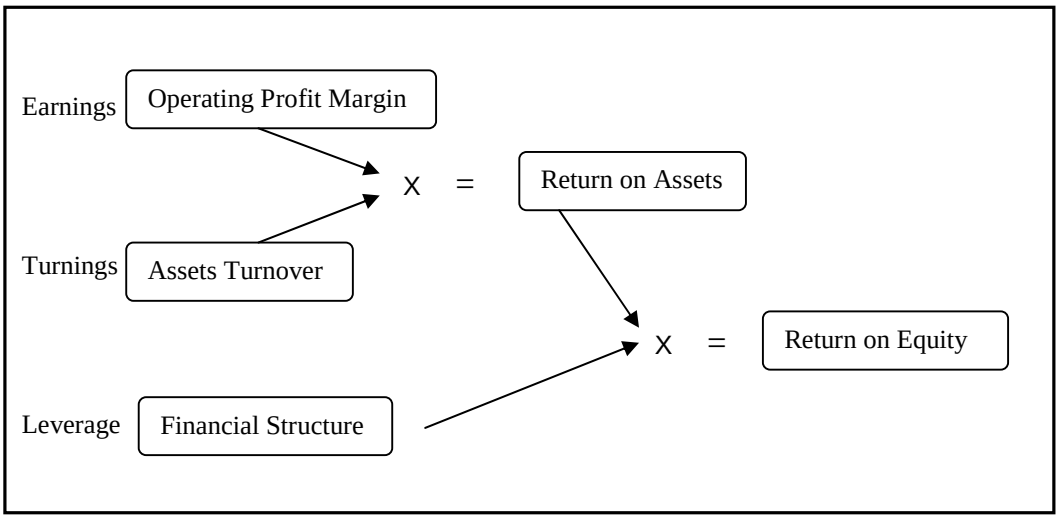
Businesses earn profits by mixing their labor and management with inputs and capital assets to produce goods for sale. The Du-Pont system recognizes this recipe for profit-making and segregates it into three distinct components or levers:

i. Earnings (or efficiency),
ii. Turnings (effective use of assets), and
iii. Leverage (using debt to multiply earnings and equity)

In the Du-Pont system one can drill back into these three levers to determine where profit performance is coming from and potentially determine where management time should be spent for improving profits. Specifically DuPont measures:

i. How efficiently inputs are being used to generate profits [Earnings]
ii. How well capital assets are being used to generate gross revenues [Turnings]
iii. How well the business is leveraging its debt capital [Leverage]

Figure 2.3
Du-Pont System



The way in which a company's assets are financed, such as short-term borrowings, long-term debt, and owners equity. Financial structure differs from capital structure in that capital structure accounts for long-term debt and equity only. The structure of a company's sources of financing, including shareholders' equity, long- and short-term debt, and accounts payable. This covers all of a company's liabilities, whereas capital structure includes only equity and long-term debt.

While there are a number of financial measures that could also be used to assess a company's overall profitability, one of the most revealing is return on equity (ROE). The following calculation is a simple method of determining how much net income a company generates per rupee of shareholders equity.

$$Return\ on\ Equity = \frac{Net\ Profit}{Shareholders'Equity}$$

There are three main drivers of ROE: profitability, productivity, and capital structure. The finance department at DuPont identified these components as profit margins, asset turnover, and financial leverage. Hence, a derivative of these inputs is known as the DuPont model. When a company is doing the right

things for shareholders, it is common to see improvements in each of these three areas. Naturally, companies with stronger returns on equity -- all else being equal -- should be assigned higher intrinsic values.

Getting back to the DuPont formula, ROE is a function of profit margins, asset turnover, and financial leverage. Specifically, the formula looks like this:

$$Return\ on\ Equity = \frac{Net\ Profit}{Total\ Sales} \times \frac{Total\ Sales}{Total\ Asset} \times \frac{Total\ Asset}{Shareholders'Equity}$$

From a simple algebraic point of view, the sales figure is found in both the numerator and denominator and is thus cancelled out. The same goes for assets. That leaves profits and top and equity on bottom or Net Income/Equity.

$$Profitability = \frac{Net\ Profit}{Total\ Sales}$$

$$Productivity = \frac{Total\ Sales}{Total\ Asset}$$

$$Capital\ Structure = \frac{Total\ Asset}{Shareholders'Equity}$$

Looking at each of these three components separately may reveal which direction the company is headed before the changes show up in ROE.

2.2 Review of Related Studies

In this section, the previous studies are reviewed. It consists of thesis and dissertation done by previous master's Level student as well as other research works and article written by different writers related to the capital structure of the firm. In this section, the following research studies have been reviewed.

Khan (1990) in his study entitled “Financial Performance of Bishal Bazaar Company Ltd." has tried to analyze the financial performance of this company, in terms of debt management. In order to measure the financial performance, he has tested various ratio related with leverage from which he found that debt capital has been playing a more dominant role the equity.

Aryal (1991) in his study entitled “An Evaluation of Capital Structure of Bottlers Nepal Ltd.” has argued to collect the fund in the form of equity as the company was running in highly risk. It has high debt to equity ratio. So it is necessary to issue the share for maintaining the optimal capital structure.

Baral (1996) has carried a research work on the “Capital Structure and Cost of Capital in Public Sector Enterprises in Nepal” as a Ph. D. Thesis. The objective of the study were to review capital structure theories, trace capital structure theories in PEs, analyze and composition of long term debt and debt service capital and analyze behavior of cost of capital in Nepalese PEs. Baral found that due to the super-dominant role of Government, capital structure decisions were the outcome of deliberate decision of HMG/N and the theories were thrown to a corner. To sum up the study observed ROI quite below the cost of capital and very poor performance of the enterprises diluting the wealth of society.

Thapa (1997), in the dissertation titled “ An impact of capital structure decision: a case study of Jyoti Spinning Mills Ltd.”, states that Jyoti Spinning Mills Ltd. has employed large amount of outsider’s loan which is beyond its debt servicing as well as debt removing capacity. During the seven years from establishment the company is increasing its debt obligation. Thapa also, as per his study and analysis, has recommended issuing equity shares, converting preference shares to equity shares and reducing debt obligations so that better capital structure can be formed. The management of the company has been suggested to increase operating efficiency.

Khatri (1998) carried out an empirical study on capital structure and the cost of Capital of Nepalese listed companies with a view to establish relationship of capital structure with cost of equity. The study could not be able to establish relationship between cost of capital and capital structure. Khatri concluded that after eliminating tax effect cost of capital decreases with leverage. Study found that cost of equity rises with increase in leverage and remains same with wide range of leverage. Detecting too little knowledge about the effect of capital structure decision recommendation have been made to avoid random decision and be informed about the sources of capital as well as their ultimate effect.

Similarly, Acharya (1998) in his work on "An Analysis of Capital Structure Position of Arihantha Multifibres Limited" concluded that the long term financial position of the company is not favorable. The company has long term debt and short term debt financing to acquire assets. The interest on capital employed ratio seems to be low as it fails to pay off interest. The return on owners' equity is negative, which indicate that the debt capability to generate income is not favorable. Debt to equity ratio is high which shows that outsiders claim on return is greater than that of equity holders. Finally, he stated trace out that he financial risk of the company is high.

Dhungana in 2000 studied about capital structure of Nepalese Hotels. The study included both hotels running as public limited as well as the private limited company. He found out that due to less developed capital market the interest rates were fluctuation within large range. The fluctuation of interest rate has posed a difficulty in determining firms' optimal capital structure which obliged Nepalese hotels to face uncertain effects of using debt fund. The correlation between debt-equity ratio and return on equity nearly irrespective of EBIT amount generated by the firms were negative. He felt the need of further empirical study for proper planning of capital structure in different sectors.

Devkota (2002) conducted her study "An Analysis of Capital Structure of Necon Air Ltd". She tested various ratios, correlation coefficient and capital structure

approaches related to the leverage. She concluded her study that debt service capital of the company is highly positive; position of debt is higher so most of the assets were financed by the debt capital company is operating in risky condition, EPS is fluctuating and revenue generation is normal. She suggested maintaining well planned capital structure, to have control over total expenses and improve in debt serving capacity.

Bahadur (2004) has studied entitled “An Analysis of Capital Structure of Salt Trading Corporation Limited.” He has used various financial tool related to capital structure management and statistical tools during the study. He analyzed that the debt serving capacity of company is low and it posses higher debt to equity ratio with higher burden of expenses. He further analyzed that the company lacks the well planned structure of capital and weak in considering theoretical aspects of the capital structure. He recommended the company to maintain well planned structure of capital to improve debt serving capacity, reduce expenses, maintain proper debt ratio to strengthen debt removing capacity of the company and to be more conscious with the theoretical aspects.

Awale (2005) has carried out a study entitled “Comparative Evaluation of Capital Structure between Salt Trading Corporation Limited and National Trading Limited.”. He concluded on that a highly levered company - STCL bore much risk of long term debt than of NTL. Both companies had failed to maintain appropriate ratio of long term debt to capital employed and the interest burden of the companies are very high. However the operating efficiency of NTL is better than that of STCL. He recommended to both companies to plan their capital structure by analyzing the possible alternative financial plans and to maintain sound debt capacity, minimize interest expenses by using cheaper debt and to be conscious over the theoretical aspects of capital structure management and maintain proper records accordingly.

An electronic copy of the article by Loth on "Evaluating A Company's Capital Structure" published in the website www.investopedia.com/articles. It tries to

describe company's capitalization; ratios and indicator of capital; and clarify the terminology related to capital structure. It explains the different ratios which are used to assess the financial strength of a company's capitalization structure and show the optimal debt to equity relationship. The article concludes that a company's reasonable, proportional use of debt and equity to support its assets is a key indicator of balance sheet strength. A healthy capital structure that reflects a low level of debt and a corresponding high level of equity is a very positive sign of investment quality.

Goedhart on March 2006 published an article on "Making Capital Structure Support Strategy" published on website http://www.cfo.com/article.cfm/5622276. The article describes about the long term impact of the capital structure; the practical framework for developing optimal capital structure and also the decision making process of the company. It tells that the potential harm to a company's operations and business strategy from a bad capital structure is greater than the potential benefits from tax and financial leverage. The article says that to develop the capital structure a company should understand its future revenues and investment requirements.

CHAPTER 3
Research Methodology

This chapter deals about the detail methodological aspects of the present study. Accordingly, different sections has been assigned to discuss about overall plan associated with the study, a basic framework of analysis, variables under study, and models on which the analysis is based upon. This chapter has been divided into six major sections. Section one provides a description of research design used in the study. Section two describes about the nature and sources of data. Section three describes the population and sample. Section four explains the variables and their measurement criteria. Similarly section five describes statistical method of analysis. Finally, section six presents methodological limitations.

3.1 Research design:

This study has employed descriptive and comparative research design to observe and examine the economic performances as well as effect of leverage on it. The descriptive research design has been adopted for fact-finding and searching adequate information about the economic performance of STCL. Since the subject under study is confined only with the STCL, it is a case study type under the descriptive research design. On the other hand, the subject under study has also been followed the correlational research type under the comparative research design. Hence, with respect to the research design, it has been attempted to make triangulation of case study type of descriptive research design with correlational research type of comparative research design.

3.2 Nature and sources of data:

The subject under study is confined with the economic matters of STCL. So the required data for the study are almost based on financial statements of STCL. Hence, the present study is based entirely on the secondary data. The required

data, as demanded by the research questions and objectives specified, has been collected through a published annual reports of STCL and respective website.

3.3 Population and the sample:

There are four trading companies listed in NEPSE. As classified by NEPSE, the listed trading companies are: Salt Trading Corporation, Bishal Bazaar Company Limited, Nepal Trading Limited, and Nepal Welfare Company Limited. The subject under study is the case of Salt Trading Corporation and sample periods has been considered ten fiscal years' data.

3.4 Variables and measurement:

Variables under study are categorically stranded with the popular Du-Pont model of economic performance analysis. This model described as a type of analysis that examines a company's Return on Equity (ROE) by breaking it into three main components: profit margin, asset turnover and leverage factor. By breaking the ROE into distinct parts, investors can examine how effectively a company is using equity, since poorly performing components will drag down the overall figure. To calculate a firm's ROE through Du-Pont analysis, multiply the profit margin (net income divided by sales), asset turnover (sales divided by total assets) and leverage factor (total assets divided by shareholders' equity) together. The higher the result, the higher the return on equity.

The Du-Pont analysis begins with an assessment of the component contributions to return-on-investment (ROI). In Du-Pont analysis, ROI is equal to total asset turnover multiplied by net profit margin. Therefore, ROI in this context is return-on-total assets (ROA). This analysis leads to a conceptual situation where (i) the more sales that a company can generate for each dollar of resources applied in running the business, (ii) and/or the more profit a company earns on each dollar of sales, (iii) the greater will be the ROI.

If we divide users of financial ratios into-short-term lenders, long-term lenders, and stockholders, which ratios would each group be most interested in, and for what reasons.

The Du-Pont analysis system also is applied to assess ROE. ROE, in the context of the Du-Pont analysis, is equal to ROI divided by the quotient of total assets divided by shareholder equity. The ROE (return-on-equity) ratio would be of most interest to stock holders because this ratio indicates the assets that are available to stockholders. Long-term lenders will be more interested in ROI (return-on-investment) because this ratio is one indicator of the long-term viability of the company. Short-term lenders will be more interested in ROA (return-on-assets) because the combination of net profits and asset turnover is an indicator of a company.

The major variables under study are considered as sales, total asset, net income, equity, short term debt, long term debt and total debt. These different variables have been examined by applying different tools. For financial structure & economic performance analysis, these variables are regarded as essential input.

To examine the economic performance of STCL different financial measurement tools as prescribed by Du-Pont procedure have been used. Accordingly, following financial measurements have been used:

Net profit margin

NPM is for measuring and evaluating the effectiveness of expense management or cost control and pricing policies. Since NPM is a ratio of net profit to total revenues, an increase or decrease in NPM represents overall aspect of income statement. Efficiency in expenditure management or cost control in one hand support to increase in NPM, on the other hand good management of revenue generating activities boosts for tough position.

$$Net\ Profit\ Margin = \frac{Net\ Profit}{Total\ Sales}$$

Total asset turnover

Total Asset Turnover (TAT) or Asset Utilization (AU) reflects portfolio management policies, especially the mix and yield on the company's assets. There is irregular trend in TAT. Using Du-Pont approach it can be expressed as the ratio of total revenues to total asset. As net profit margin, asset utilization also plays significant role to increase ROA and ROE.

$$Total\ Asset\ Turnover = \frac{Total\ Sales}{Total\ Assets}$$

Return on asset

ROA measures overall effectiveness in generating profits with available assets. ROA is net profit margin times the asset turnover. Neither the net profit margin nor the total asset turnover ratio by itself provides an adequate measure of overall effectiveness. The net profit margin ignores the utilization of assets, and the total asset turnover ratio ignores profitability on sales. The ROA resolves these shortcomings.

$$Return\ on\ Asset = Net\ Profit\ Margin \times Total\ Asset\ Turnover$$

The extended and summarize model of ROA, as explained by the Du-Pont model of financial statement analysis, has been used to analyze the economic performance of STCL as follows:

$$Return\ on\ Asset = Net\ Profit\ Margin \times Total\ Asset\ Turnover$$

$$Return\ on\ Asset = \frac{Net\ profit}{Total\ asset}$$

Equity multiplier

Equity Multiplier (EM) reflects the leverage or financing policies. It explains the employment of financial leverage to raise the earnings for the stockholders. It is asset-to-equity-capital ratio. The larger the multiplier, the greater the STCL's potential for high returns for its stock holders. It is presented in times and computed as total assets divided by total equity capital. Larger the figure of equity multiplier implies that, there is relatively significant use of debt source to finance the assets.

$$Equity\ Multiplier = \frac{Total\ asset}{Sharholders'Equity}$$

Return on equity

Du Pont equation, explains ROE as a result of ROA times EM. Where, ROA is net profit margin times the asset utilization. Thus ROE consolidates the result of overall operating performances of an institution. ROE is a measure of the rate of return flowing to the shareholders. It approximates the net benefit that the stockholders have received from investing their capital.

$$Return\ on\ Equity = Net\ Profit\ Margin \times Total\ Asset\ Turnover \times Equity\ Multiplier$$

$$Return\ on\ Equity = \frac{Net\ profit}{Equity}$$

3.5 Statistical tools used:

The study is based completely on ratio scale data acquired from the published annual reports of STCL. Hence, methods of analysis as well as statistical tools have been used accordingly. The statistical results have been drawn with the

help of spreadsheet program of Microsoft® Office Excel® 2007 and SPSS version 16. To answer the research questions by attaining the predetermined research objectives, different statistical tools have been used as discussed in the sections below:

3.5.1 Descriptive statistics:

Descriptive statistics, (percentage relatives, central tendency, minimum and maximum values, standard deviation, coefficient of variations, and a like) have been used to explore the characteristics of different variables as descriptive measures under study. The graphic/pictorial presentations have also been considered as required.

Percentage relatives/ Index Number

Percentage relative/Index number has been used to measure how much variable changes overtime. The computing technique for percentage relatives have been applied by finding the ratio of the current value to a base value. Then it has been multiplied the resulting number by 100 to express the index as a percentage. As a rule the index number for the base point in time is always 100. Data under study are from fiscal year 2056/57 to 2065/66. To depict the degree of change in variables over the years, fiscal year 2056/57 has considered as the base year.

Mean

The most popular and widely used measure of representing the entire data by one value is what most laymen call an average and what the statisticians call arithmetic mean. The mean is the average value. Summary statistics include measures of central tendency such as the mean.

Minimum and maximum

The mean is the average value whereas minimum and maximum are the lowest and highest values among all.

Standard deviation

Standard deviation is a widely used measurement of variability or diversity used in statistics and probability theory. It shows how much variation or dispersion there is from the average (mean; or expected value). A low standard deviation indicates that the data points tend to be very close to the mean, whereas high standard deviation indicates that the data are spread out over a large range of values.

Coefficient of variation

The coefficient of variation allows you to determine how much volatility (risk) you are assuming in comparison to the amount of return you can expect from your investment.

Trend line graphs

The trend line graphs enable you to study your output in a simple manner. It shows the accurate trend of each variable for each year.

3.5.2 Test statistics:

Among different other objectives, to test the relationship between leverage ratios and economic performance of STCL are also the main. For this purpose correlational analysis has been used for the test purpose. By using SPSS version 16, different types of correlational analysis can be performed under Bivariate correlations, Partial correlations, and Distance correlations.

To fulfill the research objectives, it has been used Bivariate correlational analysis. Different types under Bivariate are: Pearson correlation coefficient, Kendall's tau_b and Spearman's rho. Pearson correlation coefficient is considered as parametric test statistic whereas Kendall's tau_b and Spearman's rho are considered as non-parametric test statistics. For the application of parametric test, different assumptions (for example normality, linearity, no outlier) must be satisfied. To determine the application of specific method of correlational analysis, several statistical tools have been used to verify the

theoretical assumptions. Those used statistical tools are Shapiro-Wilk Tests of Normality, Box and Whisker Plot. The *p* values have been used for the test purposes.

Shapiro-Wilk Tests of Normality

In statistics, the Shapiro–Wilk test tests the null hypothesis that a sample x_1, ..., x_n came from a normally distributed population. For the application of parametric statistical procedure different assumptions must be fulfilled. Among them the normal distribution of data is one of the fundamentals. There are different statistical procedures to test the normality. Among them Kolmogorov-Smirnov and Shapiro-Wilk test statistic tests the hypothesis that the data are normally distributed.

If there are less than 50 cases, the Shapiro-Wilk test use to consider as appropriate method. Since data under study for the variables LTD to TA, STD to TA, TD to TA, and ROE is based on ten years' data from the fiscal year 2056/57 to 2065/66; it has been used Shapiro-Wilk test of Normality.

Box and Whisker Plot

In statistics, a box plot or boxplot (also known as a box-and-whisker diagram or plot) is a convenient way of graphically depicting groups of numerical data through their five-number summaries: the smallest observation (sample minimum), lower quartile (Q1), median (Q2), upper quartile (Q3), and largest observation (sample maximum). A box plot may also indicate which observations, if any, might be considered outliers. Accordingly box and whisker plot has been used in this study to depict whether there are any outliers in the data of LTD to TA, STD to TA, TD to TA, and ROE to determine the application of specific method of correlational analysis.

Spearman's Rank Correlation Coefficient

In statistics, Spearman's rank correlation coefficient or Spearman's rho, named after Charles Spearman and often denoted by the Greek letter ρ (rho) or as r_s, is

a non-parametric measure of statistical dependence between two variables. Spearman's rho is a rank-order correlation coefficient which measures association at the ordinal level. This is a nonparametric version of the Pearson correlation based on the ranks of the data rather than the actual values. The core statistical reasons for using Spearman's Rank Correlation Coefficient are:

i. For this method, variables need not be normally distributed and
ii. This method is not very sensitive to outliers.

3.6 Methodological Limitations:

The study is entirely based on secondary data source. Therefore, window dressing is possible to some extent. Due to negative figure in some variables, the percentage relatives of all variables can not calculated. Similarly for parametric test of correlation, two fundamental tests: Shapiro-Wilk Tests of Normality and Box/ Whisker Plot has been used to verify. This test is not fit for the research. So a non-parametric test: Spearman’s Rank Correlation Coefficient is used.

It is obvious that, the researcher cannot claim the study as free from inherent limitations of secondary data analysis. The study is based on only ten year data. So the results may not be generalized.

CHAPTER 4

Presentation and Analysis of Data

This chapter provides methodical presentation and analysis of data corresponding to financial matters of STCL to discuss the different dimensions of leverage and economic performances. Various financial procedures as well as statistical tools as described in chapter three have been used for this purpose. This chapter is divided into five major sections. The first section deals with the basic financial data associated with the study objectives. The second section discusses about the economic performances of STCL. The economic performance has been addressed with the application of Du-Pont approach. The third section presents descriptive statistics of the respective data to analyze. The fourth section evaluates the relationship between leverage factors and the economic performances of STCL. As a concluding part of this chapter, the fifth section has been assigned to present the major findings. Throughout this chapter, ten year's corresponding data have been used for the analysis.

4.1 Basic Financial Information of STCL:

The financial database as demanded by the study objectives have been extracted from the income statement and balance sheet of STCL. Consequently, sales figures, amounts of net income, asset figures, and the amounts of long term debt, short term sources, and shareholders' equity have been considered as study variables under study. Thus the variables under study are quantitative in nature, and the measurement is obviously based on the ratio scale. Percentage relatives of the observed quantitative data have been presented along with the data, as required, to analyze.

Since the study is entirely based on secondary data, the overall data and information have been gathered from the audited financial reports published in annual reports of STCL.

4.1.1 Sales and Return:

Sales, commonly termed as 'turnover' and net income are most important indicators which reflect the corporate economic performance. Table 4.1 highlights such a fundamental data.

Table 4.1
Basic data of Income Statement

This table provides information on the concluding data of income statement of sample fiscal years. It includes sales and net income figures from the fiscal year 2056/57 to 2065/66. The figure in the large parenthesis [ ] in the column of sales indicates the percentage relatives of sales. Fiscal year 2056/57 is considered as base year for the computation of percentage relatives.

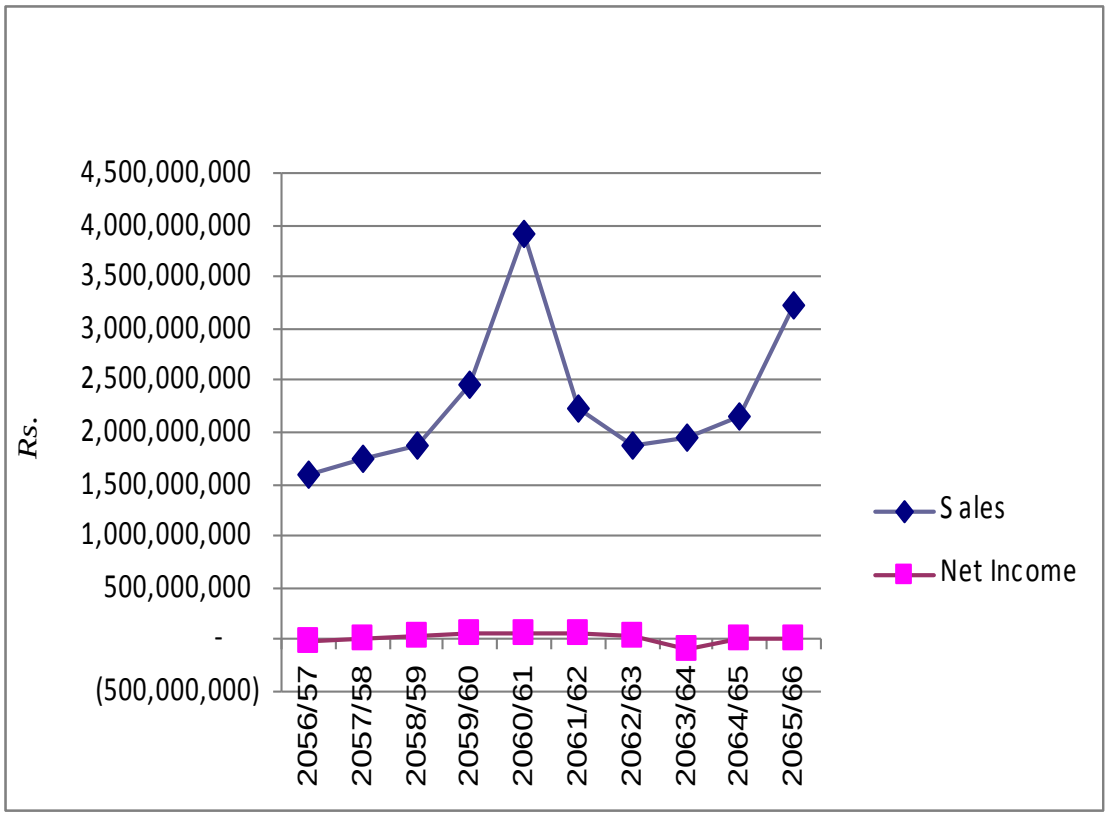
Fiscal Year	Sales	Net Income (Net Loss)
2056/57	1,584,844,361 [100]	(15,232,585)
2057/58	1,747,581,018 [110]	10,545,243
2058/59	1,883,428,864 [119]	26,653,889
2059/60	2,465,483,328 [156]	50,250,248
2060/61	3,907,498,411 [247]	73,024,651
2061/62	2,221,486,516 [140]	49,807,981
2062/63	1,885,128,403 [119]	29,052,985
2063/64	1,942,339,095 [123]	(103,656,366)
2064/65	2,164,755,224 [137]	13,027,201
2065/66	3,218,650,639 [203]	11,555,081

Source: Annual reports of STCL.

As Table 4.1 portrayed, the percentage relatives of sales clearly explains that there is highly fluctuating turnover status of STCL. Alongside, the figures of net income also look much fluctuating over the years. The table shows that sales have been increased from fiscal year 2056/57 to 2060/61. Among the sales and net income figures, fiscal year 2060/61 has been observed much encouraging.

But in contrast, after that year, downward tendencies have been observed again to the fiscal year 2064/65. So far the figures of net income and net loss are concern, in fiscal year 2056/57 there was net loss of Rs.15, 232,585. The status has been improved for 4 consecutive years. Again in 2063/64 net loss has been accounted to Rs. 103,656,366. Again, after that year, the situations have been observed as improving. As data portrayed there is no increment in net income as the increment in sales. Figure 4.1 explains the nature of such a fundamental data.

Figure 4.1
Comparative trend of Sales to Net income



As the results presented in Figure 4.1, there is extreme fluctuating trend in sales but there is insignificant trend in net income. Sales rapidly rise up from the beginning to 2060/61. Sales rise maximum in 2060/61 and rapidly go down afterwards in the following year. Again, it goes up in 2063/64, 2064/65 & 2065/66. In context of net income, firstly there is net loss. Afterward there is positive result for some years. In 2063/64 there is huge net loss. There is positive result after 2063/64 and it rises in following year. This shows that there is

insignificant relationship between sales and net income. Sales fluctuate in haphazard way. In some year it goes down to extreme and in some year it rises to maximum. The trend between sales and net income does not seem parallel. As the fluctuating trend in sales there is no such trend in net income. Sales increase in high ratio whereas net income increase in low ratio. When sales reach to maximum net income does not reach to maximum. And when sales decrease slightly there is net loss in 2063/64. So there is irrelevant relationship between sales and net income.

4.1.2 Financial Structure:

Financial structure refers to the way a firm's assets are financed. It includes short term debt, long term debt as well as shareholders' equity. If there is an optimal capital structure for a company, it will minimize the opportunity cost of capital and maximize shareholders' wealth. Table 4.2 elucidates about a basic data of financial structure of STCL.

Table 4.2
Financial Structure of STCL

This table portrays financial structure of STCL. It consists of total assets, shareholders' equity, Long term debt and short term debt of sample fiscal years of 10 years from 2056/57 to 2065/66 The figure in the large parenthesis [ ] in the column indicates the percentage relatives of corresponding columns. Fiscal year 2056/57 is considered as base year for the computation of percentage relatives.

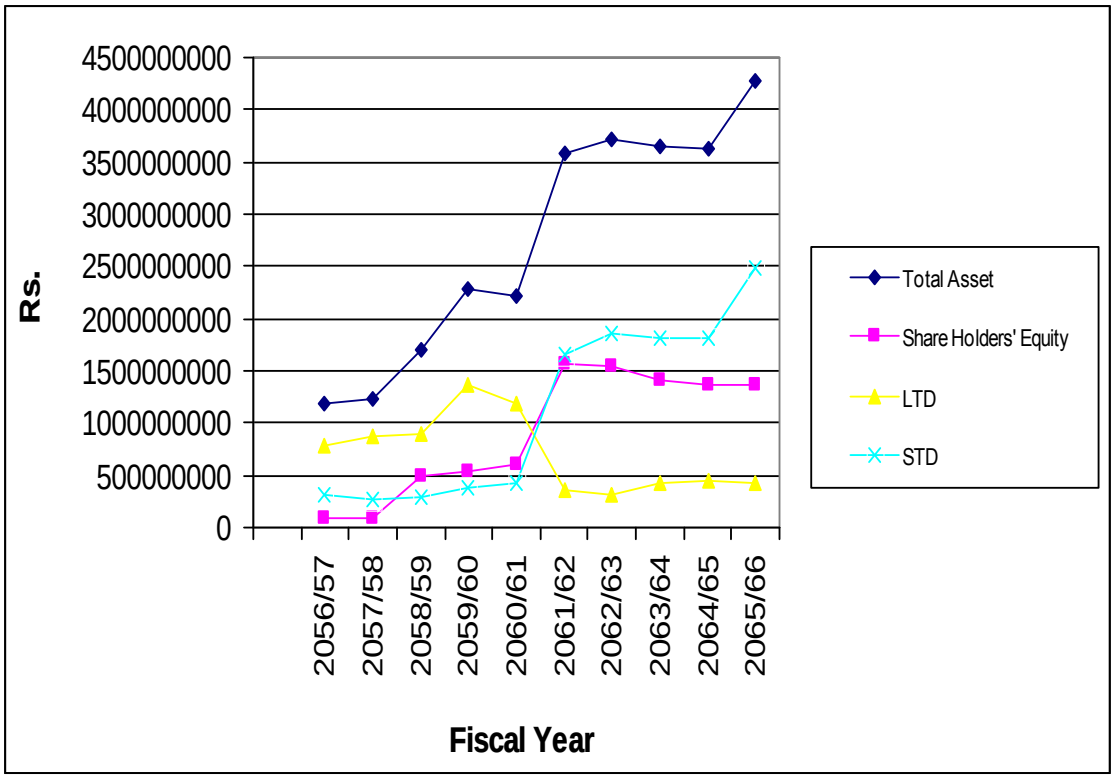
Fiscal Year	Total Asset	Shareholders' Equity	LTD	STD
2056/57	1,189,295,192 [100]	88,521,835 [100]	791,043,909 [100]	309,729,448 [100]
2057/58	1,240,059,011 [104]	92,768,095 [105]	874,763,893 [111]	272,527,023 [88]
2058/59	1,699,616,037 [143]	498,620,104 [563]	902,800,238 [114]	298,195,695 [96]
2059/60	2,282,845,857 [192]	542,497,225 [613]	1,359,592,890 [172]	380,755,742 [123]
2060/61	2,215,335,172 [186]	608,982,606 [688]	1,184,072,447 [150]	422,280,119 [136]
2061/62	3,587,774,568 [302]	1,570,778,007 [1774]	362,889,233 [46]	1,654,107,328 [534]
2062/63	3,719,540,043 [313]	1,548,941,548 [1750]	305,668,706 [39]	1,864,929,789 [602]
2063/64	3,638,465,580 [306]	1,399,660,194 [1581]	416,532,694 [53]	1,822,272,692 [588]
2064/65	3,622,277,182 [305]	1,376,497,848 [1555]	437,625,683 [55]	1,808,153,651 [584]
2065/66	4,272,700,112 [359]	1,354,758,088 [1530]	432,886,967 [55]	2,485,055,057 [802]

Source: Annual reports of STCL.

In Table 4.2 it has been observed that total asset increases irregularly. The highest increment was in 2065/66. The growth in the shareholders' equity was fast. From the base year it increased to 1530% in 2065/66. The most high percentage increase was in 2061/62. The next was long term debt which increased for 5 years from base year. Then it decline hugely for 2 years, rises up for next 2 years and lastly remains constant for 2 years. Similarly Short term debt has got fluctuating trend. It rapidly increases after 2061/62 and continuous its pace up to last year.

Analyzing the result of the Table 4.2, it is found out that the STCL is significantly cutting off the long term debt from fiscal year 2061/62. Simultaneously its short term debt has been enlarged. It continued then after up to last year. STCL bears high percentage change between total debts to total assets. This shows that the share of total assets financed by the outsiders fund is very high. So it can be concluded that this higher proportion could create a danger situation in the interest of the company as a result its interest expenses could be high. STCL is highly dependant upon the creditor's fund. Figure 4.2 clarify the nature of such a fundamental data.

Figure 4.2
Line diagram of total asset, shareholders' equity, long term debt and short term debt



It has been observed that total asset of STCL has been increased hugely. It begins to increase from the beginning and continuous to increase for four years. In 2060/61 it decreases slightly and again it rises rapidly. Again it rise and fall and reaches to maximum in final year i.e. 2065/66.

The shareholders' equity rises slowly in the beginning. In 2058/59 it drastically increases and continues for two years. It reaches maximum in 2061/62 and after that it starts to declines and continue up to last year. Then the long term debt starts with inclining pace hit the highest peak in 2059/60. Gradually it moves downward and remains constant for last two years. Another one is short term debt which decreases in second year only. And after that it rises up continuously. In 2063/64 and 2064/65 it decrease slightly and reaches maximum in 2065/66. It shows positive relationship between LTD and STD as when LTD decreases STD increases simultaneously.

4.2 Economic Performances of STCL by using Du-Pont approach:

A type of analysis that examines a company's Return on Equity (ROE) by breaking it into three main components: net profit margin, total asset turnover and equity multiplier (leverage factor). By breaking the ROE into distinct parts, investors can examine how effectively a company is using equity, since poorly performing components will drag down the overall figure. To calculate a firm's ROE through Du-Pont analysis, multiply the profit margin (net income divided by sales), asset turnover (sales divided by assets) and leverage factor (total assets divided by shareholders' equity) together. If there is higher result, there will be the higher the return on equity.

Table 4.3
Economic Performances of STCL

This table portrays Economic Performances of STCL. *It consists of Net Profit Margin, Total Asset Turnover, Equity Multiplier and Return on Equity of sample fiscal year of 10 years from 2056/57 to 2065/66. Where, Return on Equity = (Net Profit Margin)*(Total Asset Turnover)*(Equity Multiplier)* = (Net profit / Sales)*(Sales / Assets)*(Assets / Shareholders' equity) = *(Net Profit/Equity) and ROA = (Net Profit Margin)*(Total Asset Turnover).*

Fiscal Year	NPM	TAT	ROA	EM	ROE
2056/57	-0.0096	1.3326	-0.0128	13.4350	-0.1721
2057/58	0.0060	1.4093	0.0085	13.3673	0.1137
2058/59	0.0142	1.1081	0.0157	3.4086	0.0535
2059/60	0.0204	1.0800	0.0220	4.2080	0.0926
2060/61	0.0187	1.7638	0.0330	3.6378	0.1199
2061/62	0.0224	0.6192	0.0139	2.2841	0.0317
2062/63	0.0154	0.5068	0.0078	2.4013	0.0188
2063/64	-0.0534	0.5338	-0.0285	2.5995	-0.0741
2064/65	0.0060	0.5976	0.0036	2.6315	0.0095
2065/66	0.0036	0.7533	0.0027	3.1538	0.0085

4.2.1 Net Profit Margin [NPM]

Among the financial ratios presented in Table 4.3, NPM is for measuring and evaluating the effectiveness of expense management or cost control and pricing policies. As presented in table the higher ratio of NPM 0.0204 has been observed in fiscal year 2059/60. Relatively poor performances have been observed for the fiscal year 2056/57 and 2063/64. Since NPM is a ratio of net profit to total revenues, an increase or decrease in NPM represents overall aspect of income statement. Efficiency in expenditure management or cost control in one hand support to increase in NPM, on the other hand good management of revenue generating activities boosts for tough position. To increase in return on asset and return on equity the ratio of NPM plays significant role. The NPM of STCL doesn't demonstrate the thing as positive. In an average STCL is able to turn 0%

of sales into net profit, which is not good. It might affect the operating efficiency of the corporation.

4.2.2 Total Asset Turnover (TAT) or Asset Utilization [AU]

Total Asset Turnover (TAT) or Asset Utilization (AU) reflects portfolio management policies, especially the mix and yield on the company's assets. There is irregular trend in TAT. Using Du Pont approach it can be expressed as the ratio of total revenues to total asset. As net profit margin asset utilization also plays significant role to increase ROA and ROE. STCL, in this regard, seems gradual falling down. The speed of increasing asset size relatively with operating revenue seems the main reason behind decreasing AU. It has been observed from Table 4.3 clearly demonstrates the asset utilization ratio in decreasing trend during the study period. TAT also expresses obviously the thing as negative.

4.2.3 Equity Multiplier [EM]

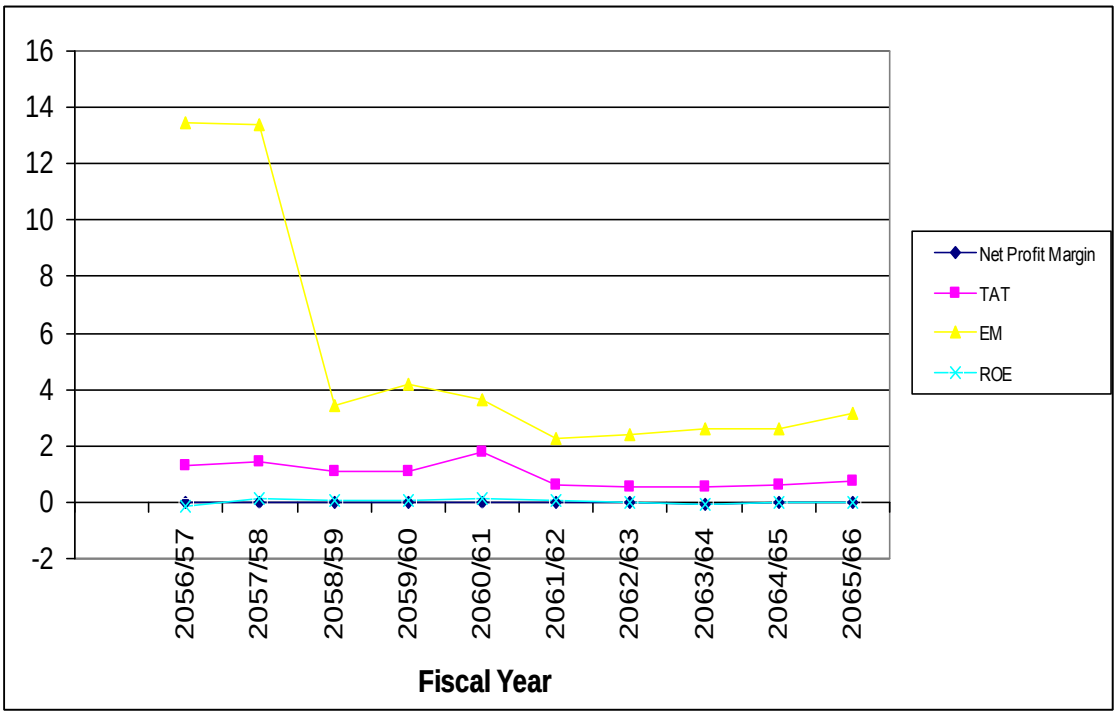
Equity Multiplier (EM) reflects the leverage or financing policies. It explains the employment of financial leverage to raise the earnings for the stockholders. It is asset-to-equity-capital ratio. Because equity must absorb losses on the corporation asset, the larger the multiplier, the more exposed to failure risk the corporation is. However, the larger the multiplier, the greater the STCL's potential for high returns for its stock holders. It is presented in times (X) figure in Table 4.3 and computed as total assets divided by total equity capital. Larger the figure of equity multiplier implies that, there is relatively significant use of debt source to finance the corporation's assets.

Table 4.3 shows the equity multiplier 13.44 and 13.37 times respectively from the fiscal year 2056/57 to 2057/58. It is observed multiplier in the range of 2 to 4 times in most of the years. The equity multiplier is normally the largest, averaging about 15X or larger for organization. Thus, with this reference, the equity multiplier of STCL is observed as inferior state.

4.2.4 Return on Equity [ROE]

Du Pont equation, as presented earlier, explains ROE as a result of ROA times EM. Where, ROA is net profit margin times the asset utilization. Thus ROE consolidates the result of overall operating performances of an institution. ROE is a measure of the rate of return flowing to the STCL's shareholders. It approximates the net benefit that the stockholders have received from investing their capital in STCL. As Table 4.3 presents, within the study period, it is observed maximum 0.1199 in the fiscal year 2060/61. Within the study period, it is observed minimum -0.1721 in the fiscal year 2056/57. The reason of this poor ROE in that year is the lowest net profit margin in that year. Figure 4.3 shed light on the scenery of such a fundamental data.

Figure 4.3
Line diagram of Net Profit Margin, Total Asset Turnover, Equity Multiplier and Return on Equity



It has been observed that NPM changes very slightly in the line diagram. There is nominal change in its value. It has negative value twice. Total asset turnover has fluctuating trend. It slightly increases in 2057/58 then decreases for two

years. The highest point of TAT is in 2061/62 then moves down in next years. Again in 2065/66 it moves upward slightly. Equity Multiplier changes severely. After 2057/58 EM declines drastically. In 2059/60 it rises slightly and moves downward and increases in last two years. There is no considerable change in ROE of STCL. ROE also has fluctuating trend. The year-wise analysis of composite variables of ROE has been done for further study.

Year-wise Analysis of composite variables of ROE:

With respect to the fiscal year 2056/57 it has been observed negative ROE. The main reason behind it was negative NPM. It implies that the effectiveness of expense management or cost control and pricing policies of that year was very poor. Relatively EM has been observed good to build ROE.

So far the performance of fiscal year 2057/58 is concern; it has been observed some recovery in NPM. As a result, ROE has been appeared as positive. TAT and EM have been observed not that much changed relative to the previous year.

The condition of fiscal year 2058/59 shows that NPM has been increased in comparison with last year. It shows there was improving expense management and pricing policies. But in that year ROE has been decreased. The reason behind decreasing ROE is decrease in EM & TAT. It implies there was inappropriate management in asset utilization. And decrease in EM explains the employment of financial leverage to raise the earnings was not sufficient.

In 2059/60 NPM has been increased than before which means more improvement in expense management and pricing policies. In that year TAT has been decreased more. EM has been observed increasing which results increase in ROE. So the rate of return flowing to the STCL is getting better.

It has been observed that in 2060/61 ROE has increased. The main cause for it is increase in TAT. In that year its TAT has increased which shows there was proper total asset turnover. Whereas NPM and EM have decreased, it means the

effectiveness of expense management or cost control and pricing policies of that year was very poor.

The analysis of the fiscal year 2061/62 shows decline of ROE. In that year NPM has been observed increased but both TAT and EM has been observed declining. So increase in NPM only is not sufficient to increase it ROE.

With respect to the fiscal year 2062/63 it has been observed decline in ROE. The main reason behind it was decline in NPM as well as TAT. There was relatively increment in EM.

Again there was negative ROE in the fiscal year 2063/64. It shows very poor expense management or cost control which results negative NPM. In that year there was slight increment in both TAT and EM.

In the fiscal year 2064/65 there was slight improvement in NPM resulting positive result. TAT and EM also increased slightly in that result. Hence increment in all three variable results positively. So ROE of the fiscal year 2064/65 has been observed positive.

Finally the fiscal year 2065/66 has been observed intimately which results there was positive ROE. But ROE was smaller than previous result. It has been found out that there was decreased NPM. In that year there was increment in both TAT as well EM.

After close observation of year-wise analysis of composite variables of ROE we can conclude that there is important relationship between Net Profit Margin, Total Asset Turnover, Equity Multiplier and Return on Equity. We cannot forecast anything about ROE only by one variable. ROE is totally dependent on all the three variables.

4.3 Analysis of Debt Ratios:

The proportion of debt employment in capital structure is generally termed as leverage. Hence, leverage ratio represents the proportion of debt capital and

equity capital. It shows the long-term solvency of the firm. It judges the long-term financial position of the firm. Shareholder stands to gain with capital gearing during times of good profit as the debt capital is paid fixed interest and all balance of profit is available to equity holders. But in times of low profits, the payments of fixed interest on high debt capital may absurd all the profits leaving nothing for the shareholders. That's why at the time of high profit leverage is favorable and unfavorable when profits are too low. Hence, the leverage ratios are calculated to measure the financial risk and the firm's ability if using debt for the benefit of shareholders.

Table 4.4
Leverage Ratios of STCL

This table presents Leverage Ratios of STCL. It consists of Ratio of Long term Debt to Total Asset, Ratio of Short term Debt to Total Asset and Ratio of Total Debt to Total Asset. It includes sample fiscal years of 10 years from 2056/57 to 2065/66. The figure in the large parenthesis [ ] in the column indicates the percentage relatives of respective column. Fiscal year 2056/57 is considered as base year for the computation of percentage relatives.

Fiscal Year	Ratio of STD to TA [LEV 1]	Ratio of LTD to TA [LEV 2]	Ratio of TD to TA [LEV 3]
2056/57	0.26 [100]	0.67 [100]	0.93 [100]
2057/58	0.22 [84]	0.71 [106]	0.93 [100]
2058/59	0.18 [67]	0.53 [80]	0.71 [76]
2059/60	0.16 [61]	0.60 [90]	0.76 [82]
2060/61	0.19 [73]	0.53 [80]	0.72 [78]
2061/62	0.46 [177]	0.10 [15]	0.56 [61]
2062/63	0.50 [193]	0.08 [12]	0.58 [63]
2063/64	0.50 [192]	0.12 [18]	0.62 [66]
2064/65	0.50 [192]	0.12 [18]	0.62 [67]
2065/66	0.58 [223]	0.10 [15]	0.68 [74]

Return on Equity is measured as the net income to equity or the return earned by the shareholders on the invested capital. Whereas LEV1 stands for the ratio of short term debt to total assets, it shows the proportion of the company's assets which are financed through short term debt, LEV2 stands for the ratio of long term debt to total asset which indicates the portion of long term debt in the assets possessed by the firm and LEV3 stands for the ratio of total debt to total assets which shows apportion of debt in the purchase of assets ratio.

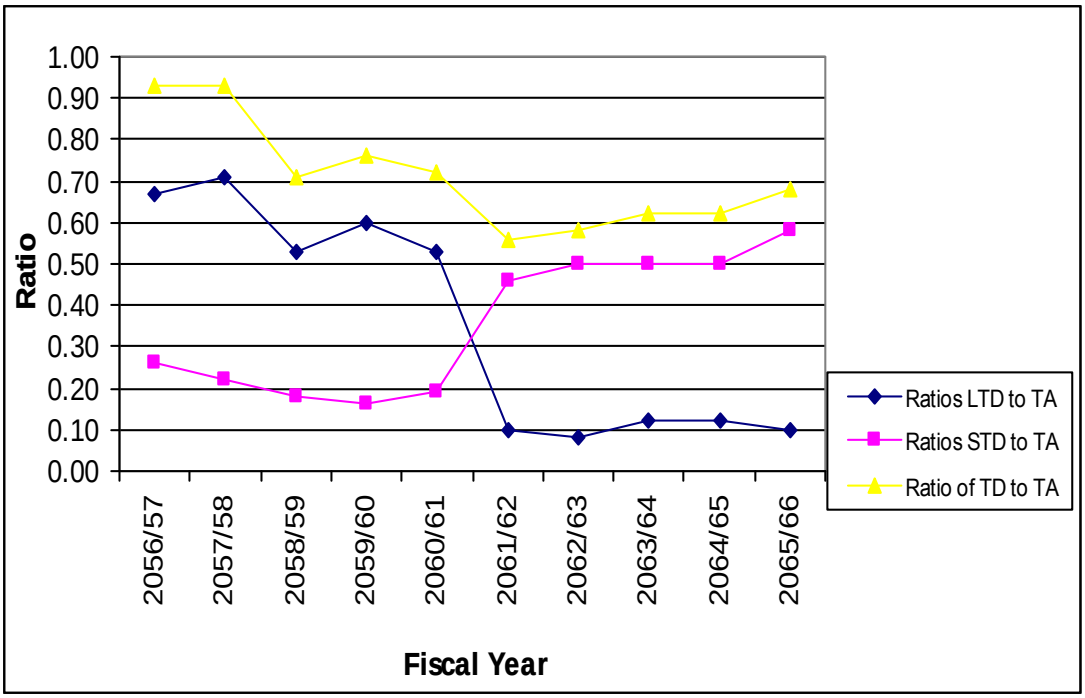
The source of long term financing is the long term debt. A firm should be able to make the maximum use of the long term debt in its long term financing. The company should pay interest to the creditors in return of using the debt. Besides debt financing has some advantages too. The company receives debt tax shield benefit from debt financing. So the proportion of long term debt and equity share capital in capital structure should be proper.

Table 4.4 reveals that the fluctuating trend of the short term debt & long term debt of STCL during the periods of ten years. There is inverse relationship between STD & LTD. The percentage relatives make clear about you. LEV 1 decreases for about 5 years and it increases slowly. Whereas LEV 2 increases for about 5 years and it decreases subsequently.

STCL has very high ratio of LEV3 i.e. total debt to total assets in the first two year comparing to the following year. In an average the STCL bears high ratio of total debt to total assets. This shows that the share of total assets financed by the outsiders fund is very high. According to Weston and Copeland (1992), this ratio should be about 33%. So we can assume this 33% ratio as standard ratio while analyzing.

The ratios of STCL are much higher than the standard ratio in all ten years. So it can be concluded that this higher ratio could create a danger situation in the interest of the company as a result its interest expenses could be high. STCL is highly dependent upon the creditor's fund. Figure 4.4 shows the position of LEV1, LEV2 and LEV3 in following line diagram.

Figure 4.4
Line diagram of Ratio of Long term Debt to Total Asset, Short term Debt to Total Asset and Total Debt to Total Asset



The line diagram confirms leverage ratios of STCL. Figure 4.4 show the fluctuating trends of LEV1, LEV 2 & LEV3. The ratio STD to TA (LEV1) has increasing trend. In the beginning it slightly moves downward for four years then it changes the direction and moves upward. In fiscal year 2061/62 it boosts up and continues to move upward. With respect to LEV1, the ratio LTD to TA (LEV2) has decreasing trend. From the initial year, the line diagram shows descending pattern. It continuous to move downward slowly for five years and in the sixth year it drastically decreases. And it remains in the same level up to final year. In context of LEV3, there is no drastic change but also there is decreasing trend in the beginning and increasing trend at the last moment.

4.4 Analysis of Descriptive Statistics:

Since the descriptive statistics are pertinent tools to have ideas of distributions of the variables, some of the most frequently used statistics, like mean, standard deviation, coefficient of variations, minimum values and maximum values have been used to support to attain the purpose of this study. Table 4.5 presents descriptive statistics of the variables that are used to analyze basic financial performances of STCL. Descriptive statistics results presented in Table 4.5 are computed from the 10 years respective data of STCL from the fiscal year 2056/57 to 2065/66.

Table 4.5

Descriptive statistics of basic financial information of STCL

This table illustrates Descriptive statistics of basic financial information *of STCL. It includes Mean, Standard Deviation, Coefficient of Variation, and Maximum, Minimum of Sales, Net Income, Total Asset, Equity, Long term debt & Short term debt. Coefficient of Variation has been expressed in percentage where as others are in Rupees.*

	Mean	SD	CV	Max	Min
Sales	2,302,119,586	728,007,254	32	3,907,498,411	1,584,844,361
NI	14,502,833	48,512,095	335	73,024,651	(103,656,366)
TA	2,746,790,875	1,146,674,058	42	4,272,700,112	1,189,295,192
Equity	908,202,555	599,781,091	66	1,570,778,007	88,521,835
LTD	706,787,666	370,970,461	52	1,359,592,890	305,668,706
STD	1,131,800,654	866,174,373	77	2,485,055,057	272,527,023

Table 4.5 provides mean of the different major variables that are focused in this study along with standard deviation and coefficient of variations. In addition, the table also contains minimum and maximum. The mean shows the average value of the ten years period.

Standard deviation is a widely used measurement of variability or diversity used in statistics and probability theory. It shows how much variation or dispersion there is from the average (mean; or expected value). A low standard deviation indicates that the data points tend to be very close to the mean, whereas high

standard deviation indicates that the data are spread out over a large range of values.

The coefficient of variation allows you to determine how much volatility (risk) you are assuming in comparison to the amount of return you can expect from your investment.

The coefficient of variation with respect to net income has been observed 335 percent. Hence, it has been observed that there is much inconsistency with respect to net income of STCL. On the contrary, the sales figure has been observed relatively consistent. Furthermore, total asset, equity, long term debt and short term debt has been observed relatively consistent.

While observing financial structure (equity, long term debt & short term debt) of STCL, it has been observed that CV of STD is relatively inconsistent. In addition equity has been observed inconsistent relatively. Therefore the most consistent in financial structure is LTD.

Table 4.6

Descriptive statistics of Economic Performances of STCL

This table represents Descriptive statistics of Economic Performances of S*TCL. It includes Mean, Standard Deviation, Coefficient of Variation, and Maximum, Minimum of Sales, Net Profit Margin, Total Asset Turnover, Equity Multiplier and Return on Equity. All the values are expressed in fraction whereas CV has been expressed in percentage.*

	Mean	SD	CV	Max	Min
NPM	0.0044	0.0225	511	0.0224	-0.0534
TAT	0.9705	0.4345	45	1.7638	0.5068
EM	5.1127	4.4091	86	13.4350	2.2841
ROE	0.0202	0.0890	441	0.1199	-0.1721

The descriptive statistical result as presented in Table 4.6 demonstrates CV of NPM 335 percent which means very much variability. Hence, there is much inconsistency in net profit margin of STCL. The CV of ROE is 441 percent

which is less than CV of NPM. Relatively ROE is consistent than NPM. But ROE is also inconsistent in comparison with total asset turnover and equity multiplier.

Furthermore, total asset turnover and equity multiplier been observed relatively consistent. There is very low variability in total asset turnover which means TAT is more consistent.

Table 4.7

Descriptive statistics of leverage ratios of STCL

This table illustrate Descriptive statistic of leverage ratios of STCL. It includes Mean, Standard Deviation, Coefficient of Variation, Maximum & Minimum of Ratios LTD to TA, STD to TA and TD to TA. All the values are expressed in fraction whereas CV has been expressed in percentage.

	Mean	SD	CV	Max	Min
LTD to TA	0.35	0.28	78.73	0.71	0.06
STD to TA	0.33	0.16	47.84	0.58	0.17
TD to TA	0.68	0.17	25.57	0.93	0.34

It has been observed that there are differences about the consistency level with respect to leverage ratios of STCL. Table 4.7 gives a clear picture of coefficient of variation of leverage ratio. It shows that LTD to TA has high CV which implies that high variability of the phenomenon. So there is inconsistency in LTD to TA ratio. On the contrary, the CV of STD to TA ratio has been observed relatively consistent. As a summated result, the ratio of TD to TA shows relatively consistent outline.

4.5 Correlation between Leverage and ROE:

The strength of a relationship, or the association, between two variables is typically measured by the coefficient of correlation, whose range from -1 for a perfect negative correlation up to +1 for a perfect positive correlation. But in practical cases the coefficient lies in between aforesaid two extremes. Thus, the

coefficient measures the degree of linear association between two variables (Levine, Krehbiel & Berenson, 2005).

Correlation looks at the relationship between two variables in a linear fashion. When the assumptions underlying correlation cannot be met adequately, a nonparametric alternative is Spearman's rank-order correlation (Coakes, Steed & Dzidic, 2007).

Assumption testing

Correlational analysis has a number of underlying assumptions:

i. Related pairs – data must be collected from related pairs: that is, if you obtain a score on an X variable, there must also be a score on the Y variable from the same participant.
ii. Scale of measurement – data should be interval or ratio in nature.
iii. Normality – the scores for each variable should be normally distributed.
iv. Linearity – the relationship between the two variables must be linear.
v. Homoscedasticity –the variability in scores for one variable is roughly the same at all values of the other variable. That is, it is concerned with how the scores cluster uniformly about the regression line.

4.5.1 Test of Assumptions for Parametric Statistics:

To make safe from the error due to non-fulfillment of assumptions inherent with parametric test of correlation, it has been tested whether the corresponding data can satisfy the required prerequisite. Two fundamental tests: Shapiro-Wilk Tests of Normality and Box/ Whisker Plot has been used to verify. Because of the number of observations are only ten (<50), Shapiro-Wilk Tests of Normality has been used. Table 4.8 presents the test statistics and significance values with respect to the test of normality.

Table 4.8

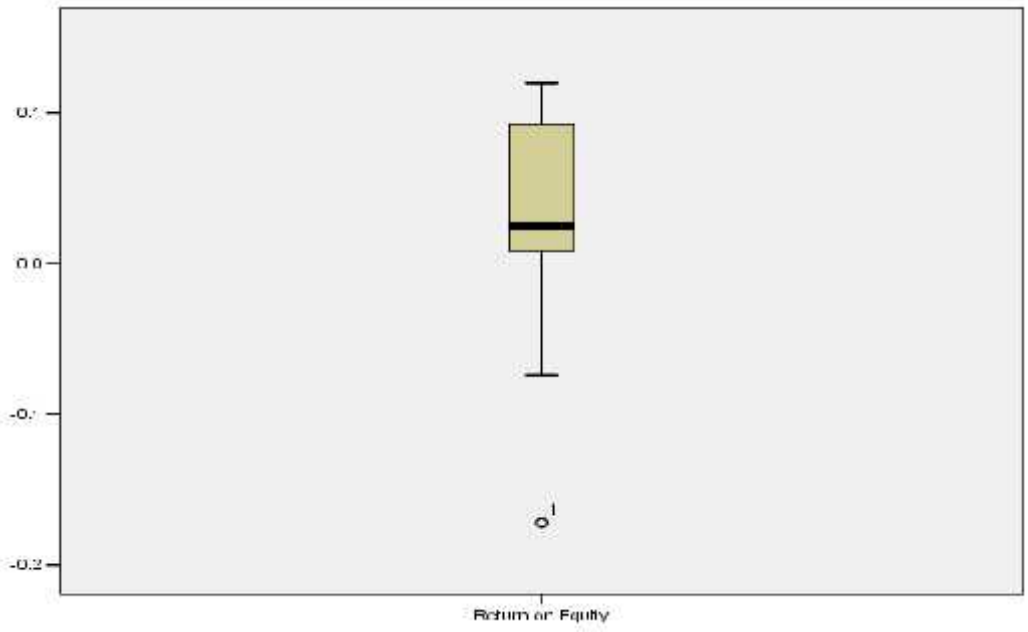
Shapiro-Wilk Tests of Normality

This table illustrates a test statistics of normality with respect to the data corresponds with the ratios of ROE, long term debt to total assets (LTD to TA), short term debt to total assets (STD to TA), total debt to total assets (TD to TA). The p-values represent the significance values.

Ratios	Statistic	Degree of freedom	*p*-values
Return on Equity	0.8997	10	0.2172
LTD to TA	0.7838	10	0.0092
STD to TA	0.8314	10	0.0347
TD to TA	0.8860	10	0.1528

A low significance value (generally less than 0.05) indicates that the distribution of the data differs significantly from a normal distribution. The *p*-values with respect to the LTD to TA and STD to TA are less than 5 percent level. So the results imply that data with respect to LTD to TA and STD to TA differs significantly from a normal distribution. On the other hand, outlier has been observed in ROE data. Figure 4.5 highlights such a condition:

Figure 4.5
Box and Whisker Plot of ROE showing outlier



By exploring the data of leverage ratios and ROE some of the lacking of prescribed assumptions for Pearson correlation (Parametric test) has been observed. For example, normality has not been observed with respect to the ratios of long term debt to total assets (LTD to TA) and short term debt to total assets (STD to TA). On the other hand, outlier has been observed in ROE data. Shapiro-Wilk Tests of Normality as well as Box and Whisker Plot signifies that the parametric test procedure is not fit to test the association between leverage and ROE. Accordingly, as a non-parametric procedure, Spearman's Rank Correlation Coefficient has been used to test the association. The core statistical reasons for using Spearman's Rank Correlation Coefficient are:

i. For this method, variables need not be normally distributed and
ii. This method is not very sensitive to outliers.

4.5.2 Spearman's Rank Correlation Coefficient:

In statistics, Spearman's rank correlation coefficient or Spearman's rho, named after Charles Spearman and often denoted by the Greek letter ρ (rho) or as r_s is a non-parametric measure of statistical dependence between two variables. The Spearman correlation coefficient is considered as the non-parametric version of Pearson Correlation coefficient.

Among others, one of the objectives of this study is to analyze the association between financial leverage and the returns to the firm's equity with special reference of STCL. Financial Leverage is the extent to which a firm uses debt financing. As signified by the theory of financing function of financial management, the objective of financial structure, specifically the financial leverage decision, is to maximize the value of the firm's equity.

With respect to the aforesaid discussions, this section has attempted to signify the direction of relationship between different leverage ratios and ROE of STCL. So it has been used two tailed test of correlation coefficient under non-parametric procedure. However, theoretically, the association has been expected

to positive direction. Table 4.9 signifies the directions and strength of relationships among the variables under study.

Table 4.9
Test of Association between Leverages and ROE

This table demonstrates a test statistics of Spearman's rho to examine the direction of relationship among different leverage ratios and ROE of STCL. Figures in the parenthesis (…) indicate p-values and it represent the significance values of the corresponding test statistic of Spearman's correlation coefficient, r_s.

Ratios	LTD to TA	STD to TA	TD to TA	ROE
LTD to TA	1			
STD to TA	-0.7091 (0.0217)	1		
TD to TA	0.9394 (.0001)	-0.6000 (0.0667)	1	
ROE	0.3212 (0.3655)	-0.6606 (0.0376)	0.2121 (.5563)	1

Spearman's rho is a rank-order correlation coefficient which measures association at the ordinal level. This is a nonparametric version of the Pearson correlation based on the ranks of the data rather than the actual values. The sign of the correlation coefficient indicates the direction of the relationship (positive or negative). Theoretically the expectation of the relationship among leverage and stockholders' return must be in positive direction.

The result as presented in Table 4.9 indicates that the Spearman's correlation coefficient between LTD to TA and ROE is 0.3212. Since the coefficient is in positive figure, this indicates that LTD to TA and ROE are positively correlated. The result of positive correlation supports the theoretical perspective that the use of debt magnifies the value to the shareholders. However, the significance level (*p*-value) is 0.3655 and it is relatively larger than 0.05 significant levels. Hence, the correlation is not statistically significant and the two variables are not statistically linearly related.

On the contrary, the correlation coefficient among STD to TA and ROE is -0.6606 which is relatively close to -1. This specifies that there is negative

correlation between STD to TA and ROE. This result contrasts the theoretical proposition. Further, the significance level (*p*-value) is 0.0376, which is smaller than 0.05 significant levels. So the correlation between STD to TA and ROE is statistically significant in reverse direction. Hence, it is concluded at this point that the association of STD to TA and ROE is statistically negative.

As a summated result, the correlation coefficient between TD to TA and ROE is 0.2121. This indicates positive correlation. However, the significance level (*p*-value) is 0.5563 which is much larger than 0.05 significant levels. Hence the correlation is not statistically significant and the two variables are not linearly related.

Among other discussions, the hypothesis under study were,

H_1: LEV_1 and ROE are positively related.

H_2: LEV_2 and ROE are positively related.

H_3: LEV_3 and ROE are positively related.

Where, LEV_1, LEV_2, and LEV_3 represent the ratios of STD to TA, LTD to TA, and TD to TA.

The results of correlation coefficient as per Spearman's rho, as presented in Table 4.9 reject the aforesaid hypotheses.

4.6 Major Findings and Discussion:

This study presents the results of the study of financial structure and economic performances of Salt Trading Corporation Limited. The study is based on data from Annual Report of STCL. It includes sample fiscal years of 10 years from 2056/57 to 2065/66. The study mainly deals with basic financial information, financial structure, economic performance and leverage. The major findings of the study may be summarized as follows.

The results show that there is irrelevant relationship between sales and net income. When sales reach to maximum net income does not reach to maximum and vice versa. Similarly, it is found out that the STCL is significantly cutting off the long term debt at the same time its short term debt has been enlarged. STCL bears high percentage change between total debts to total assets. This shows that the share of total assets financed by the outsiders fund is very high. So it can be concluded that this higher proportion could create a danger situation in the interest of the company as a result its interest expenses could be high. STCL is highly dependent upon the creditor's fund.

With reference to the economic performance of STCL by using Du-Pont approach, it is found out that there is a fluctuating trend in ROE. After close observation of year-wise analysis of composite variables of ROE it concludes that there is significant relationship between Net Profit Margin, Total Asset Turnover, Equity Multiplier and Return on Equity. It cannot forecast anything about ROE only by observing one variable. ROE is totally dependent on all the three variables.

Regarding the leverage ratios of STCL, the ratios of STCL are much higher than the standard ratio in all ten years. So it can be concluded that this higher ratio could create a danger situation in the interest of the company as a result its interest expenses could be high. It is highly dependent upon the creditor's fund.

According to descriptive statistic, while observing financial structure of STCL, it has been observed that CV of STD is relatively inconsistent. In addition equity has been observed inconsistent relatively. Therefore the most consistent in financial structure is LTD. Likewise in the economic performance, there is much inconsistency in net profit margin. Relatively ROE is consistent than NPM. But ROE is also inconsistent in comparison with total asset turnover and equity multiplier. There is very low variability in total asset turnover which means TAT is more consistent.

CHAPTER 5

Summary, Conclusion & Recommendation

This is the concluding chapter of this study. This chapter is divided into three sections: summary, conclusion & recommendation. In this chapter summary of the study is provided in brief. It has been a concern from the first chapter to the end. Findings of calculations, which have been drawn using different tools and technique based on the data provided by STCL, are concerned here in conclusion section. In the last section of this chapter some recommendations have given, which are useful to stakeholders and policy makers as well. They can use these recommendations to take some corrective actions to draw decisions.

5.1 Summary:

In this study, to analyze financial structure & economic performance of STCL, the whole study has been divided into five chapters. The summaries of each chapter are presented following.

First Chapter: First chapter starts with background of the study. The profile of the corporation is illustrated in short. About STCL establishment, services provided by it, its capital structure, organizational structure. The main focus of the study is to evaluate financial structure & economic performance. The specific objectives of this study are to observe the financial structure of STCL, to analyze the economic performance & to examine the relationship between financial structure & economic performance of STCL. This chapter describes significance of the study. It also includes the limitation of the study and lastly the organization of the study.

Second Chapter: For the realistic study, review of literature is most important that provides significant knowledge in the field of research. Thus, the review of various books, research studies and articles has been used to make clear about the concept of financial structure in this chapter. Concept about financial

structure has reviewed from different books and presented here and named it theoretical review. The assumption and definition has been explained. The factors affecting a target capital structure: management attitude, control, asset structure, sales stability, operating leverage etc are described. The short introductions of DuPont Financial Analysis Model are explained. Lastly the reviews of related studies are described in this chapter.

Third Chapter: Researcher needs sequential steps to adopt realistic study so through research methodology; researcher can get appropriate guidelines and knowledge about the various sequential steps to adopt a systematic analysis, which is explained in this chapter. The secondary data are used from annual reports provided by STCL. The ten years data from the fiscal year 2056/57 to 2065/66 are taken as sample years, which are analyzed by using financial tools and statistical tools. To examine the economic performance of STCL different financial measurement tools as prescribed by Du-Pont procedure have been used such as NPM, TAT, ROA, EM, and ROE. The statistical results have been drawn with the help of spreadsheet program of Microsoft® Office Excel® 2007 and SPSS version 16. The different statistical tools have been used. Descriptive statistics as percentage relatives, central tendency, minimum and maximum values, standard deviation, coefficient of variations, have been used to explore the characteristics of different variables as descriptive measures under study. The graphic/pictorial presentations have also been used. For the application of parametric test, different assumptions (for example normality, linearity, no outlier) must be satisfied. To determine the application of specific method of correlational analysis, several statistical tools have been used to verify the theoretical assumptions. Those used statistical tools are Shapiro-Wilk Tests of Normality, Box and Whisker Plot. The *p* values have been used for the test purposes. The parametric test procedure is not fit to test the association between leverage and ROE. Thus, a non-parametric procedure, Spearman's Rank Correlation Coefficient has been used to test the association.

Fourth Chapter: It's been already concerned in the summary that the study has used secondary data for the analysis in the form of annual reports provided by STCL. These data are presented and analyzed in this chapter. Methods, mentioned in the chapter third, are used here to analyze about financial structure.

Fifth Chapter: In this chapter summary, conclusion and recommendation of the study are presented separately to understand instantly whole obtain about of the study.

5.2 Conclusion:

In this study, various analyses have been conducted. The conclusions from various are as follows.

The basic financial information of STCL shows that there is insignificant relationship between sales and net income. Sales fluctuate in haphazard way. The trend between sales and net income does not seem parallel. Sales increase in high ratio whereas net income increase in low ratio. When sales reach to maximum net income does not reach to maximum. So there is irrelevant relationship between sales and net income.

From the financial structure, it is found out that the STCL is significantly cutting off the long term debt .Simultaneously its short term debt has been enlarged. STCL bears high percentage change between total debts to total assets. This shows that the share of total assets financed by the outsiders fund is very high. STCL is highly dependent upon the creditor's fund.

The results observed in economic performances of STCL in respect of Du-Pont approach is analyzed year-wise. After close observation of year-wise analysis of composite variables of ROE we can conclude that there is important relationship between Net Profit Margin, Total Asset Turnover, Equity Multiplier and Return on Equity. We cannot forecast anything about ROE only by one variable. ROE is totally dependent on all the three variables.

The results in respect of leverage ratios are much higher than the standard ratio in all ten years. So it can be concluded that this higher ratio could create a danger situation in the interest of the company as a result its interest expenses could be high.

Among descriptive statistics, while observing financial, it has been observed that CV of STD is relatively inconsistent. Equity has been observed inconsistent relatively and the most consistent in financial structure is LTD. Furthermore, total asset turnover and equity multiplier has been observed relatively consistent. There is very low variability in total asset turnover which means TAT is more consistent. There is inconsistency in LTD to TA ratio. The CV of STD to TA ratio has been observed relatively consistent. And the ratio of TD to TA shows relatively consistent.

Under Spearman's correlation coefficient, ROE & LTD to TA and TD to TA & ROE are positively correlated. The correlation is not statistically significant and the two variables are not linearly related. In the same way the correlation among STD to TA and ROE is negative. So the correlation between STD to TA and ROE is significant in reverse direction.

5.3 Recommendation:

The overall findings of this study and the coverage of study dimensions generates different recommendations. In account of the recommendations, it has been classified into two main sections:

- ❖Suggestions to STCL
- ❖Implications for future study

Suggestions to STCL:

This study has been conducted with focusing the financial structure and economic performances of STCL. By and large, the study is based on the analysis of economic performance of STCL with application of Du-Pont

approach. Hence, different suggestions to STCL are concentrated with the dimensions associated with such approach. The fundamental suggestions, with these respects, can be presented as follows:

i)Expense management, cost control, and pricing policies:

The analysis of net profit margin indicates that there are serious deficiencies with respect to the expense management, cost control, and pricing policies. Very low net profit margin and much variability in this account represent one dimension on earning risk. Hence, it is suggested to improve expense management, cost control, and pricing policy.

ii)The mix and yield on the company's assets:

While going through the total asset turnover, it is also in decreasing trend. However, it has been observed relatively consistent. It is a dimension of asset utilization and it represents the mix and yield on the company's assets. The main cause has been depicted that the size of operating revenue is poor in comparison with the increasing size of the asset. Thus, management of STCL must have appropriate management with respect to improve the productivity of its assets.

The aforesaid two dimensions are resultant of return on asset. Observed poor return on asset and variability should consider as lesson to improve overall management of STCL by the concern authorities.

iii)The financing policies:

Among different other objectives, this study have also been focused with financial structure of STCL. The result shows the use of short term sources of fund has negative impact on return on equity of STCL. The statistically significant negative correlation between the ratios of short term debt to total asset with that of return on equity suggests for the improvement of the working capital financing policies of STCL. However, the correlation between the ratios of long term debt to total asset with that of return on equity seems positive, it is not statistically significant.

Furthermore, decreasing trend of equity multiplier has been observed. Consequently return on equity has also been observed deteriorating over the years. Hence, it is highly recommended to concentrate seriously on strategic financing policies to improve the overall economic status of STCL.

Implications for future study:

At a theoretical level, this study is categorically concentrated with the Du-Pont approach of financial analysis. This approach is moreover concern with the profitability dimensions. Therefore, future study with accommodation of other financial dimensions is recommended.

So far the data and methodological parts are concern, this study is based on annual data for analysis and non parametric procedure has been used. At this point, to analyze more specific with seasonal variations in business, it is recommended to study at future with segregation of data.

By and large this study is based on secondary data. The economic performance of company is not only the matter of financial variables. Hence, it is also suggested to study in conjunction with primary data to capture the multi dimensions.

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