CHAPTER – I

INTRODUCTION

1.1 Background of the Study

Integrated and speedy development of the country is possible only when competitive banking service reaches nook and corners of the country because it is not possible to develop all the sectors by the investment of funds by the Government alone. Commercial bank occupies quite an important place in the framework of every economy because it provides capital for the development of industry, trade and business by investing the saving collected as deposits from public. A bank is an institution that deals with money and credit. It accepts deposits from individuals and business institutions and mobilizes the fund to productive sectors. It also provides remittance facility to transfer money from one place to another. Banks are the most important financial institutions in the economy. They are also the lending buyers of bond and cater to the need for financial services to the public and their enterprises. They are also the most important source of short-term working capital for business and long-term business loans for new plants and equipments. Therefore, Banks are the principle source of credit for individual business and government. Bank is a dealer of money. At present context, bank is not only confined to accepting deposits and disbursing loan but also engaged in different function as remittance, exchange currency, joint venture, underwriting, bank guarantee, discounting bills facilitating foreign trades through letter of credit (LC) etc.

Nepal is adopting mixed economy where public and private sectors co-exist. Nepal is a developing country. In any economy, the importance of financial sector in general and banking sector in particular can not be undermined. Banking sector definitely plays a vital role in the overall development of an economy. The Nepalese banking sector is at an exciting point in its

development. The opportunities to enter new business and new markets and to deliver higher levels of customer services are immense. As the Nepalese banks position themselves as financial service providers, banking business is getting refined. Technology is unsetting the earlier business process and costumers behavior is undergoing considerable changes. These have enhanced the forces of competition.

It is said that the banking sector mirrors the large economy. Its linkage to all sectors makes it a proxy for what is happening in the economy as a whole. Indeed, the Nepalese banking sector today has the same sense of excitement and opportunity that is evident in the Nepalese economy. Nepal's economic progress is being declined, political stability is not cleared and agriculture production is not sufficient, the number of financial institution is being increased day by day.

Profit planning plays vital role in the development of service-oriented industry like as banking. Therefore, understanding of profit planning is very essential to conduct a business. Profit planning involves two aspects; profit & planning. Profit is the primary objective of a business. It is necessary for survival & growth of every business entity. Profit does not just happen, they are managed in an economy, if firm is not able to earn profit then it fails to hold the capital for long period. When business firm cannot hold to capital, it cannot secure & retain other sources, such as work force, machine, equipment etc. In other words, the more profitable firm/enterprises are more attractive to the holders of the available capital.

There is several different interpretation of the term 'Profit'. According to an economist, profit is reward for the entrepreneurship for risk taking. An investor will view it as a gauge of the return on his/her money. An internal revenue agent might regard it as a base for determining income taxes. An accountant

will explain it simply as the excess of firm revenue over expenditure of producing revenue in a give fiscal year.

Similarly, planning is the first essence of management & all other functions are performed within the framework of planning, planning means deciding in advance. What is to be done in future? Planning starts from forecasting & predetermination of future event. Planning is the whole concept of any business organization. Hence, it is lifeblood of any organization, which makes efficiently run towards the competitive environment. It is the method of thinking out acts beforehand. Planning is foundation of profit realization & a plan is a projected course of action. Management is the process of planning, organizing, directing, decision making & controlling. In modern days profit planning is taken as an important managerial technique of decision-making. It is also regarded as a way of management & is given the name of profit planning program; Profit planning is a part of overall planning process of an organization. Cost volume profit analysis save as powerful tools in the hand of management for profit planning.

Cost volume profit analysis serves as a powerful tool in the hands of management for profit planning. The systematic relationship between cost volume and profit is shown by cost volume and profit analysis. It is analytical tool for analyzing the relationship among cost, profit and sales or production volume. Mainly there are three elements: cost, sales volume and profit in CVP analysis.

Cost volume profit (CVP) analysis examines behavior of total revenues, total costs, and operating income as charges occur in the output level, the selling price, the variable cost per unit, and the fixed costs of a product. Cost volume profit analysis is a systematic method of examining the relationship between changes in activity and changes in total sales revenue, expenses and net profit.

As a model of these relationships CVP analysis simplifies the real-world conditions that a firm will face.

Cost Volume profit analysis is a management accounting tool to show the function of the selling price of product, demand, variable costs, fixed costs, taxes, etc. The whole picture of profit planning is associated with cost volume profit is and costs in relation to sales at which the firm's revenues and total costs will be exactly equal or the net income will be zero.

Cost-volume-profit analysis is a systematic method of examining the relationship between changes in activity (i.e. output) and changes in total sales revenue, expenses and net profit. As a model of these relationships CVP analysis simplifies the real-world conditions that a firm will face. CVP analysis is a management accounting tool to show the relationship between the elements of profit planning. Profit planning is the function of the selling price of product, demands variable costs, fixed cost, taxes etc. The whole picture of profit planning is associated with cost-volume-profit interrelationships. A popular technique to study cost- volume-profit relationship is break even analysis. Break-even analysis is concerned with the study of revenues and costs in relation to sales at which the firm's revenues and total costs will be exactly equal or the net income will be zero. It is a "no profit no loss" situation. This point is a corner-stone of profit planning.

1.2 Profile of Everest Bank Limited (EBL)

Everest Bank Limited was registered on November 17, 1992, come into operation on October 18, 1994 with an objective of extending professionalized, and efficient banking services to various segments of the society. Today the bank has grown to become one of the leading banks in Nepal.

Panjab National Bank (PNB) joined hands with EBL as a Joint Venture in 1997 and turned it around to a highly profitable bank. There has been no looking

back since then. PNB provides top management support under the Technical Service Agreement. PNB joint venture partner of EBL one of the largest nationalized bank in India having 114 years of banking history, holds 20% equity.

Everest Bank has recognized the value of offerings a complete range of services and has pioneered in extending various customer friendly products such as home loan, education loan, EBL flexi loan, EBL property plus (future lease rental), Home equity loan, vehicles loan, Loan against share, loan against life insurance policy and loan for professional. The bank is providing customer friendly services through a network of 22 branches.

Everest Bank Limited was the first bank to introduce Any Branch Banking System (ABBS) in Nepal. All the branches of the bank are connected with ABBS which enables the customers to do all their transactions from any branches other than where they have their account. Everest Bank has introduced the Mobile Vehicle Banking System to see the segment deprives of proper banking facilities through Birtamod branch, which is the first of its kind. The bank has committed to provide excellent professional services & improve its position as a leader in the field of financial related services, use latest technology aimed at customer satisfaction & act as an effective catalyst for socio-economic developments. The bank was bestowed with the "NICCI Excellence award" twice in 1999 and 2003 by Nepal India chamber of commerce for its spectacular performance under finance sector and the bank has been conferred with "Bank of the Year 2006, Nepal" by the banker, a

1.3 Statement of the Problems

How the business is being operated largely depends on how the business operation is planned. The key motive of every business enterprise is to make and maximize profit. Profit just doesn't happen by chance, it is to be managed. Cost-volume-profit analysis is a supplementary tool of profit planning. CVP

analysis is hugely helpful for developing alternative strategies in sales planning and cost estimation.

Making profit is one of the prime factors that banks are seeking for but it will always not to be possible to do so. The study of CVP analysis is the technique of profit planning framework. Present level profit cannot be justified. In order to know profitability & factors influencing the proper planning, organizing & decision making.

Nepalese forms are still being run with primitive management. They lack modern management culture there is a lot of difference between the theory and practice in the business form. In Nepal, the practice of using CVP analysis tools for different management decision is rare.

CVP analysis provides the technique of profit planning framework. Based on annual published annual report, performance of the Nepalese commercial banks is not satisfactory. Poor performance is the outcomes of poor planning controlling, decision making. The question has risen whether Nepalese managers are enough competent? Do they use CVP analysis tools and technique to carryout planning, decision making and controlling function? The research question posed mainly in this research will be following.

- Is Everest Bank practicing CVP analysis tools & techniques to carry out planning decision making & controlling?
- What are the sources of income and expenditure of commercial banks?
- What will be the relationship between cost, volume and profit?
- What is the profitability position of the bank?
- What are the major difficulties in applying CVP analysis?
- Which part of CVP (BEP, MOS, CM) is mostly practiced?

1.4 Objectives of the Study

The main objective of the research is to study the financial performance of EBL through CVP analysis. The other objectives are as follows.

- To find out the relationship between cost-volume and profit of sample bank.
- To analyze the BEP, MOS and CM of sample bank.
- To access the sources of income and expenditure of sample bank.
- To evaluate the profitability position of sample bank.
- To provide appropriate suggestion.

1.5 Significance of the Study

Cost-volume-profit analysis is regarded as the life analysis is regarded as the lifeblood for any enterprise because it is needed for sustaining the enterprise in day operation. If the business cannot maintain cost-volume profit analysis, it is likely to become insolvent and may even push into bankruptcy. Goal of cost-volume-profit analysis manage the cost and profit of business. Survey indicates that the largest portion of most accounting manager time is devoted to the day to internal operations of the day to which fall under the heading of cost-volume-profit analysis. Very few studies have been performed on the accounting performance of HBL. Different researchers have written their dissertations on cost-volume-profit analysis, however almost all of them are related to accounting sectors and does not address the real situation of service sector public enterprises like HBL. It is thus clear that no. full-fledged academic research study on cost-volume-profit analysis of HBL has been carried out. The present study, therefore, bridges this long felt gap in the field or research. This is only a beginning and it could be further developed continued research in this field.

- This study will be useful for potential managers, accountant, policy maker and planners
- It examines the application of CVP analysis in the company.

- It provides information on the application of the tools under profit planning in difference circumstances.
- This study provides necessary recommendation to the related department of the company.
- It will also provide the literature to the researcher, who wants to carry on further research in this field.

1.6 Limitations of the Study

Although there are several commercial banks in Nepal but the study has been confined to Himalayan Bank Limited. Only the main limitation of the study is as follows.

- The study concerns the analysis of only 5 years data from 2065/066 to 2069/070.
- The study is only concentrated in cost volume profit analysis and its accounting performance of the EBL.
- The study is based on secondary data. Therefore, the accuracy of the result depends on the accuracy of the data provided by the EBL.
- The Study follows limited tools such as correlation of coefficient, break-even point and profit planning.

1.7 Organization of the study

The whole study is dividing into five main chapters.

Chapter I: Introduction

It includes general background of the study, introduction of the organization, statement of the problem, objective of the study, significance of the study, limitations of the study and organization of the study.

Chapter II: Conceptual Framework and Review of Literature

This chapter presents conceptual framework, review of related material like previous thesis, browser, booklets, journals, articles and report, magazines etc. will be done.

Chapter III: Research Methodology

This chapter deals with research methodology to be adopted for the study to satisfy the objectives of the study. It consists of introduction, research design, sample and population, sources of data, data collection procedure, methods and tools of data analysis.

Chapter IV: Presentation and Analysis of Data

This chapter is most important and plays vital role in this study. This chapter deals with presentation, analysis and interpretation of data as required by the objectives stated in this study. These collected data have been analyzed and interpreted by the help of various statistical and accounting tools and techniques. It also includes major findings of the study.

Chapter V: Summary, Conclusions and Recommendations

This chapter presents of the brief summary of whole research report and conclusions. It is also provides some useful suggestions and recommendations to concerned parties.

Similarly, at the front part of the study table of contents, recommendation sheet, viva voice sheet, acknowledgement, list of table and figure and abbreviation are presented and bibliography and appendices are presented at the end of the study.

CHAPTER-II
CONCEPTUAL FRAMEWORK AND REVIEW OF LITERATURE

In order to make a research on the subject some other literature should also be reviewed. Review of the literature is supported to revise the eminent literature related to the study. Main purpose of literature review is to find out the works done in the subject on the areas of research. Some possible study and conceptual prospective available in this respect have been reviewed. Various books, articles, journals, bulletins, reports, news statement, research study published by various institutions and some thesis etc. are the bases for preparing it. Some philosophers, writers or researchers have given the contribution for preparing it.

2.1 Conceptual Framework

2.1.1 Concept of Profit

An organization is established to achieve some goals. It has its own objectives. To achieve the goals of organization objectives should clearly mention. In this competitive globalize business age, an organization whether it is public or private profit is essential. Profit isn't change; it is result of successful management. Profit is the primary measure of successful business of a firm or a company. It is the main test of the business enterprises performance. Simply, profit is the excess of income over cost of product or services.

The basic objective of running any business organization is to earn profit. Profit is taken to measure the competency and efficiency of the management. Profit is not just happened but it is managed. If a firm cannot make profit it cannot generate capital of future. Profit is the primary measurement of successful business in any economy. Profit is a residual income left after the payment to other factor of production. The difference between the outflows of

expenses (i.e. cost of production, selling and distribution of that products etc.) and inflow of income (i.e. sales price) is called profit. It is a reward for business activities. Profit is obtained by subtracting the cost from revenue. Profit determines the financial position, liquidity and solvency of the business. Generally profit is controversial terms and many authors define its in different ways. The basic objectives of running any business organization are to earn profit. Profit serves as a yardstick for judging the competence and efficiency of the management (Maheshwari, 2000: 152).

The word "profit" implies a comparison of the operation of the business between to specific date which is usually separated by an interval of one year. In order to optimize those corporate source of wealth in which national prosperity depends on those corporate financial objectives of the company is to maximize within socially acceptable limits profit from the use of funds employed by them. The maximization of profit within socially acceptable limit implies that a proper regard to public interest has been paid. No company can survive long without profit; profit is the ultimate measure of its effectiveness and in a capitalized society. There is no future for a private enterprise which always increased loses. The survival measure of the effective performance of a business is a profit which really is a measure of how well a business performs economically. Profit is a signal for the allocation of resources and a yardstick for judging managerial efficiency. Profit is a primary objective of a business in view of the heavy investment which is necessary for the success of most enterprise. Profit in the accounting sense tends to become a long term objective which measures not only the success of product but also the development of market of it (Kulkarni, 1985: 175).

According to the economist perception, some economist says that profit is a rent of ability. Some says profit as reward for risk bearing of business. It is also said that profit is return to uncertainty bearing and it is also reward for innovation. Innovations are those new products or process which increases

national income more than they increases national cost (Reeki & Jonathon, 1988: 198).

2.1.2 Concept of Cost

Cost may be defined as the sacrifice or giving up of resources fir a particular purpose. Monetary units that must be paid for goods and services frequently measures cost. Costs are initially recorded in elementary form. Then these costs are grouped in different ways to help managers make decisions such as evaluating subordinates and sub units for the organizations, expanding or deleting equipment. To aid decisions managers want to know the cost of something they want to do or acquire. This something is called a cost objective or cost object, which may be define as any activity for which a separate measurement of cost is desired (Horngren, 1991: 238).

The term cost is frequently used that reflects monetary measures of the resources sacrificed or forgone to achieve a specific objective, such as acquiring a good or services. However, the term must be defined more precisely before the cost can be determined. You will find that the word cost is really used without a preceding adjective to specify the type of cost being considered (Drury, 2000: 139).

Payment of money or money worth to get something is very common and pervasive. This payment is called expenses or expenditure of cost. The term cost may be defined as money or money value gives up acquiring goods of services. The sacrifice may be in terms of cash expended, property transfer, and service perform or obliged to pay in future. Generally, on the basis of behavior cost are classified into the following types.

a. Variable Cost

Variable cost is that cost which is directly affected by changes in the activity level. The per unit variable cost always remain constant. If the activity level is

decreased, the variable cost also decreases. If the activity level or production level increase, then the variable cost also increase. Change in variable cost affects CM ratio, BEP and net income. When variable cost increase, net income, cm ratio and margin of safety will be decreased and it helps to increase BEP.

b. Fixed Cost

Fixed cost remains constant in total amount despite the changes in the level of activities. That is the fixed cost remains unchanged in total as the activity levels vary. When other factors remain unchanged, the change in fixed cost effects to BEP and net income. Increase in the fixed cost, increase the volume of BEP and decrease the net income or vice versa. Fixed cost is also called capacity cost.

c. Mixed Cost

Expenditures that cannot be categorized as purely fixed or variables are termed as mixed cost or semi variable cost. Mixed cost contains both variable and fixed cost elements. Repair and maintenance, supervision, telephone cost, electricity charge are some examples of mixed costs. It should be separated into the variable and fixed cost elements for profit planning, cost control and decision making.

d. Jumping Cost

Some cost remains fixed over a wide range of activity, but some jump to a different amount for activity level within that range. Such costs are called jumping costs or step fixed cost or moving fixed cost or ladder fixed costs.

2.1.3 Profit Planning

Profit planning is the primary function of management in any organization. A company always wants to earn maximum profit through the optimum utilization of available resources. Profit planning measures the success of any

organization. Various budgets are major elements of profit planning. It is a key which helps to predict the future, minimizes risks, estimates output from the scarce resources and helps for various managerial decision making processes.
A profit plan is estimation and determination of revenues and expenses that evaluates how much income will be generated in order to meet the financial requirements. It presents a plan for spending income for profit generation. It represents an overall plan of operations for definite period of time and formulates the planning decision of the management.

Profit planning is, therefore a fundamental part of the overall management functions and is a vital part of the total budgeting process. The management determines the profits goals and prepares budgets that will lead them to the realization of these goals. Profit planning can be done only when the management has the information about the cost of the products both fixed and variables and the selling price at which it will be in a position to sell the products of the company (Maheshwari, 2000: 139).

Profit planning is planning for future operation in such a way as to maximize the profit or to maintain a specified level of profit. A comprehensive profit planning is also known as broad budgeting schedule developed in financial statements. Profit planning deals with the development of objectives, specification of short term goals, development of strategic and tactical profit plan. In other word, profit plan is a detail expression of the expected result from the planning decisions. Profit planning is an important approach developed to facilitate for effective performance of management process like as planning, organizing, staffing, controlling etc. Therefore, profit planning carry out the responsibility of forward thinking about the future operation of the organization. It is the precise measurement of operation in terms of quantity (i.e. the matters of profit planning are expressed in numerical value).

Profit planning is one of the comprehensive approaches that have been developed to facilities effective performance of the management process. It is a systematic and formalized approach for performing significant phases of management planning and control functions. In includes following activities.

- Development and application of broad and long term objectives of organization.
- Specification of organization goals.
- Development of long run profit plan in broad terms.
- Development of short run profit plan detailed by assigned responsibilities.
- System of periodical performance report detailed by assigned responsibilities.
- Follow up the procedure.

2.1.4 Cost Volume Profit Analysis

The dictionary meaning of cost is the price paid to acquire, produce, accomplish or maintain any things. Volume is a mass or quantity of something or amount. Profit is the ratio of such pecuniary gain to the amount of capital invested and analysis is resolution, separation or breaking into parts. But actually cost volume profit analysis is the process of examining the relationship among revenues, cost and profits for a relevant range of activity and for a particular time frame. Basically, CVP analysis involves finding the most favorable combination of variable costs, fixed cost, selling price, sales volume and mix of products sold. CVP analysis provides the managers with a powerful tool for identifying those curses of action that will and will not improve profitability.

Cost volume profit analysis is important tool of profit planning because it provides the information about the behaviors of cost in relation to volume, volume of production or sales where the business will break even, sensitivity of

profit due to variation of output, amount of profit for a projected sales volume and quantity of production and sales for a target profit level etc. CVP analysis may therefore be defined as a managerial tool showing the relationship between various ingredients of profit planning, (cost, selling price and volume of activity).

CVP analysis is an important media through which the management can have an insight into effects in profit on account of variations in cost and sales and take appropriate decisions. Cost volume profit analysis is great helpful in managerial decision making. Specially, cost control and profit planning is possible with the help of CVP analysis. Profit planning is the fundamental part of the overall management functions. Profit planning can be done only when the management has the information about the cost of production and selling price of the product.

CVP analysis is an analytical tool for analyzing the relationships among cost, price, profit, sales and production volume. Mainly, there are three elements in CVP analysis. They are cost, sales or production volume and profit. All these terms are interconnected and dependent on one another. For instant, profit per unit of a product depends on its selling price and cost of sales. The selling price to a greater extent will depend in the cost and cost depends on the volume of production. It is highly essential for the management to have the complete knowledge about the interrelationship among the cost, volume and profit. A study concerning this inter connection is undertaken through cost volume profit analysis. CVP analysis is extremely helpful in profit planning and control, management decision and cost control etc.

CVP analysis can be regarded as a sophisticated method or analytical tool used in management. The use of this method helps in determining the different levels of product of sales to avoid losses to earn a desired net profit and so on. Cost volume profit analysis is one of the major and popular tools to analyze the

financial statement of the firms. It is one of the important part of profit planning and control or budgeting.

CVP analysis is one of the most important and powerful tools that manager have at their command in short term planning. It helps managers understand inter relationship between cost volume of profit in an organization by focusing on interaction between the following five elements.

- Price of product
- Volume or level of activity
- Per unit variables costs
- Total fixed costs
- Mix product sold

Generally cost volume profit analysis provides information regarding (Munakarmi, 2003:124).

- Minimum level of sales to avoid losses.
- Sales levels to earn target profit.
- Effects of changes in process, costs and volume on profits
- Effect of changes in sales mix on profit.
- New break even point for changes.
- Impact of expansion plan on CVP relationship.
- Products those are most profitable and least profitable.
- Whether to continue or discontinue the sales of product or operation of plant.
- Whether to close or not the firm for a short term.
- Effect on operating profit with the increase in fixed cost etc.

Cost volume profit analysis provides information for the management decisions about effective budgeting of a company. It is an organized approach for planning, appraisal or coordination and control.

Cost volume profit analysis examines the behavior of total revenues, total cost and operating income as changes occur in the output level, the selling price, the variables cost per unit and or fixed cost of a product (Datar & Foster, 2003: 136).

Cost volume profit analysis is a systematic method of examining the relationship between changes in activity (i.e. output) and changes in total sales revenue, expenses and net profit. CVP analysis is subject to number of underlying assumptions and limitations. Nevertheless it is powerful tool for decision making in certain situations (Drury, 2000:17).

Most of the business fails after a few years sometimes months of starting because they tend to do anything for volume without thinking how its going to affect the bottom line. CVP analysis is a management accounting tool to show the relationship between the elements of profit planning. Profit planning is a function of the selling price of product demand, variable costs, fixed costs, taxes etc (Bajracharya, et al., 2004: 225).

Cost volume profit analysis is the analysis of three variables i.e. cost, volume and profit. Such an analysis explores the relationship existing among cost, revenue, activity levels and the resulting profit. It aims at measuring variations of cost with volume. In the profit planning of a business, cost volume profit relationships is the most significant factor. The CVP analysis is an extension of marginal costing. It makes use of principles of marginal costing. It is an important tool of planning. It is quite useful in making short run decisions

The key motive of business enterprises is to make and maximize profit. Profit does not happen by chance. It is to be managed. Cost volume profit analysis is supplementary tool of planning for profit. CVP is immensely helpful for developing alternative strategies in sales planning and cost estimation. Cost volume profit analysis is an accounting technique showing the relationship

between variables. It is equally applicable for non profit making organization to allocate scare economic resources most effectively among the competing alternative. Allocation of scare resource among the various demanding sectors is the most important part of national planning.

2.1.5 Use of CVP Analysis in Profit Planning

Planning, controlling and decision making are the essential managerial function. Cost volume profit analysis helps the managers to plan for profit to control cost and make decision. As such it helps.

To determine the break even point in rupees and units.

- To determine profit and loss at different level of activity.
- To determine the margin of safety in units and rupees.
- To determine new break even points in rupees and units after change on variable cost or fixed cost or selling price.
- To determine the sales volume in rupees and units at which the profit goal of organization will be achieved.
- To determine the most profitable and least profitable product or project.
- To determine the maximum sales volume in units and rupees to avoid losses.
- To determine the optimum selling price.
- To help management to find the most profitable combination of cost and volume.
- To find out effect on profit after increase in or decrease in selling price, variable cost and fixed cost (Bhattarai, 2060:102).

2.1.6 Applications of CVP Analysis

Cost volume profit analysis is applied specially for break even analysis and profit planning. Business organization is run to earn profit. Profit planning is the fundamental part of the overall management function. Profit planning can be done only when the management has the information about the cost of the

product, both fixed and variable cost and the selling price of the product. CVP analysis can be applied in the following respects.

It helps in fixation of selling price.

- It is helpful in cost control.
- It also assists the management in understanding the behaviors of cost and helps in budgeting control.
- It helps in determining the level of output where all the costs can be met.
- It assists the management in profit planning.
- It also assists the management on performance evaluation for the purpose of management control.
- It helps very much in making managerial decisions such as make or buy a part, drop or continue a department or product line, accept or reject a special order, selection of profitable product mix etc (Dangol, 2004:36).

2.1.7 Approaches to CVP Analysis

There are three approaches to CVP analysis.

- Contribution margin (CM) approach
- Cost and revenue equation approach
- Graphic approach

2.1.7.1 Contribution Margin Approach

In general sense, contribution is to leave something for some purpose. One very important concept in cost volume profit and break even analysis is contribution margin. Cm reflects the revenue remaining after covering all variable costs.The profit potential of a business enterprise is indicated by contribution margin approach. It highlights the relationship among cost, sales and profit.

Contribution margin is the excess of sales revenue over variable costs, so contribution margin means how much is left from sales revenue after covering variable expenses that are contributed toward profit for the period. Contribution

margin is used to first to cover the fixed expenses and then whatever remains, after the fixed expenses are covered goes toward profit. It the contribution margin is not sufficient to cover the fixed expenses then a loss occurs for the period. Basically contribution margin indicates why operating income changes as the volume of sales changes.

The difference between selling price and variable cost (i.e. the marginal cost) is known as ‘contribution margin’ or ‘gross margin’. In other words, fixed cost plus the amount of profit is equivalent to contribution margin. It can be expressed by the following formula.

Contribution Margin = Sales Revenue – Variable Cost
Contribution Margin per Unit = Selling Price perUnit – Variable Cost perUnit
We can derive from it that profit can not result unless contribution exceeds fixed cost. In other words, the point of no profit no loss shall be arrived at where contribution is equal to fixed costs (Maheshwari, 2000:176).

CVP analysis is the amount of contribution margin available from the sales volume of absorbs fixed cost and also contributes towards company□s profit goal after deducting all variable cost of sales. When the contribution margin is high, then also profit is high. Companies that separately identify and measure the fixed and variable components of cost often use a contribution margin approach on their periodic income statement prepared for internal management uses. These income statements provide financial data that are uniquely useful for management planning purpose because of the emphasis on fixed and variable costs. Most of the managerial decisions that relate to operations (either directly or indirectly) are based in some way to knowledge of the fixed and variable components of cost (Welsch, 1995:498).

2.1.7.2 Cost and Revenue Equation Approach

The cost and revenue equation approach is based on the income statement concept. It represents the most convenient and accurate approach to cost-volume-profit analysis. The various formulations in CVP are derived from the revenue and cost function. The relationship between cost, volume and profit can be expressed algebraically as.

Profit = Total Revenue – Total Cost

Total revenue and total cost are affected by sales volume. The addition of quality in above equation will provide useful information for knowing the effect of revenue, costs and volume as operating profits. When the quantity is included in the above equation, its algebraic form will be as follows.

Profit = Total Revenue – Total Variable Cost – Fixed Cost

Or, Profit = (Unit Selling Price x Sales Unit) – (Unit Variable Cost X Sales Units) -FixedCost

Or, P = (S x Q) – (V x Q) – FC

Or, P = Q(S-V) – FC

Where,

P = Profits

Q = Sales Units

S = Unit Selling Price

V = Unit Variable Cost

FC = Fixed Cost

2.1.7.3 Break Even Analysis

Break even analysis is the term used to study of the relationship between cost, volume and profit at various level of activity. It is the most widely known from of the CVP analysis. Break even analysis is a special case of CVP analysis. Break even analysis is used to determine the level of sales of products required to just recover all cost incurred during the period (Hammer, 1994: 592).

Break even analysis is widely used technique to study cost volume profit relationship. The narrow interpretation of the term break even analysis refers to a system of determination of that level of activity where total cost equals total selling price. The broader interpretation refers to that system of analysis, which determines probable profit at any level of activity (Maheshwari, 2000: 175).

Cost volume profit analysis is sometimes referred to simply as a break even analysis. This may be misleading because break even analysis is just one part of the entire CVP concept. It is always taken as an important part of profit planning as it gives the planner many insights into the data with which he or she is working. Profit planning of each firm begins from break even analysis. A popular technique to study cost volume profit relationships is break even analysis. It concerns with the study of revenue and costs in relation to sales at which the firm's revenue and total cost will be exactly equals or the net income will be zero. It is a 'no profit no loss' situation.

a. Break Even Point

The point, which breaks the total cost and the selling price evenly to show the level of output or sales at which there shall be neither profit nor loss, is regarded as break even point. At this point, the income of the business exactly equals its expenditure.

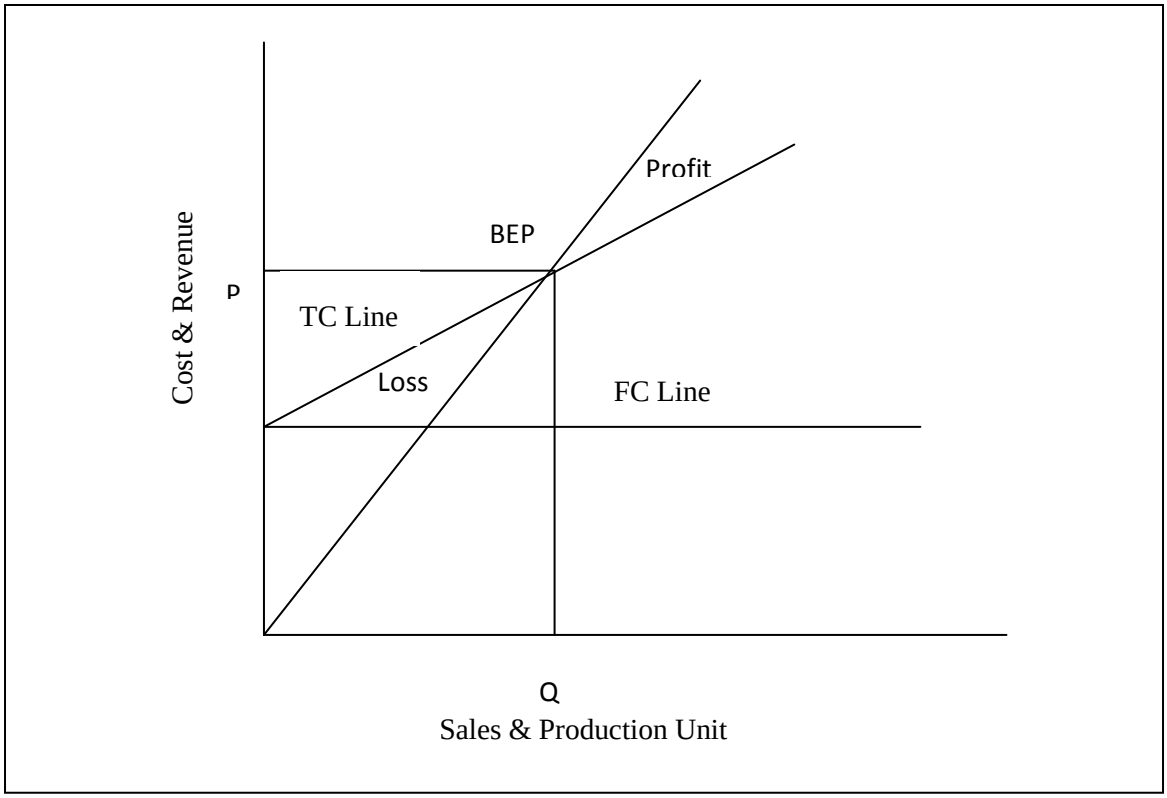
Break even analysis, more precisely the break even point tells what quantity of output sold at which total revenues equal total costs. Break even point is that quantity of output sold at which the operating income is zero. Break even point is the bridge between the loss area and the profit area. Profit begins from the break even point. It is survival point where all firms must at least remain to sustain or continue the business (Bajracharya, et al., 2004:23).

A break even chart is used to graphically depict the relationships among revenues, variable costs, fixed costs and profit or losses. The no profit no loss

point (BEP) is located at the point where the total cost and total revenue line cross. Below this point the firm bears losses and above this point, the firm earns profit.

Figure: 2.1

Graphic Approach of BEP Analysis



In the above chart, sales and production unit is plotted on horizontal or x-axis and vertical or y- axis represents cost and revenue. In graph the fixed costs remain constant with relevant range; the fixed cost curve is parallel to ox axis. Variable cost slope upward from the origin to right but depends on variable cost ratio. The total costs curve parallels the variable cost curve. BEP is located where the total cost line crosses the sales revenue line.

The above graph clearly states that if the company can reach the point BEP, it can generate sufficient revenues to cover all its operating expenses. At this point total revenues equal the total cost. Here, the revenue curve break up

(intersects) the total cost curve, that's why this point is called 'break even point'. At BEP, total sales revenues = total cost (Bajracharya, et al., 2004:230).

If the actual sales are more than the break even sales, the organization will earn profit and if the actual sales are less than the break even sales, the organization will suffer from loss.

b. Applications of Break Even Analysis

Break even concept can be used to formulate different policies in a business enterprise, some of these application are;

- Determination of profit at different level of sales and margin of safety.
- To find the level of output to get the desired profit.
- Effect of price reduction on sales volume and changes in sale mix.
- Effect of fixed cost or variable cost changes on sales volume.
- Selection of most profitable alternative, make or buy decisions and drop and/or add decisions (Maheshwari, 2000:182).

c. Assumption and Limitation of Break Even Analysis

The assumptions and limitation underlying the construction of break even points are as follows. All costs can be classified into fixed and variable cost. There is no other cost than fixed cost and variable cost.

- Selling price per unit remains constant. It is not affected by sales volume.
- Fixed cost will remain constant and variable cost varies proportionately with activity.
- Either the firm produces only one product or the product mix is constant at all level of output.
- General Price level will remain essentially stable in the short run.
- Changes in the opening and closing inventories are not significant.

- That the level of production and sales remain unchanged during the period (Maheshwari, 2000:168).

2.1.7.4 Margin of Safety

Margin of safety is the excess of budgeted or actual sales over the break even sales volume. In other words, it is the difference between the budgeted or actual sales revenue and the break even sales revenue. It is a position above the break even point. It serves as a cushion or spring plate that enables a business firm to absorb the shocks of adverse business conditions. It indicates the extent to which sales may fall before suffering any loss i.e. greater the margin, safer the firm.

The soundness of business is indicated by margin of safety. The difference between total sales and break even sales is identified by margin of safety. The high margin of safety is good for business. It indicates that there can be substantial falling of sale and yet profit can still be made. On the other hand, if the margin of safety is small, it indicates the weak position of business. The small margin of safety shows that even a small reduction in sale or production will adversely affect the profit position of business.

The margin of safety indicates the extent to which sales may fall before the firm suffers a loss. Larger the margin of safety, safer is the firm. A high margin of safety is particularly significant in times of depression when the demand for the firm's product is falling. A low margin of safety may result for a firm which has a low contribution margin ratio. When the both the margin of safety and the cm ratio low, management should think of the possibilities of increasing the selling price, provided it does not adversely affect the sales volume, or reducing variable costs by bringing improvement in the manufacturing process (Maheshwari, 2000: 240).

It gives management a feel for how close projected operations are to be organizations break even point. Managers often consider the size of the company's margin of safety when making decisions about various business opportunities. The larger is the safety margin, the greater is the chances for the company to earn profit (i.e. larger the margin of safety, safer the company) (Munakarmi, 2003: 127).

Margin of Safety (in Units) = Actual Sales (in units) – Break Even Sales (in units)

Margin of Safety (in Rs.) = Actual Sales (in Rs.) – Break Even Sales (in Rs.)

$$\text{Margin of Safety (in Units)} = \frac{Profit}{CMPU}$$

$$\text{Margin of Safety (in Rs.)} = \frac{Profit}{PV\ Ratio}$$

The relationship between margin of safety and actual sales is known as margin of safety ratio, which is determined as follows (Munakarmi, 2003:127)

$$\text{Margin of Safety Ratio} = \frac{Actual\ Sales - BE\ Sales}{Actual\ Sales}$$

If margin of safety is unsatisfactory, it can be improved through the following steps.

- By increasing the sales and production volume.
- By increasing the selling price.
- By decreasing the fixed costs.
- By reducing the variable costs.
- By changing the sales or production mix ratio.

2.1.8 Sensitivity Analysis

Sensitivity analysis is the measurement of elasticity of the change in CVP factors on break even point or given profit. The strategist should focus more on the factor, which is more sensitive or responsive for profit. To measure the sensitivity of CVP factors one can see the impact of certain percentage or amount change in volume price or cost factors on net profit. In other words,

sensitivity analysis is the measurement of responsiveness in outcome with the changes in determinant variables. We know that the goal of a business enterprise is to maximize profit. Profit is the excess of revenue over the total costs.

Profit = Total Sales – Total Cost

Or, Profit = Sales Units x SPPU – Sales Units x VCPU – Fixed Cost – Taxes

So that, Profit = fx{sales volume, variable costs, fixed costs, taxes etc.}

But none of the factors remain unchanged; sometimes the manager can be intentionally change the price and cost factors as a part of strategic decision. But the strategy should focus more on the factor, which in the more sensitive or responsive for profit. So to measure the sensitivity of CVP factors, we can see the impact of certain percentage or amount change in volume, price, or cost factors on net profit (Bajrachaaya, et, al., 2004: 245).

2.1.9 Cost Structure

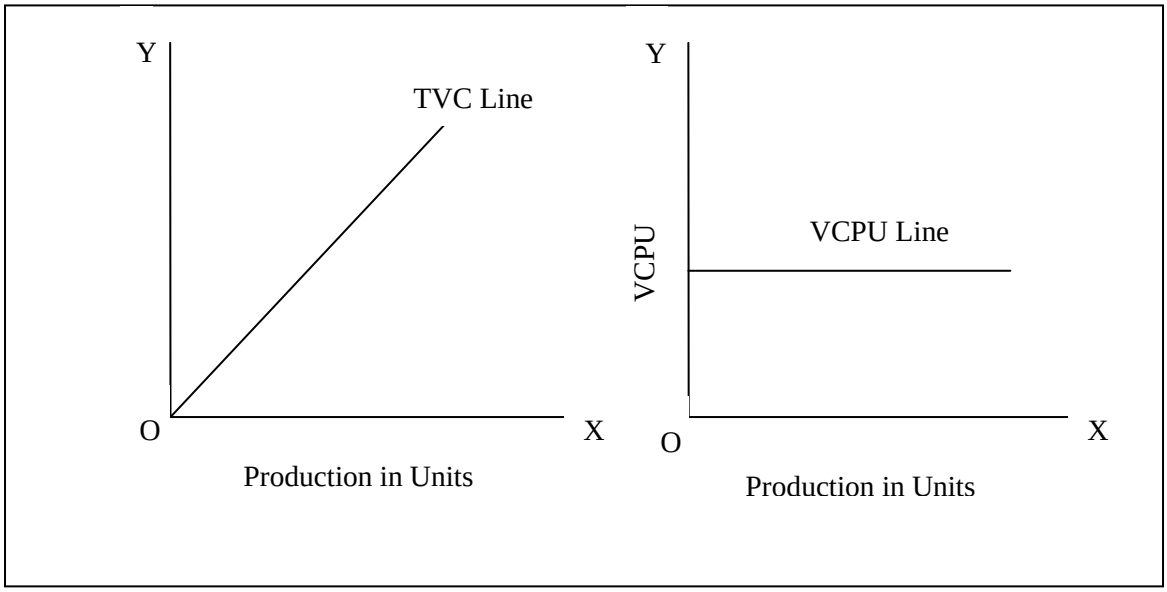
There are three types of costs from their nature of variability.

2.1.9.1 Variable Costs

Variable cost varies in direct proportion to change in activity level. If the level of activity increases by 50% the amount of the variable cost also increases by 50% as well. Variable cost in total increases or decreases if the activity level increase or decrease but remain constant if expressed on a per unit basis. Change of variable cost effects to p/v ratio, BEP and net income. When variable cost increase, net income, p/v ratio and margin of safety will be decreased but it helps to increase BEP. It will more be more understood clearly with the help of the diagram presented below.

Figure: 2.2

Variable Costs

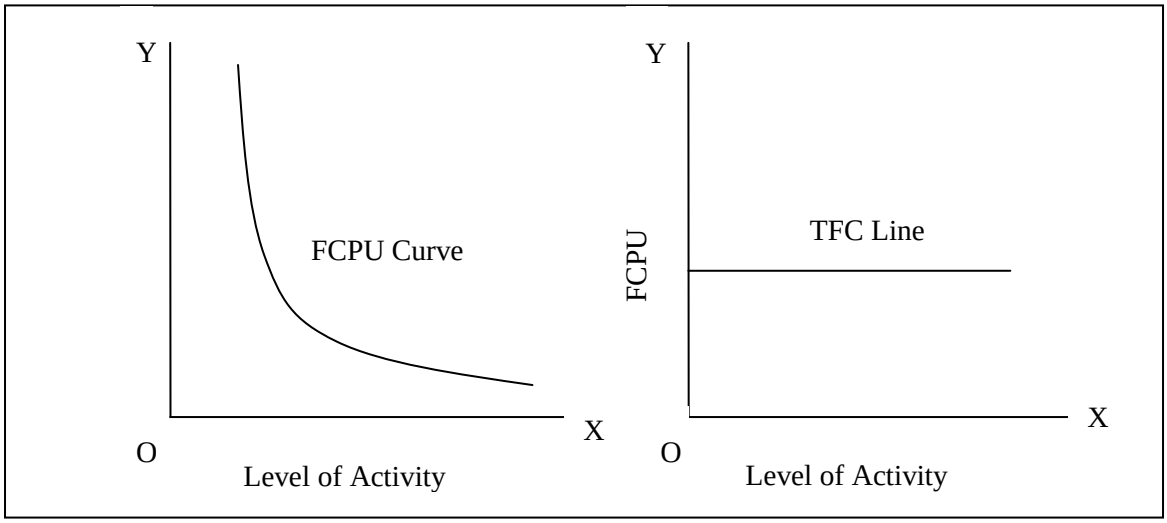


2.1.9.2 Fixed Cost

Fixed costs remain constant in total amount despite the changes in the level of activity. That is, the fixed cost remains unchanged in total as the activity varies. But the fixed cost per unit does changes as activity varies. Fixed cost per unit basis decrease as the level of activity increases and vice versa. When other factors remain unchanged, the change in fixed cost effects to BEP and net income. When the fixed cost is increased, the volume of BEP increases but the net income decreases or vice versa. Fixed cost is also called capacity cost. The concept of fixed cost may be more understood with the help of the following diagram.

Figure: 2.3

Fixed Costs

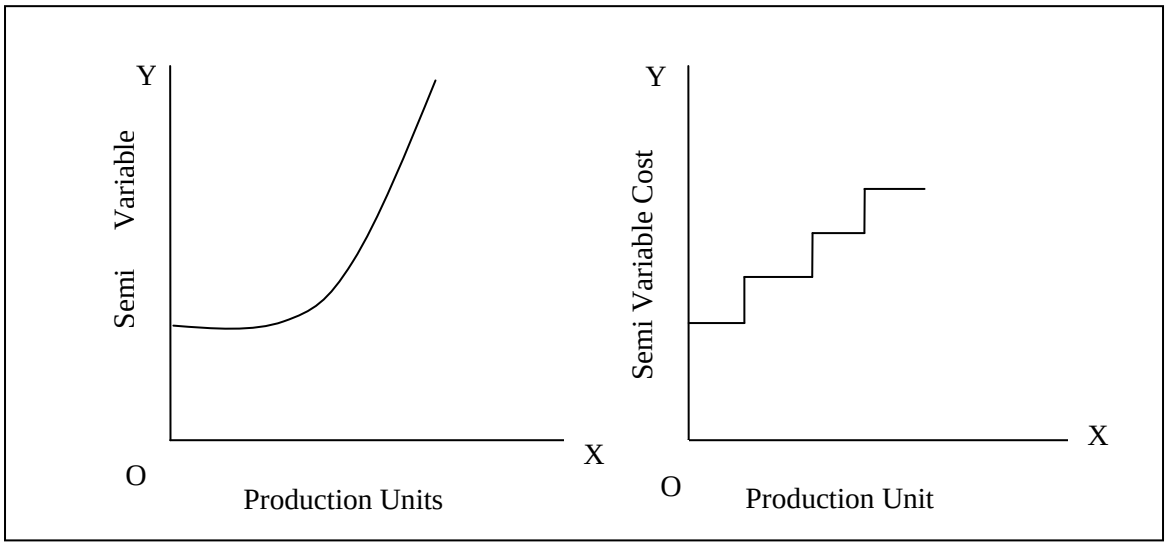


2.1.9.3 Semi Variable Cost

Expenditure that cannot be categorized as purely fixed or variables are termed as mixed cost or semi variable cost. Mixed cost contains both variables and fixed cost elements. Repair and maintenance, supervision, telephone, electricity charge are some examples of mixed cost. It should be separated into the variable and fixed elements for profit planning, cost control and decision making. In mixed cost, variable cost element is added to the fixed cost element as such mixed cost line slopes upward in the graphs.

Figure: 2.4

Semi Variable Cost



2.2 Review of Journal & Articles

Welsch (2000) in his article *'Cost volume and Profit analysis'* includes the related concepts of;

- Contribution Analysis and
- Break Even Analysis

These concepts entered the mainstream of management accounting starting in the 1930's that rest upon the concept of cost variability (i.e. flexible or variable expenses budgets), Contribution analysis involves a series of analytical techniques to determine and evaluate the effects on profits of changes in sales volume, sales prices, fixed expenses and variable expenses. It applies the concept of a contribution margin income statement: Revenues minus variable expenses equals contribution margin, and contribution margin minus fixed expenses equals profit. Break-even analysis focuses on the breakeven point: Fixed expenses divided by the contribution margin equals break even sales volume (the point at which profit is zero because revenue equals total cost). The result of breakeven analysis is usually graphed to show the relationships between revenue (i.e. sales), fixed expenses, and variable expenses, within a relevant range of sales volume.

CVP analysis is concerned with examining the relationship between changes in volume and changes in total revenue and costs in the short term. Drury has compared the economist's and accountant's models of CVP behavior. The major differences are that the total cost and total revenue functions are curvilinear in the economist's model, whereas the accountant's model assumes linear relationships. However, we have noted that the accountant's model was intended to predict CVP behavior only within the relevant range, where a firm is likely to be operating on constant returns to sale. A comparison of the two models suggested that, within the relevant production. The study of the interrelationship of sales costs and net income is usually called cost volume profit analysis. CVP analysis examines the response of profit to change in volume. It relies on linear cost analysis and on linear revenue assumptions. To

gain understanding of CVP analysis, the common examples of a firm which produces only single product will be used. The analysis will be expanded to cover firms with several products by multiple divisions. CVP analysis consists essentially in examining the relationship between changes in volume and changes in profit. The scope of CVP analysis ranges from the determination of the optimal output level of a single product department to the determination of the optimal mix of large multi product firm. C-V-P analysis is concerned with examining the relationship between changes in volume and changes in total revenue and costs in the short term.

Hilton, (2004) In his article *"Developing a Profit Plan for Your Business"* Profit planning is simply the development of your operating plan for the coming period. Your plan is summarized in the form of an income statement that serves as your sales and profit objective and your budget for cost. The profit plan is used in the following ways.

- **Evaluating operations.** Each time you prepare an income statement, actual sales and costs are compared with those you projected in your original profit plan. This permits detection of areas of unsatisfactory performance so that corrective action can be taken.
- **Determining the need for additional resources such as facilities or personnel.** For example, the profit plan may show that a sharp increase in expected sales will overload the company's billing personnel. A decision can then be made to add additional invoicing personnel, to retain an EDP service, or to pursue some other alternative.
- **Planning purchasing requirements.** The volume of expected sales may be more than the business' usual suppliers can handle or expected sales may be sufficient to permit taking advantage of quantity discounts. In either case, advance knowledge of purchasing requirements will permit taking advantage of cost savings and ensure that purchased goods are readily available when needed.

- **Anticipating any additional financing needs.** With planning, the search for needed funds can begin as early as possible. In this way, financial crises are avoided and financing can be arranged on more favorable terms.

Horngren, (2010), in his article *'CVP Analysis as a Managerial Tool'* CVP Analysis examines the behavior of the total revenues, total cost and operating income as changes occur in output level, the selling price, the variable cost per unit and/or fixed cost of product. They mean to say that CVP is related to totality of revenues, cost and operating income in the output level.

Cost-Volume-Profit (CVP) analysis is the process of examining the relationship among revenues, costs and profits for a relevant range of activity and for a particular period. It is one of the most important and powerful tools that managers have at their command in short-term planning. It helps managers to understand the interrelationship between cost, volume and profit in an organization by focusing interaction between the following five elements.

- Price of Product
- Volume of Activity
- Variable Cost
- Fixed Cost
- Sales Mix.

CVP analysis seeks to estimate the profit or loss at different activity level. The aim of cost- volume-profit analysis is to have a fair estimate of

- Total cost
- Total Revenue and
- Profit at various sales volumes.

Pksal J. (2011) In his article *"Marginal Costing: A Management Technique for Profit Planning, Cost Control And Decision Making"* Marginal costing is one of the techniques of costing which guides Management in pricing, decision making and assessment of profitability; it differentiates the total cost of production into variable expenses and fixed expenses. Variable expenses increase or decrease with the proportional increase or decrease in output. Thus as the increase in variable expenses is proportional to the increase in production the per unit cost does not change. In case of fixed expenses they remain constant at certain level of production and they go on changing per unit with every increase in output. Thus, Marginal costing by differentiating between the variable cost and fixed cost explains managerial problems on the basis of the difference between Variable Overheads, Fixed Overheads and Sales.

2.3 Review of Previous Research Works

Yadav (2008) had conducted a research entitled *"Cost Volume and Profit Analysis in Nepal Aushadhi Limited"*. Mr. Yadav had concerned her study to examine the practice of profit planning and control in the manufacturing companies in Nepal.

The specific main objectives of the study were:

- The study of application of CVP analysis is NAL
- To evaluate the sensitivity of profitability
- To analyze the CVP and its impact in profitability of NAL.
- To study the profitability and financial position of NAL.

The major findings of the study were:

- NAL have not applied suitable scientific method of cost classification.
- NAL couldn't put stress on effective utilization of fixed cost so it bearing higher amount of unfavorable capacity variance.
- NAL have not considered the Cost Volume Profit relationship while fixing the price of its product.

Shakya, (2009) had studied on the topic *"A study on Cost Volume and Profit Analysis of Soaltee Hotel Limited"*. MissShakya had concerned her study to examine the practice of profit planning and control in the hotel industry in Nepal.

The specific objectives of the study were:

- To study the nature of direct and indirect cost and component of cost of Hotel.
- To evaluate the profitability, financial position and sensitivity of Soaltee Hotel's activities.

The major findings of the study were:

- The main focus of hotel is to maximizing revenue but hotel hasn't focus of cost planning and controlling.
- Soaltee Hotel Limited is service providing company but it hasn't given emphasis to reduce variable cost ratio.
- Market study on demand and pricing has not be carried out.

Sherpa (2010) had studied on the topic *"A study on Application of Cost-Volume-Profit Analysis as a Managerial Tool in Bhaktapur Craft Paper Limited"*. Mr. Sherpa had concerned his study to examine the practice of profit planning and control in the craft paper industry in Nepal.

The specific objectives of the study were:

- To study the relationship of cost, volume and profit of BCP Ltd.
- To analyze the impact of CVP of the company on productivity.
- To calculate the BEP, MOS and CM etc. and its impact on the profitability.

The major findings of the study were:

- Cost classification is not systematic. There is no practice of segregating semi variable cost.

- Aggregate total incomes were in decreasing trend because company have not improved the total income by improving and using advance marketing skills for more products sales in existing and new market.
- Company has not focused to possibility of production of more varieties of papers.

Adhikari, (2011) conducted a research entitled *"Cost-Volume-Profit Analysis of Nepal Lube Oil Limited"* Mr. Adhikari had concerned his study to examine the practice of CVP practice in the Monopoly industry.

The specific objectives of the study were:

- Whether or not NLO Ltd. is practicing CVP analysis.
- To find out the areas of the business operation, CVP analysis can be applied to improve the competitiveness of the company.
- Which parts i.e. CM, BEP, MOS etc. of CVP analysis are mostly practiced and which are not practiced till now.

The major findings of the study were:

- Different types of profit planning tools, which are used in the academic field, are not found applied by NLO.
- CVP analysis is not applied by NLO as no segregation of cost in to fixed and variable, which is the hardcore of CVP analysis.
- Company has no clear-cut boundaries to separate cost into fixed and variable. The classification of cost is not scientific and systematic. So, NLO has not been able to use CVP analysis and make the realistic and smart budget.

Bhushal, (2012), had conducted a research entitled *"Use of Cost Volume Profit Analysis to plan the profit in Nepalese Manufacturing Companies (A case study of Bottlers Nepal Ltd.)"*.The main objective of his study is to examine the case of CVP analysis to plan the profit in bottlers Nepal Limited.

The other specific objectives of this study were:

- To study the present application of CVP analysis in Bottlers Nepal Limited.
- To study the profitability and financial position of Bottlers Nepal Limited.
- To analyze the CVP and its impact in profitability of Bottlers Nepal Limited.

The major findings of the study were:

- The company has not maintained the broad and long-range objectives and periodic report and objectives are limited to the high ranking official only.
- Sales and promotion target are not achieving because there is not an effective forecasting system.
- There is no any effective plan for effective plan for cast reduction and control. And lack of effective cost control programmed.
- The profit trend of the company is not satisfactory.
- The company has no details and systematic expenses plan. The fixed variable and mixed expenses plan is the necessary elements for profit planning and control.
- BNI has not proper practice of segregating the costs into fixed and variable or controllable and non-controllable.

2.4 Research Gap

Most of the past research studies about profit planning or CVP Analysis basically related with any manufacturing company or industries. It is hardly done in the field of banking sector. The research could find very few numbers of studies related to commercial bank i.e. Everest Bank Ltd. Such study pointed out still CVP is not practiced and recommend implementing effectively for profit planning. Some dissertation focused on PPC of commercial banks would be found but in different faculty.

This study shall be a new one in its field as no study has been done so far particularly in Everest Bank Ltd. This study has tried to indicate the role of CVP analysis & its effectiveness for making profit. This study shows the financial position of Everest Bank Ltd. Now a day, various banks are practicing CVP to measure profit and to measure competitiveness and performance in the time of globalization. So, this study have played important role to fulfill the gap between previous studies. It shows how CVP analysis is important tool of PPC to improve the performance of bank.

CHAPTER – III

RESEARCH METHODOLOGY

Research methodology is the way to solve systematically about the research problem. Research methodology is the procedure of planned outline which deals with research design, data collection procedure, nature of data, indentify the population, making confidence of the sampling method and sampling variables, data selecting styles, presentation style of collected information and data and interpreting it. Now, no doubtingly it is obvious that the research methodology is helpful to attain the objectives of the research.

3.1 Research Design

Research design is that outline which configures the collection and analysis style of the data and information. Research design is a plan of structure and strategy of investigation conceived so as to obtain answer to research questions and to control variances (Kothari, 1997: 275). Descriptive research is process of accumulating facts. It does not necessarily seek to explain relationship and test hypothesis make predictions or get at meanings and implications of a study (Wolff and Pant, 2002: 81). Analytical method is used to present information and data. A part from this, there is also qualitative aspect and these aspects are described in word detail wherever it is necessary.

3.2 Natures and Source of Data

For any research work, information is the life blood. Therefore, it is the major task to gather the information and data collection. Mostly secondary data has been used in the study. It has been collected from the following sources.

- Published annual accounting and financial report of EBL.
- Publication of Nepal Rastra Bank, publication of National Planning, Central Bureau of Statistics and related publication.
- Books, booklets, articles, magazines and official records of EBL.

- Previous dissertations, electronic media such as websites.
- Published and Unpublished document related to EBL

3.3 Population and Sample

The population refers to the industries of the same nature and its services and product in general. Thus, 31 commercial banks operating in Nepal constitute the population of the data and the bank under study constitutes the sample for the study. Among them only one banks, i.e. EBL is selected as the sample banks to carry out the study.

3.4 Method of Data Collection

It indicates the sources of data and how they collected. In this study data are collected through published sources. They were collected from the correspondent offices and their respective websites. The annual reports of EBL, NRB publications, the data regarding the profile of EBL and other related documents were collected from internet websites. Unpublished master's thesis, books, research papers, articles, journals have been collected mainly form Centre Library of Tribhuvan university, library of Shanker Dev Campus and NRB Magazines and newspapers were from concerned authorities.

3.5 Data Analysis Tools

Various accounting, financial and statistical tools will be used to complete the research study such as breakeven point, profit volume ratio, margin of safety, ratio analysis, coefficient of correlation and hypothesis for presentation purpose, different types of tables, charts, figures and graphs are used as per necessary.

3.5.1 Financial Ratios Analysis

Financial analysis is the process of identifying the financial strengths and weaknesses of the organization by properly establishing relationships between

the items of the balance sheet and the profit and loss account. Ratio analysis is a powerful tool of financial analysis. A ration is designed as “the indicated quotient of two mathematical expressions” and as “the relationship between two or more things”. In financial analysis, ratio is used as a benchmark for evaluating the financial position and performance of a firm. Several ratios, calculated from the accounting data, can be grouped into various classes according to the financial activity and function to be evaluated.

3.5.1.1 Net Profit Margin

The ratio signifies the effectiveness of expenses management and cost control and gives the direction to the management for service pricing policies. It means how much of total revenue has been declared as net profit after all the charges are over up. The higher ratio means the management has been able to control its operational costs and maintain efficiency.

$$\text{Net Profit Margin} = \frac{Net\ Profit\ After\ Tax}{Total\ Operating\ Income}$$

3.5.1.2 Return on Total Assets (ROTA)

The ratio is a primary indicator of managerial efficiency. It indicates how efficiently the assets were utilized by the bank. The ratio measures how far the management has utilized all the assets of the bank for profit generating activities. Higher ROTA indicates higher efficiency in the utilization of the total assets and vice versa.

$$\text{Return on Total Assets (ROTA)} = \frac{Net\ Profit\ After\ Tax}{Total\ Assets}$$

3.5.1.3 Return on Equity (ROE)

Equity refers to the owner’s claim of a bank. The excess amount of total asset over outsiders liabilities is known as shareholder’s equity. It is also known as net worth. This ratio measure how prudently the management has employed shareholder’s fund keeping the interest of shareholders and maximize their net worth. It is the measurement of the rate of return available to the bank’s

shareholders. The ratio provides the company to deliver a good return on equity. This ratio is calculated by dividing net profit by total equity capital.

$$\text{Return on Equity (ROE)} = \frac{Net\ Profit\ After\ Tax}{Shareholder\ Equity}$$

3.5.1.4 Operating Efficiency Ratio

To maximize profitability and the value of the shareholder's investments in the bank, bank management must maintain efficiency in their operations. This usually means reducing their operating expenses and increasing the productivity of their employees. Since banks are to pay huge amount of the interest costs for their funds, they like to reduce non-interest costs especially, staff costs, wages and overhead costs. Lower the ratio means greater the success of management.

$$\text{Operating Efficiency Ratio} = \frac{Total\ Operating\ Expenses}{Total\ Operating\ Income}$$

3.5.2 Accounting Analysis

3.5.2.1 Contribution Margin

The difference between production amount and variable cost is known as the contribution margin. In other words, fixed cost plus the amount of profit is equivalent to contribution margin. Contribution margin can be expressed by

Contribution margin (CM) = production volume (Sales) – variable cost

3.5.2.2 Profit Volume Ratio

It establishes a relationship between the contribution and production volume. The factors profit and volume are interconnected and dependent with each other. Profit depends upon contribution margin and production. It can be expressed by;

$$\text{Profit volume ratio} = \frac{Contribution\ Margin}{Production\ or\ Sales}$$

3.5.2.3 Break Even Point

The point which breaks the total costs and selling price evenly to show the level of output or production, at which there shall be neither profit nor loss, is regarded as break-even point. Through contribution margin approach, break-even point can be expressed by;

$$\text{Break even point in Rs.} = \frac{Fixed\ Cost}{PV\ Ratio}$$

3.5.2.4 Break Even Ratio

Total sales revenue consists two parts: Break even sales and Margin of Safety. The proportion of Break even sales is BE Ratio.

$$\text{Actual Sales} = \text{Break Even Sales} + \text{Margin of Safety}$$

$$\text{BE Ratio} = \frac{BE\ Sales}{Actual\ Sales}$$

3.5.2.5 Margin of Safety (MOS)

It is the difference between the actual sales revenue and the break even sales revenue. It can be expressed by;

$$\text{Margin of Safety} = \text{Actual Production} - \text{Break Even Production}$$

3.5.2.6 Margin of Safety Ratio

The proportion of Margin of Safety sales is MOS Ratio. The contribution margin obtained from Margin of safety is operating profit for company. MOS Ratio shows the part of profit earning sales volume of the company.

$$\text{MOS Ratio} = \frac{MOS\ Sales}{Actual\ Sales}$$

3.5.3 Statistical Analysis

Statistical tools are used to analyze the relationship between two or more variables and to find how these variables are related. In this study, following statistical tools are used.

3.5.3.1 Arithmetic Mean or Average

The mean or average value is a single value within the range of the data that is used to represent all the values in the series. Since an average is somewhere within the range of the data, it is also called a measure of central value. It is calculated by;

$$\text{Mean } (\overline{X}) = \frac{\sum X}{N}$$

Where,

$\overline{X}$ = Arithmetic Mean

$\sum X$ = Sum of values of all items, and,

N = Number of items

3.5.3.2 Standard Deviation

The standard deviation is the measure that is most often used to describe variability in data distributions. It can be thought of as a rough measure of the average amount by which observations deviate on either side of the mean. Denoted by Greek letter's (read as sigma), standard deviation is extremely useful for judging the representatives of the mean. Standard deviation is calculated as;

$$\text{Standard deviation}(\sigma) = \sqrt{\frac{\sum(\mathbf{X}-\bar{\mathbf{x}})^2}{N}}$$

Where,

$\boldsymbol{\sigma}$ = Standard deviation

$\sum(\mathbf{X}-\bar{\mathbf{x}})^2$ = Sum of squares of the deviations measured from arithmetic average.

N = Number of items

3.5.3.3 Coefficient of Correlation

Correlation is a statistical tool design to measure the degree of association between two or more variables. In other word if the changes in one variable affects the changes in other variable, then the variable are said to be co-related when it is used to measure the relationship between two variables, then it is

called simple correlation. The coefficient of correlation measures the degree of relationship between two sets of figures. Among the various methods of finding out coefficient of correlation, Karl Pearson's method is applied in the study. The result of coefficient of correlation is always lying between +1 and -1.The formula for the calculation of coefficient of correlation between X and Y is given below.

$$r = \frac{\sum x_1 x_2}{\sqrt{\sum x_1^2 \sum x_2^2}}$$

Where,

r = Correlation coefficient

$\sum x_1$ = $X_1 - \overline{X}_1$

$\sum x_2$ = $X_2 - \overline{X}_2$

3.5.3.4 Least Square Linear Trend Analysis

Trend analysis has been a very useful and commonly applied statistical tool to forecast the future events in quantitative terms. On the basis of tendencies in the dependent variables in the past periods, the future trend is predicted. This analysis takes the historical data as the basis of forecasting. This method of forecasting the future trend is based on the assumptions that the past tendencies of the variable are repeated in the future or the past events affect the future events significantly The future trend is forecasted by using the following formula.

$$Y = a + bx$$

Where,

Y = the dependent variable

a = the origin i. e. arithmetic mean

b = the slope coefficient i. e. rate of change

X= the independent variable

3.5.3.5 Assessment of the Sample Correlation Coefficient

For this study, t-test for significance of an observed and sample correlation coefficient is used.

Set up Hypothesis

Null hypothesis (H_0); $\rho = 0$ i.e. There is no correlation between the considered variables.

Alternative Hypothesis (H_1); $\rho \neq 0$ i.e. There is significant correlation between the considered variables.

Test statistic under H_0;

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2}$$

Where,

r	=	Sample correlation between two variables
r^2	=	Sample correlation Coefficient
n	=	No of Pair of observations

Level of significance: Level of significance $\propto = 5\%$

Critical Value: Tabulated or critical value of t at $\propto$ % level of significance for (n - 2) degree of freedom obtain from‘t’ tables.

Decision: If calculated ‘t’ is less than or equal to tabulated value of ‘t’ it falls in the accepted region and the null hypothesis is accepted and if calculated ‘t’ is greater than tabulated ‘t’ null hypothesis is rejected.

3.6 Data Analysis Technique

3.6.1 Tabular Presentation

Tabular presentation is used to summarize the raw data in a compact form so as to facilitate behavior overall situation of the capital market. The tabular presentation has provided a basis for further analysis and interpretation of the collected data from primary and secondary sources.

3.6.2 Diagrammatic Representation

The diagrammatic presentation is used in certain portion of the study where the other forms of statistical analysis are unable to present better interpretation. The simple pie chart is used for the purpose of diagrammatic representation in the study in order to project the relationship between the variables under study.

3.6.3 Graphical Presentation

As it is said that the wandering of a line is more powerful in its effect on the mind than a tabulated statement; graphical presentation tool is also utilized for representing statistical facts and information. It is also utilized where the nature of data is such that it represents the trend of occurrence over the period of time. It is also applied to the situation where large mass of data is to be dealt with proper degree of accuracy.

CHAPTER - IV

PRESENTATION AND ANALYSIS OF DATA

This chapter deals with the presentation, analysis and interpretation of relevant data and information of planning system and budgeting procedure in a commercial bank with the specific context of Everest Bank Ltd. To accomplish these objectives, the various functional budgets analyze and related data are presented in a systematic way in tabular forms and graph charts. The main purpose of analyzing the data is to change it from an unprocessed form to an understandable presentation. The analysis of data consists of organizing, tabulating and performing statistical analysis (Wolff & Pant, 2000: 64).

4.1 Analysis of Income of EBL

4.1.1 Income from Interest

As income from interest is the main source of income of bank. It has to be very aware while doing investment. Such income is classified under various heads or source such as loan, overdraft, agency balance, investment etc.

Table: 4.1

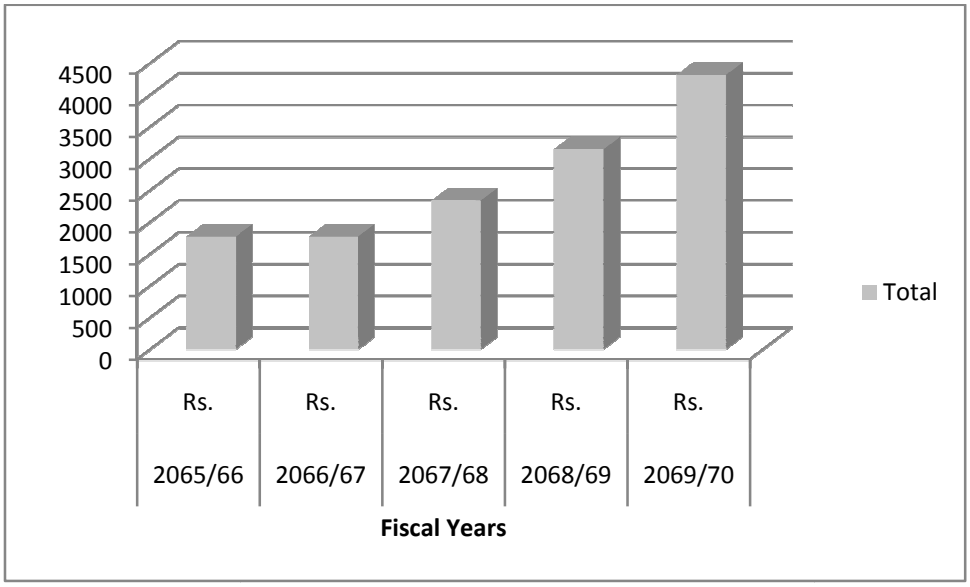
Item-wise Income from Interest (Rs. In millions)

Particular	2065/66		2066/67		2067/68		2068/69		2069/70	
	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.	%
Loan and advanced	1242.9	70	1444.25	73.55	1861.04	79.46	2836.25	90.08	3843.31	89.00
investment	191.56	10.79	201.31	10.25	354.95	15.15	216.04	6.86	381.1	8.83
At agencies	6.63	0.37	10.9	0.56	6.8	0.29	0.48	0.03	1.52	0.04
Money at call and short notice	26.18	1.47	26.29	1.34	7.73	0.33	9.26	0.29	33.98	0.79
other	308.36	17.37	280.93	14.31	111.69	4.77	86.58	2.75	58.22	1.35
Total	**1775.63**	**100**	**1775.63**	**100**	**2342.21**	**100**	**3148.61**	**100**	**4318.13**	**100**

Source: Annual Reports of EBL

Figure: 4.1

Trend of Total Interest Income



The above table and figure show that the total income from interest are Rs.1775.63 in FY 2065/66, Rs.1963.68 in the FY 2066/67, Rs.2342.21 in FY 2067/68, Rs. 3148.61 in FY 2068/69 and Rs. 4318.13 in FY 2069/70. It means the income from interest earn is in increasing trend. It can be defined also in percentage as interest income from loan & overdraft covered out of total interest income is 70.00 %, 73.55 %, 79.46 %, 90.08 % & 89% in FY 2065/66, FY 2066/67, and FY 2067/68 & FY 2068/69 & 2069/70 respectively.

4.1.2 Income from Commission and Discount

It is another source of income generation. All commission's income is booked at the time of transaction. Whatever charge or commission has to take for service rendered, customer has to debit at the time of transaction. Commission is received on LC, remittance, annual fees on cards, etc.

Table: 4.2

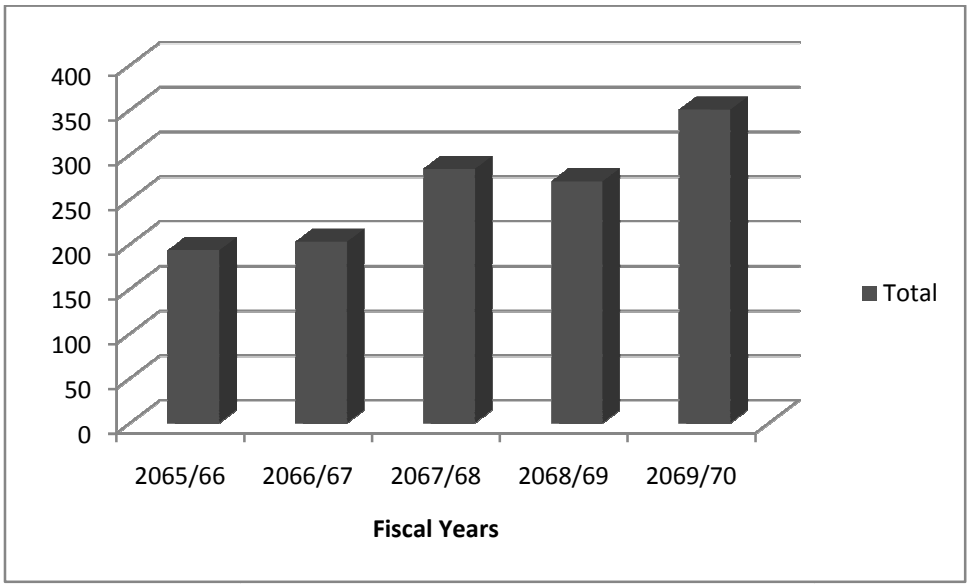
Item-wise Income from Discount and Commission (Rs. In millions)

Particular	2065/66		2066/67		2067/68		2068/69		2069/70	
	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.	%
Bills Purchase & discount	13.42	6.95	13.29	6.55	21.98	7.73	16.5	6.11	15.5	4.42
commission	134.62	69.67	149.69	73.78	209.34	73.63	180.2	66.68	272.57	77.80
other	45.19	23.39	39.91	19.67	52.99	18.64	73.56	27.22	62.28	17.78
Total	**193.23**	**100**	**202.89**	**100**	**284.31**	**100**	**270.26**	**100**	**350.35**	**100**

Source: Annual Reports of EBL

Figure: 4.2

Trend of Total Interest Income



The above table 4.2 and figure 4.2 show the income from commission and discount. According the table the total income from discount and commission are 192.23, 202.89, 284.31, 270.26 and 350.35 million for the FY 2065/66, 2066/67, 2067/68, 2068/69 and 2069/70 respectively. It shows the increasing trend of discount & commission in each fiscal year except the fiscal year 2068/69.

4.1.3 Sundry Income

Bank charge various service charges for providing services. It is also another source of income such service can be renewable charges, vault and safe charge,

stop payments, Remittance etc. These amounts are little but help in bank's income. The following table shows the sundry income of Everest Bank Ltd.

Table: 4.3

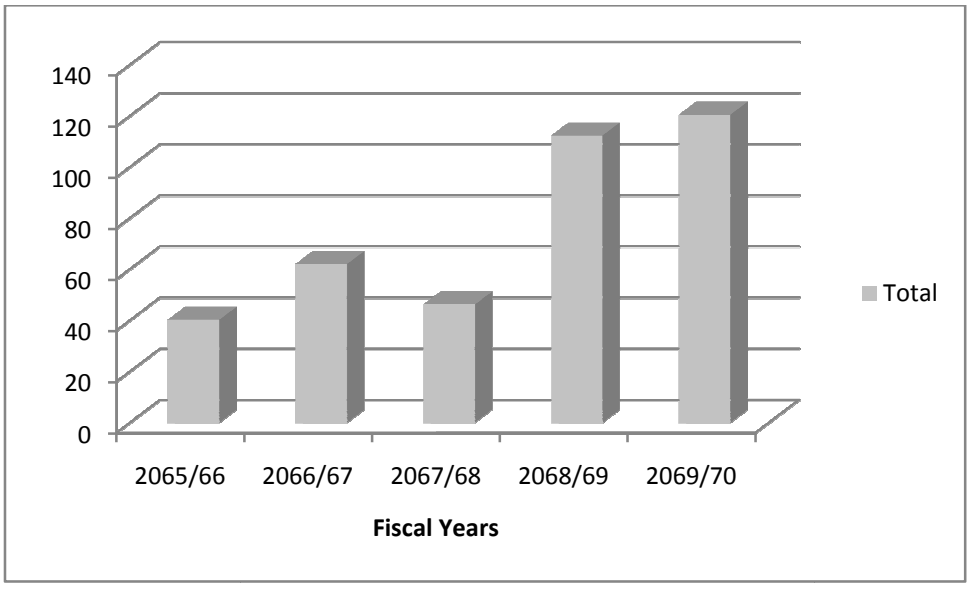
Sundry Income/ Other Operating Income (Rs. In millions)

Particular	2065/66		2066/67		2067/68		2068/69		2069/70	
	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.	%
Safe charge	7.4	18.34	8	12.88	8.6	18.56	8.21	7.31	7.51	6.23
Credit card issue & renewal charge	10.61	26.3	14.68	23.64	19.52	42.12	43.6	38.81	51	42.32
Debit card issue & renewal charge	1.03	2.55	1.07	1.72	1.7	3.67	2.42	2.15	3.406	2.83
Telex/ T.T	10.59	26.25	10.58	17.03	9.77	21.08	11.99	10.67	13.19	10.95
Other	10.71	26.55	27.78	44.73	6.75	14.57	46.12	41.05	45.4	37.68
Total	**40.34**	**99.99**	**62.11**	**100**	**46.34**	**100**	**112.34**	**99.99**	**120.51**	**100**

Source: Annual Reports of EBL

Figure: 4.3

Trend of Sundry Income



The table & figure 4.3 show that the sundry income in FY 2065/66 is Rs. 40.34 million the next year 2066/67 it increase Rs 62.11 and again it decrease in 2067/68 is Rs 46.34 then 2068/69 it is increase Rs. 112.34 and in the FY 2069/70 it is

increase Rs. 120.51. It is both increasing and decrease trend during the five years study period.

It shows that charges earn these five years are in fluctuating trend. As insecurity increase in the country, many people depend on banks lockers for safety of valuable property. Users of credit and debit cards has been increased and students going abroad for further studies increasing hence such income increases each year that effect on profit of the bank.

4.1.4 FOREX Income/Loss

It is regarded as Revaluation Gain. Income realized from the difference between buying and selling rates of foreign currency is accounted under trading gain. This is one of the source of income generation. As per NRB approximately 25% of such revaluation gain is transferred to exchange fluctuation fund through P/L appropriation account.

Table: 4.4

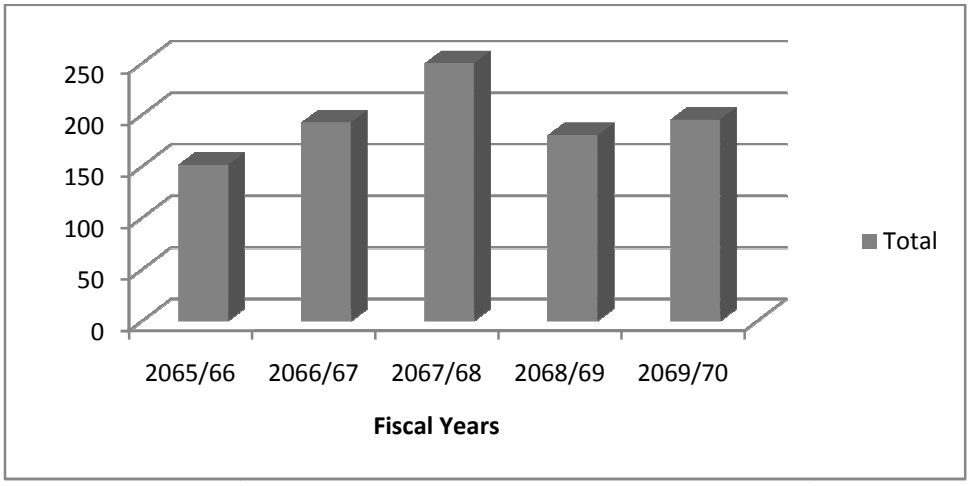
FOREX Income/Exchange Fluctuation Gain/Loss (Rs. In millions)

Particular	2065/66		2066/67		2067/68		2068/69		2069/70	
	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.	%
Change in exchange rate	-4.86	-3.2	5.21	2.71	8.95	3.58	-10.05	-5.57	26.73	13.67
Foreign exchange Transactions	156.5	103.2	187.39	97.29	241.03	96.42	190.32	105.5	168.79	86.33
Total	**151.64**	**100**	**192.6**	**100**	**249.98**	**100**	**180.27**	**100**	**195.52**	**100**

Source: Annual Reports of EBL

Figure: 4.4

Trend of FOREX Income/Exchange Fluctuation Gain/Loss



From above table it shows that forex gain is in fluctuating trend. In the FY 2065/66, it is Rs.151.64 and in the FY 2066/67 it is decrease to Rs192.6.64. In the FY 2067/68 it is increase Rs. 249.98 and in the FY 2068/69 it is decrease to Rs 249.98 and in the FY 2069/70 it is increase to Rs. 195.52.

4.2 Analysis of Expenses of EBL

4.2.1 Interest Expenses

Bank not only makes income on various heads but also have to expense on it. Such expenses can be personnel expenses, office expenses, interest etc. As bank take interest on loan and overdrafts in same way it has to pay interest on deposits. Such interest can be different according to nature of deposits.

Table: 4.5

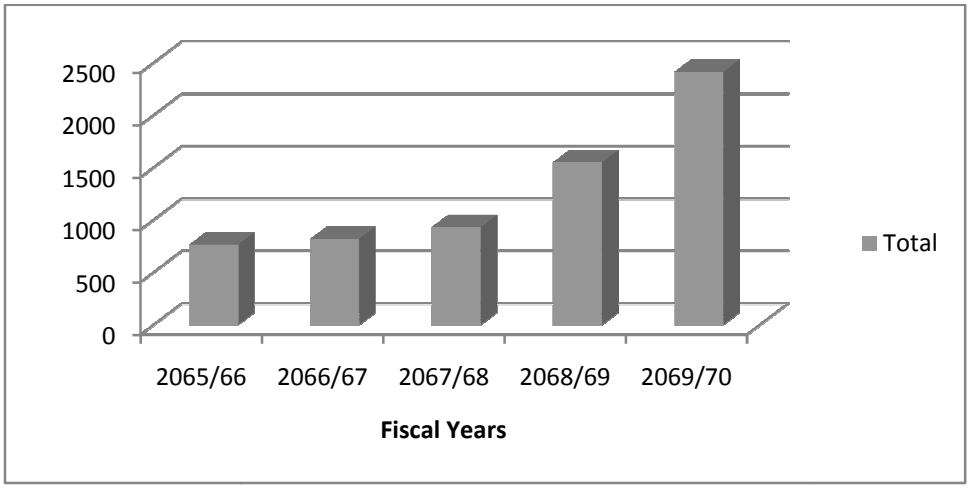
Interest Expenses (Rs. In millions)

Particular	2065/66		2066/67		2067/68		2068/69		2069/70	
	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.	%
Fixed deposit	314.4	41	288.43	35	260.93	28	709.66	46	1285.32	53
Saving deposit	313.38	40	347.8	42	433.81	46	560.24	36	706.97	29
current deposit	104.84	14	137.04	17	144.81	15	205.67	14	355.28	15
At loan (borrowing)	34.79	5	50.47	6	95.23	11	77.96	4	67.23	3
Total	767.41	100	823.74	100	934.78	100	1553.53	100	2414.8	100

Source: Annual Reports of EBL

Figure: 4.5

Trend of Interest Expenses



According to table 4.5, the total interest expenses are in increasing trend. In the FY 2065/66, it is Rs767.41 in FY 2066/67 Rs 823.74, in FY 2067/68, it is Rs. 934.78, in 2068/69, it is increase Rs1553.53 and in the FY 2069/70, it is Rs. 2424.8 million. Interest expenses play vital role in profit hence it need proper planning to manage profit each year.

4.2.2 Personnel/Employee Expenses

Personnel expenses are that for employees of the office. Without employees work cannot be done. These expenses are regarded as fixed cost such as salary, allowance, uniform, medical and insurance etc.

Table: 4.6

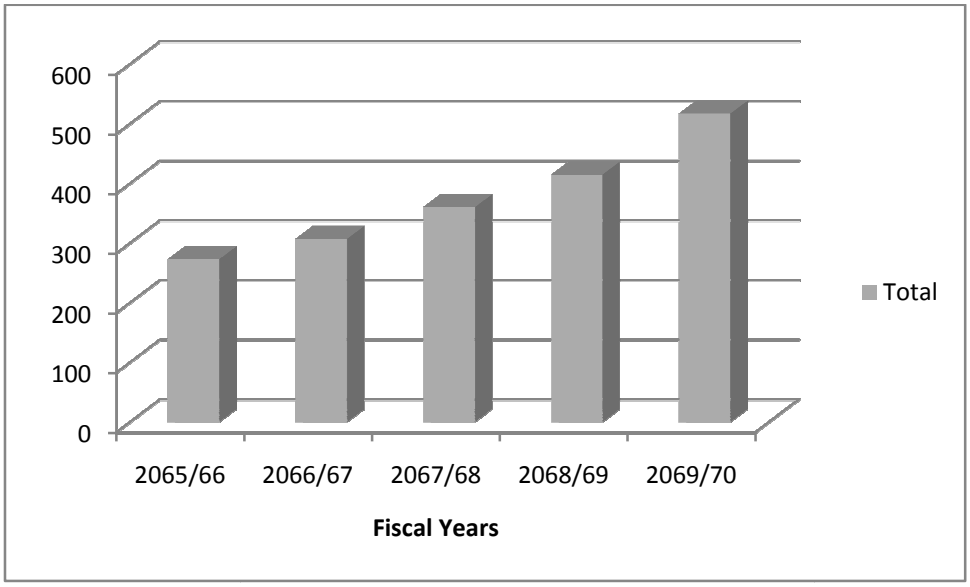
Personnel Expenses (Rs. In millions)

Particular	2065/66		2066/67		2067/68		2068/69		2069/70	
	Rs.	%	Rs.	%	Rs.	%	Rs.	%	Rs.	%
Salary	123.58	45.19	153.7	49.98	167.34	46.36	170.47	41.08	213.04	41.16
Allowance	88.05	32.2	89.19	29	111.14	30.79	151.09	36.41	166.26	32.12
Contribution to PE	10.19	3.73	11.11	3.61	13.6	3.77	15.16	3.65	18.11	3.50
Training	6.34	2.32	4.58	1.49	5.54	1.53	3.18	0.77	3.18	0.61
Uniform	2.72	0.99	2.42	0.79	3.63	1.01	5.4	1.3	4.93	0.95
Insurance	5.63	2.06	6.78	2.2	8.45	2.34	11.99	2.89	24.96	4.82
Gratitude	32.14	11.75	34.21	11.12	46.34	12.84	30.93	7.45	58.94	11.39
Other	4.82	1.76	5.55	1.8	4.94	1.37	26.77	6.45	28.14	5.44
Total	**273.47**	**100**	**307.54**	**100**	**360.98**	**100**	**414.99**	**100**	**517.56**	**100**

Source: Annual Reports of EBL

Figure: 4.6

Trend of Personnel Expenses



According to the table 4.6 personnel expenses is in increasing trend every year. It shows that the expenses are Rs. 273.47, 307.54, 360.98, 414.99 and 517.56 million in the fiscal year 2065/66, 2066/67, 2067/68, 2068/69 and 2069/70 respectively. It shows how much amount spending on employee salary, allowance, PF, training, etc.

4.2.3 Operating Expenses

Bank purchase various goods & materials for daily operation and providing services to the customers. It is also another source of expenses such expenses can be rent, repair and maintenance, office equipment, stationary, advertisement etc. The following table shows the sundry expenses of Everest Bank Ltd.

Table: 4.7

Operating Expenses (Rs. In millions)

Fiscal Year	Operating Expenses
2065/66	341.56
2066/67	344.42
2067/68	398.32
2068/69	471.10
2069/70	582.21

Source: Annual Reports of EBL

The above table 4.7 shows that the operating expenses are in increasing trend every year. The expenses are Rs. 341.56. 344.82, 398.32, 471.10 and 582.21 for the fiscal year 2065/66, 2066/67, 2067/68, 2068/69 and 2069/70 respectively. It is shows in the following figure.

Figure: 4.7

Trend of Operating Expenses

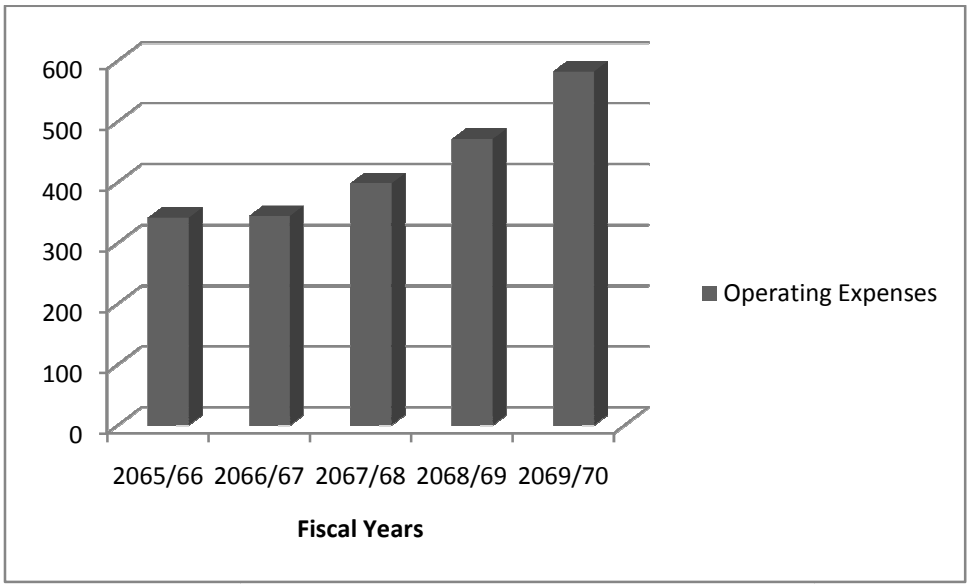


Table: 4.8

Income Statement of EBL (Rs. In millions)

S.N	particular	067/068	2068/69	2067/68	2066/67	063/064
1	Interest income	4326.14	3148.61	2342.20	1963.65	1775.58
2	Commission and discount	350.36	270.26	284.30	202.89	193.22
A	**Total operating income**	**4676.5**	**3418.87**	**2626.50**	**2166.54**	**1968.80**
3	**Less: variable cost**					
	Interest expenses	2414.81	1553.53	934.78	823.74	767.41
	Variable Adm. expenses	209.74	171.10	160.20	105.10	95.15
B	**Total variable cost**	**2624.55**	**1724.63**	**1094.98**	**928.84**	**862.56**
C	**Cm (A-B)**	**2051.95**	**1694.24**	**1531.52**	**1237.70**	**1106.24**
4	**Less: fixed cost**					
	Staff expenses	517.59	414.98	360.98	307.53	290.92
	Fixed Adm. exp	372.46	266.90	238.11	223.91	227.72
D	**Total fixed cost**	**890.05**	**681.88**	**599.09**	**531.44**	**518.64**
E	**Operating profit (C-D)**	**1161.9**	**1013.36**	**932.43**	**706.26**	**587.60**
5	Add: sundry income	129.52	112.35	46.34	62.10	40.33
	Non operating income	15.85	12.38	3.81	9.70	3.49
	FOREX	195.53	180.28	249.98	192.60	151.64
	Exp written off loan	228.14	265.54	149.89	184.11	412.65
F	**Total sundry income**	**569.04**	**570.55**	**450.02**	**448.51**	**608.11**
G	**NIBP(E+F)**	**1730.94**	**1583.91**	**1382.45**	**1154.77**	**1195.71**
6	**Less: provision**					
	Provision for loss	471.73	692.64	199.21	58.43	90.69
	Provision for staff bonus	123.77	111.57	106.66	94.88	71.74
	Provision for income tax	335.36	246.07	313.77	312.97	225.58
H	**Total provision**	**930.86**	**1049.28**	**620.64**	**466.28**	**387.98**
I	**(G-H)**	**794.08**	**534.63**	**762.81**	**688.49**	**807.73**
	Profit/Loss from extra activity	102.29	(25.86)	(9.97)	(52.61)	(315.89)
	Net profit	**895.11**	**508.77**	**752.84**	**635.88**	**491.84**

Source: Annual Reports of EBL

The five fiscal year income statement of the EBL shows that the all variables of income statement like operating income, variable cost, fixed cost, operating profit,

net profit are in increasing trend. The net profit of the bank is Rs. 491.84, 635.88, 752.84, 508.77 and 895.11 million for the fiscal year 2065/66, 2066/67, 2067/68, 2068/69 and 2069/70 respectively. Similarly, the operating profit of the bank are also increasing trend it is Rs. 587.60, 706.26, 932.43, 1013.36 and 1161.9 million for the year 2065/66, 2066/67, 2067/68, 2068/69 and 2069/70 respectively. It is shows in the following figure.

4.3 Contribution Margin Analysis

The contribution margin approach to CVP analysis allows the preparation of Performa statement from the available information. BEP & other required CVP relationships can be explained through a CM statement. It explained that all fixed costs are period costs that should be deducted from the CM of the same period. Only the VC varies proportionately with the level of output or income. CM is regarded as the excess of income price of a unit of output over its VC. It also can be defined as the excess of income amount over VC. It can be obtained by following.

Table: 4.9

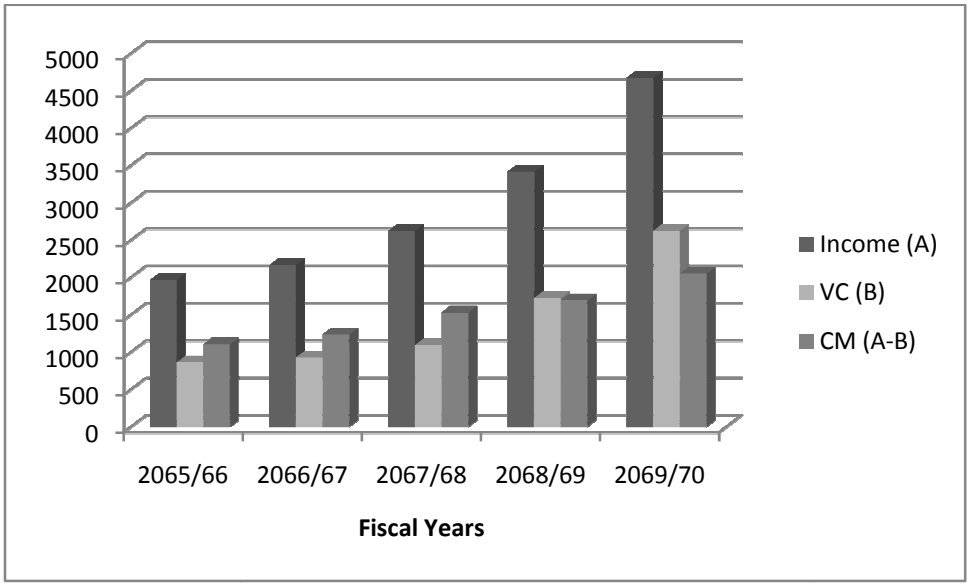
Contribution Margin (Rs. In millions)

Year	Income (A)	VC (B)	CM (A-B)
2065/66	1968.8	862.56	1106.24
2066/67	2166.54	928.84	1237.7
2067/68	2626.5	1094.98	1531.52
2068/69	3418.87	1724.63	1694.24
2069/70	4676.5	2624.55	2051.95

Source: Annual Reports of EBL

Figure: 4.8

Position of Income, VC & CM



The above table and figure show that the Income, VC and CM of five years study period of Everest bank Ltd. All the variables are in increasing trends. It shows that the CM of the FY 2065/66 , 2066/67, 2067/68, 2068/69 & 22069/70 is Rs. 1106.24, 1237.7, 1531.52, 1694.24 and 2051.95 million respectively.

4.4 Profit Volume Ratio (PV Ratio)

P/V Ratio is also known as CM Ratio. The full form is Profit Volume Ratio. It is important tool in studying profitability index. It can be obtained as follows.

Table: 4.10

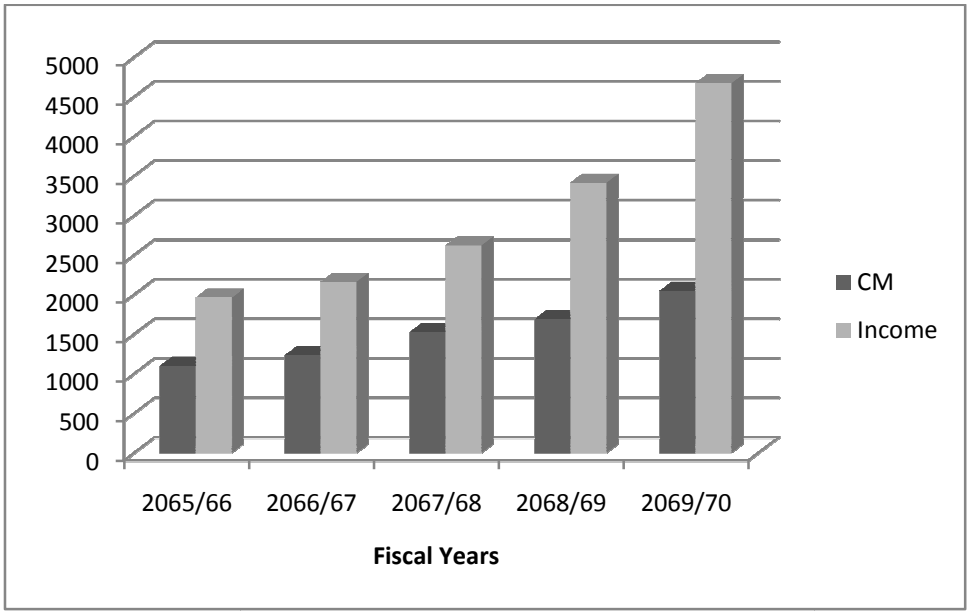
CM Ratio/PV Ratio (Rs. In millions)

Year	CM	Income	P/V Ratio (%)
2065/66	1106.24	1968.8	56.19
2066/67	1237.7	2166.54	57.13
2067/68	1531.52	2626.5	58.31
2068/69	1694.24	3418.87	49.56
2069/70	2051.95	4676.5	43.88

Source: Annual Reports of EBL

Figure: 4.9

Trend of P/V Ratio



The above table shows that the P/V ratio of the Everest Bank Ltd. over the study period which are in increasing trend from 2065/66 to 2067/68 after that it is decreasing in the FY 2068/69 and 2069/70. The highest P/V ratio is 58.31% in FY 2067/68 and lowest is 43.88% in 2069/70.

4.5 Break Even Point (BEP)

BEP is the powerful tool to analyze the profit making process. It is the specific way of presenting & studying the interrelationship between the costs. It is the most popular technique that indicates the level of income in which cost & revenue are in equilibrium position. i.e.

BEP = No Profit No Loss. BEP can be computed as

BEP (U) = TFC/ SPPU- VCPU

BEP (Rs) = TFC/PV Ratio or TFC/1- VC/SR

Table: 4.11

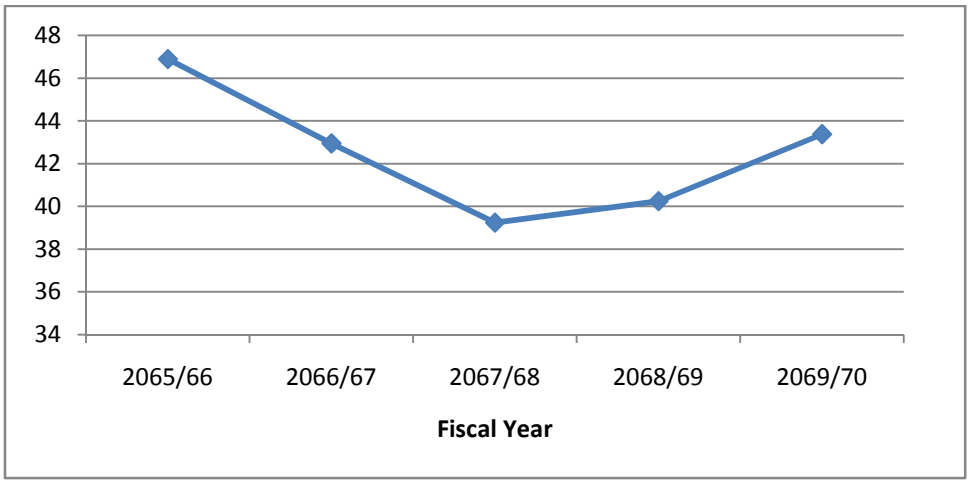
BEP Income (Rs. In millions)

Fiscal Year	TFC	PV Ratio	Income	BEP Income	BE Ratio %
2065/66	518.64	0.5619	1968.8	923.0112	46.88
2066/67	531.44	0.5713	2166.54	930.2293	42.94
2067/68	599.09	0.5813	2626.5	1030.604	39.24
2068/69	681.88	0.4956	3418.87	1375.868	40.24
2069/70	890.05	0.4388	4676.5	2028.373	43.37

Source: Annual Reports of EBL

Figure: 4.11

Ratio of BEP & Total Income



The above table & figure shows that the EBL's income revenue is higher than BEP income in each year over the study period. So, it indicates that CVP position of EBL is very good. It means EBL is earning profit in each fiscal year over the study period.

4.6 Margin of Safety (MOS)

Margin of safety is the excess of budgeted (or actual) income over the break even income volume. It is the difference between the budgeted or actual income revenue and the break- even income revenue. MOS of EBL for the five fiscal year is as follows.

MOS = Actual Income - B.E. Income

Table: 4.12

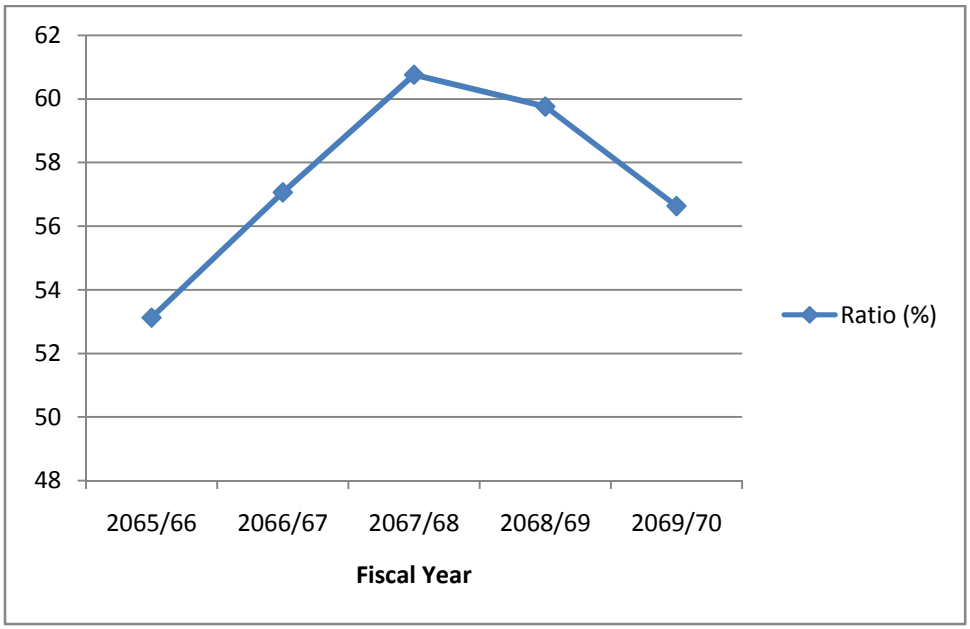
Margin of Safety (Rs. In millions)

Year	Actual Income	BEP Income	MOS	MOS Ratio (%)
2065/66	1968.8	923.0112	1045.789	53.12
2066/67	2166.54	930.2293	1236.311	57.06
2067/68	2626.5	1030.604	1595.896	60.76
2068/69	3418.87	1375.868	2043.002	59.76
2069/70	4676.5	2028.373	2648.127	56.63

Source: Annual Reports of EBL

Figure: 4.10

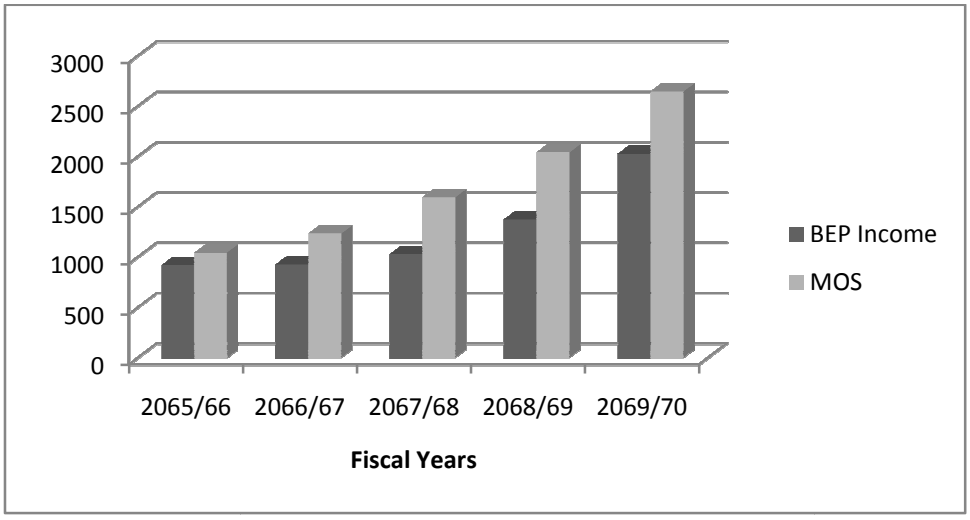
Ratio of Margin of Safety



The above table and figure shows that the margins of safety are in increasing trend over the study period. It is Rs. 1045.78, 1236.31, 1595.89, 2043 and 2648.12 million for the year 2065/66, 2066/67, 2065/ 066, 2068/69 and 2069/70 respectively.

Figure: 4.11

Position of BE Ratio and MOS Ratio



The BE ratios are in decreasing up to the fiscal year 2067/68 after that are increasing. The highest ratio is 43.37% in the FY 2069/70. However, the margins of safety ratios are in increasing up to the fiscal year 2067/68 after that are decreasing. The highest ratio is 60.76% in the FY 2067/68.

4.7 Profitability Analysis of EBL

The "bottom line" in a company's income statement is its net income or reported profits. This figure is the basis for dividends and it is used to determine bonuses. Financial statements report both on a firm's position at a point in time and on its operations over some past period. However, the real value of financial statements lies in the fact that they can be used to help predict the firm's future earnings and dividends. Predicting the future is what financial statement analysis is all about. An analysis of the firm's ratios is generally the first step in a financial analysis. It shows relationship between financial statement accounts. Generally, ratio analysis is helpful in financial forecasting and planning effective control of the business, communicates the strength and financial standing of the firm to the related parties for comparison of a particular firm progress and performance for decision making. There are various ratios helps to measure the profitability effectiveness of banks. They are as follows.

4.7.1 Net Profit Margin Ratio (NPMR)

NPMR shows the ratio between net profit and income of bank. Higher the NPMR indicate the highest overall efficiency of business.

Table: 4.13

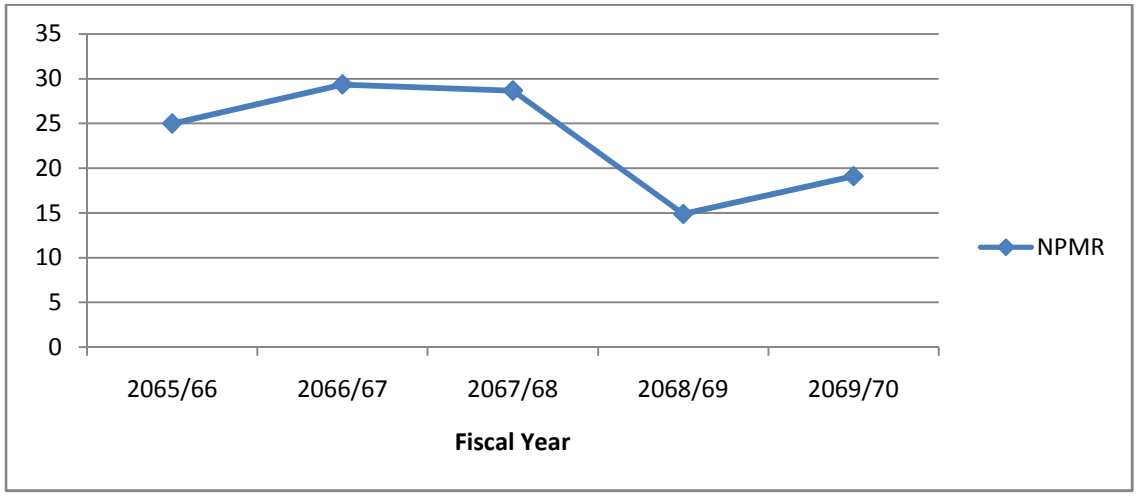
Net Profit Margin Ratio (Rs. In millions)

Year	Income	NP	NPMR
2065/66	1968.8	491.84	24.98
2066/67	2166.54	635.88	29.35
2067/68	2626.5	752.84	28.66
2068/69	3418.87	508.77	14.88
2069/70	4676.5	893.11	19.09
Average			23.39
SD			6.26

Source: Annual Reports of EBL

Figure: 4.12

Net Profit Margin Ratio (Rs. In millions)



From above table 4.13 and figure 4.14 show that the net profit margin of Everest banks limited from the fiscal years 2065/066 to 2069/70. Which net profit is Rs.893.11 million i.e. 19.09% of the total income in the fiscal 2069/70. However, the higher NPMR ratio is 29.35% in the FY 2066/67. The average ratio is 23.39 %

and the standard deviation is 6.26%. This ratio is in fluctuating trend over the study period.

4.7.2 Return on Total Assets Ratio

Return on total assets ratio shows the ratio between NP and TA of the bank. TA includes fixed assets,c ash balance, loan and bill purchase, etc. TA can be obtaining from balance sheet of the company. Higher NP to TA ratio shows the better performance of the bank.

Table: 4.14

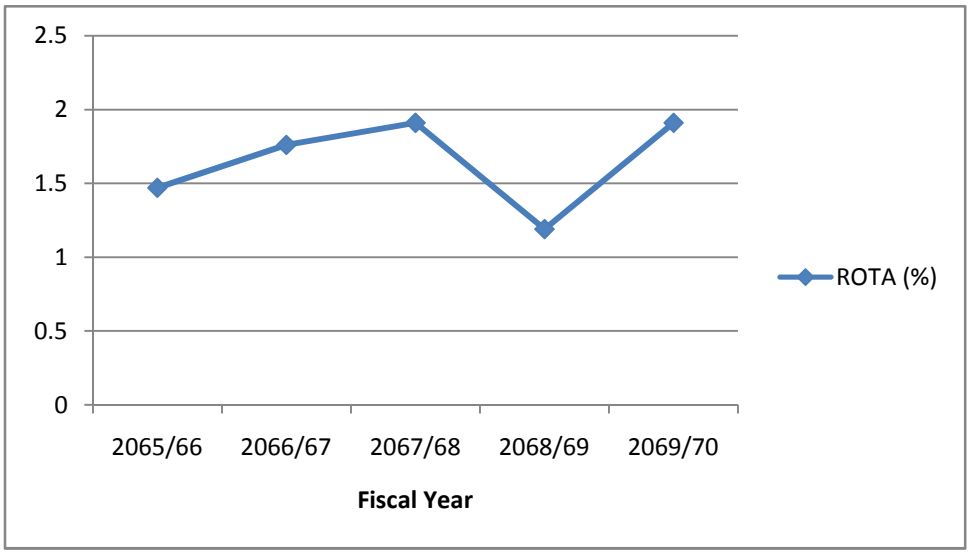
Return on Total Assets Ratio (Rs. In millions)

Year	Income	NP	ROTA (%)
2065/66	33519.1	491.84	1.47
2066/67	36175.5	635.88	1.76
2067/68	39330.1	752.84	1.91
2068/69	42717.1	508.77	1.19
2069/70	46736.2	893.11	1.91
Average			1.65
SD			0.31

Source: Annual Reports of EBL

Figure: 4.13

Trend Analysis of Return on Total Assets Ratio



From above table 4.14 and figure 4.14 show that the highest ROTA ratio is 1.91% in the FY 2067/68 & 22069/70 66/067. The average ratio is 1.65% and the standard deviation is 0.31%. The ratio is increasing trend except the fiscal year 2068/69.

4.7.3 Return on Equity (ROE)

This ratio measure how prudently the management has employed shareholder's fund keeping the interest of shareholders and maximize their net worth. It is the measurement of the rate of return available to the bank's shareholders.

Table: 4.15

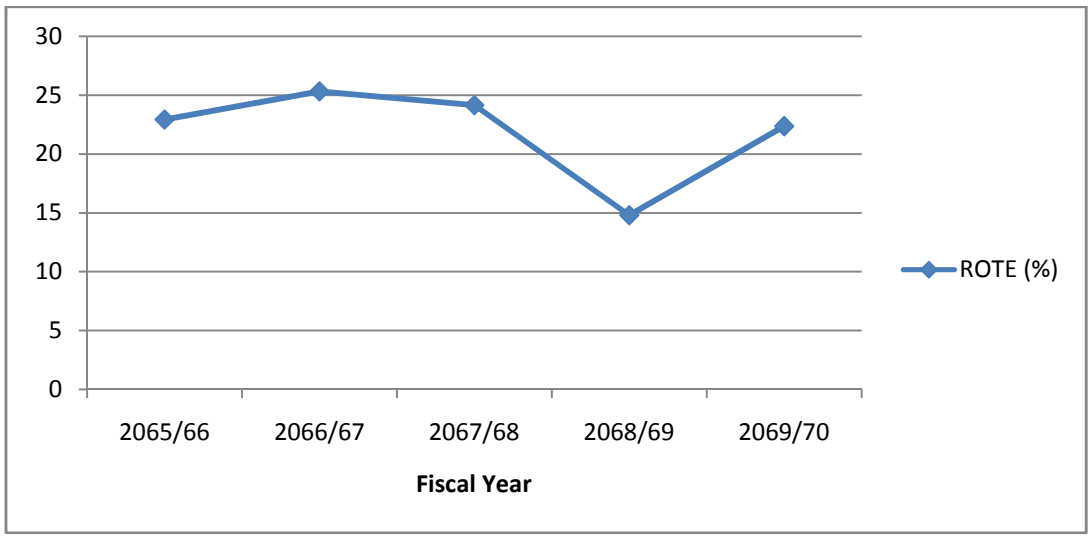
Return on Equity Ratio (Rs. In millions)

Year	Equity	NP	ROTE (%)
2065/66	2146.5	491.84	22.91
2066/67	2512.99	635.88	25.30
2067/68	3119.87	752.84	24.13
2068/69	3439.2	508.77	14.79
2069/70	3995.47	893.11	22.35
Average			21.90
SD			4.13

Source: Annual Reports of EBL

Figure: 4.14

Trend Analysis of Return on Equity Ratio



The above table 4.15 and figure 4.15 show that the return on total equity ratio is in decreasing trend except the fiscal year 2066/67. The average ratio is 21.90% and the standard deviation is 4.13% respectively.

4.7.4 Operating Efficiency Ratio

This ratio shows the relation between operating income and operating expenses. Lower ratio is shows the better performance of the company. Operating income includes interest income and other operating income and operating expenses includes interest expenses, personal expenses and administrative expenses.

Table: 4.16

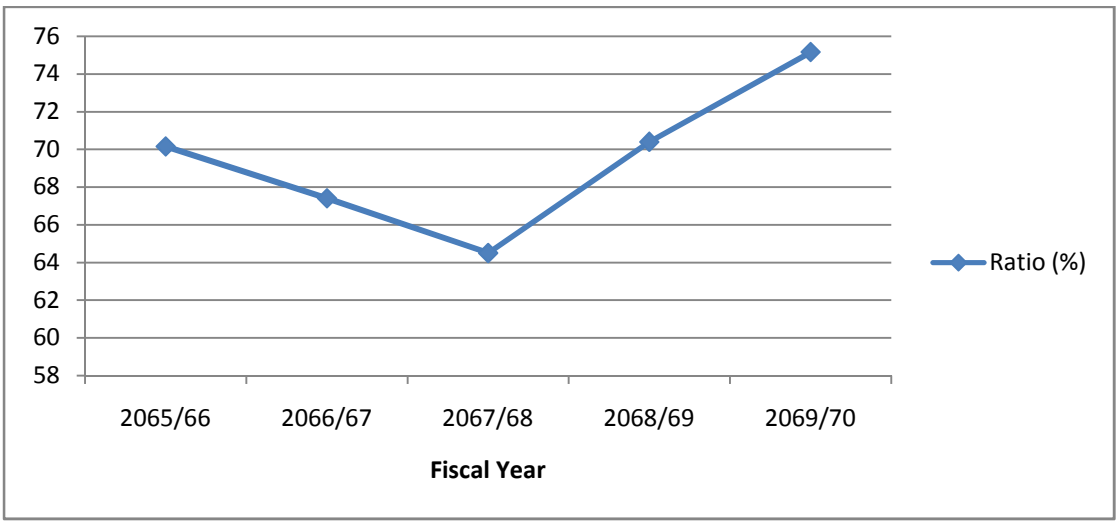
Operating Efficiency Ratio (Rs. In millions)

Year	Operating Income	Operating Expenses	Ratio (%)
2065/66	1968.8	1381.2	70.15
2066/67	2166.54	1460.28	67.40
2067/68	2626.5	1694.07	64.50
2068/69	3418.87	2406.51	70.39
2069/70	4676.5	3514.6	75.15
Average			69.52
SD			3.96

Source: Annual Reports of EBL

Figure: 4.15

Trend Analysis Operating Efficiency Ratio (Rs. In millions)



The above table 4.16 and figure 4.15 show that the operating ratio of the company is decreasing up to the fiscal year 2075/066 after that it is increasing. The highest ratio of the bank is 75.15% in the fiscal year 2069/70 and that of lowest is 64.50% in the fiscal year 2067/68. The average ratio of the bank is 69.52% and the standard deviation is 3.967%.

4.8 Correlation Analysis

To find out the correlation between two continuous variables, Karl Pearson's co-efficient of correlation (r) is used. One of the very convenient and useful way of interpreting the value of coefficient of correlation (r) between the two variables is coefficient of determination, which is denoted by r^2. It explains the total variation in dependent variable is explained by independent variable.

The significant of coefficient of correlation (r) is tested with the help of 't' test. If calculated 't' is less than or equal to tabulated value of 't' it falls in the accepted region and null hypothesis is accepted or 'r' is not significant, if calculated 't' is greater than tabulated 't' null hypothesis is rejected or 'r' is significant of correlation in the population.

4.8.1 Correlation between Total Cost & Profit

Coefficient of correlation measures the degree of relationship between two variables, Total Cost (TC) & Profit (P). TC is independent variable (X_1) and P is dependent variable (X_2). The purpose of computing is to find out the relationship between TC and P is going to same direction or opposite direction.

Table: 4.17

Relationship between Total Cost & Net Profit

Factor	Value
Correlation (r)	0.634
Coefficient of Determination (r^2)	40.2 %
Calculated 't' Value	1.42
Tabulated 't' Value	2.201
Remarks	Insignificant

Source: Appendix I

The above table describes the relationship between total cost and net profit during the period of study. The coefficient of correlation (r) between total cost and net profit is 0.634. This figure shows the positive association between total cost and net profit. It means total cost and net profit both move towards same direction. The coefficient of determination (r^2) is 0.402. It shows that 40.20% of the variation in the dependent variable (i.e. net profit) is explained by the independent variable (i.e. total cost). The calculated value of 't' is less than the tabulated value of 't' (i.e. $1.42 < 2.201$) therefore tru value of 'r' is insignificant. It reveals that there is insignificant relationship between the total cost and net profit.

4.8.2 Correlation between Income & Profit

Coefficient of correlation measures the degree of relationship between two variables, Income & Profit. Income is independent variable (X_1) and Profit is dependent variable (X_2). The purpose of computing is to find out the relationship between Income and Profit is going to same direction or opposite direction.

Table: 4.18

Relationship between Income & Net Profit

Factor	Value
Correlation (r)	0.6435
Coefficient of Determination (r^2)	0.4141
Calculated 't' Value	1.45
Tabulated 't' Value	2.201
Remarks	Insignificant

Source: Appendix II

From the Table-4.18, the values of coefficient of correlation (r) of EBL is 0.6435 which shows that there is positive correlation between income and net profit. The value of coefficient of determination (r^2) is 0.4141 it shows tha 41.41% of the total variation in dependent variable (Net Profit) is explained by independent variable (Income). The calculated 't' value of EBL is less than the tabulated value i.e. 1.45 < 2.201 therefore, it reveals that the relationship between income and net profit is insignificant.

4.9 Trend Analysis

Under this topic, trend analysis of Income and Net Profit of EBL is studied during the period. The objective of this topic is to forecast the Income and Net Profit for the next five years.

The projections are based on the following assumptions.

- The bank will run in the present style.
- Nepal Rastra Bank and the Government of Nepal will not make any amendments in the guidelines for the operation of commercial banks.
- Other all the things also remain constant.

4.9.1 Trend Analysis of Income

Under this topic, an effort has been made to calculate the trend value of income of EBL under five years study period and project the trend for next five years. The following table describes the trend values of income of EBL for five years.

Table: 4.19

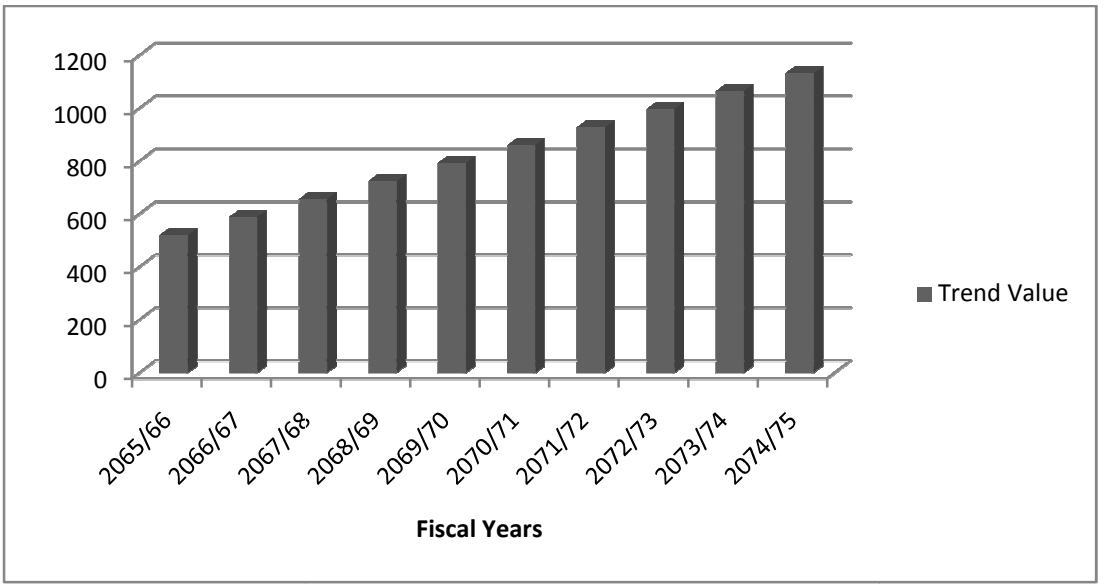
Actual Value and Trend Value of Income

Year	X	Actual Value	Trend Value
2065/66	-2	33519.1	33100.44
2066/67	-1	36175.5	36398.02
2067/68	0	39330.1	39695.6
2068/69	1	42717.1	42993.18
2069/70	2	46736.2	46290.76
2070/71	3	-	49588.34
2071/72	4	-	52885.92
2072/73	5	-	56183.5
2073/74	6	-	59481.08
2074/75	7	-	62778.66
Mean (a)			39695.6
Rate of Change (b)			3297.58
Trend Equation (Y)			39695.6 + 3297.58 X

Source: Appendix III

Figure: 4.16

Trend Line of Income



The above table 4.19 and figure 4.16 shows that the trend line of income of EBL is increasing trend. Since, the calculated value of 'b' is positive, it means that the bank's sale is increasing with time. If other things remaining the same, it shows that the income increasing by Rs. 3297.58 million Every year and it will be Rs. 62778.66 million in the fiscal year 2072/73.

4.9.2 Trend Analysis of Net Profit

Under this topic, an effort has been made to calculate the trend value of net profit of EBL under five years study period and project the trend for next five years. The following table describes the trend values of net profit of EBL for five years.

Table: 4.20

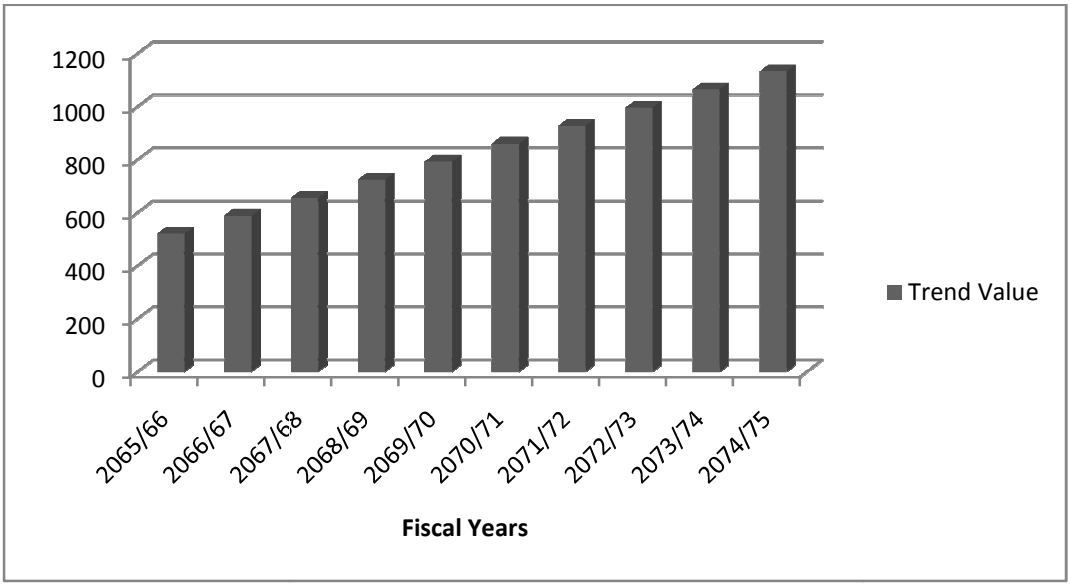
Actual Value and Trend Value of Net Profit

Year	X	Actual Value	Trend Value
2065/66	-2	491.84	521.01
2066/67	-1	635.88	588.95
2067/68	0	752.84	656.89
2068/69	1	508.77	724.83
2069/70	2	893.11	792.77
2070/71	3	-	860.71
2071/72	4	-	928.65
2072/73	5	-	996.59
2073/74	6	-	1064.53
2074/75	7	-	1132.47
Mean (a)			656.89
Rate of Change (b)			67.94
Trend Equation (Y)			656.89 + 67.94X

Source: Appendix IV

Figure: 4.17

Trend Line of Income



The above table 4.20 and figure 4.17 shows that the trend line of net profit of EBL is increasing trend. Since, the calculated value of 'b' is positive, it means that the bank's net profit is increasing with time. If other things remaining the same, it shows that the net profit will be increased by Rs. 67.94 million Every year and it will be Rs. 1132.47 million in the fiscal year 2072/73.

4.10 Major Findings

- The income from interest earn is in increasing trend in the study period. It can be defined also in percentage as interest income from loan & overdraft covered out of total interest income.
- The total income from discount and commission are 192.23, 202.89, 284.31, 270.26 and 350.35 million for the FY 2065/66, 2066/67, 2067/68, 2068/69 and 2069/70 respectively.
- Sundry income shows that charges earn these five years are in fluctuating trend.
- Forex gain is in fluctuating trend. In the FY 2065/66, it is Rs.151.64 and in the FY 2066/67 it is decrease to Rs192.6.64. In the FY 2067/68 it is

increase Rs. 249.98 and in the FY 2068/69 it is decrease to Rs 249.98 and in the FY 2069/70 it is increase to Rs. 195.52.

- The total interest expenses are in increasing trend. Interest expenses play vital role in profit hence it need proper planning to manage profit each year.
- Personnel expense is in increasing trend every year. It shows that the expenses are Rs. 273.47, 307.54, 360.98, 414.99 and 517.56 million in the fiscal year 2065/66 to 2069/70 respectively.
- Operating expenses are in increasing trend every year. The expenses are Rs. 341.56. 344.82, 398.32, 471.10 and 582.21 for the fiscal year 2065/66 to 2069/70 respectively.
- All the variables of income statement like operating income, variable cost, fixed cost, operating profit and net profit are in increasing trend.
- The contribution margin of the FY 2065/66 to 2069/70 is Rs. 1106.24, 1237.7, 1531.52, 1694.24 and 2051.95 million respectively.
- Margin of safety are increasing trend in all over the study period from the fiscal years 2065/66 to 2069/70.
- The net profit margin ratios are in fluctuating trend over the study period. The average ratio is 23.39 % and the standard deviation is 6.26%.
- The average return on total assets ratio is 1.65% and the standard deviation is 0.31%. The ratio is increasing trend except the fiscal year 2068/69.
- Return on equity ratios are in decreasing trend except the fiscal year 2066/67. The average ratio is 21.90% and the standard deviation is 4.13% respectively.
- Operating ratios of the company is decreasing up to the fiscal year 2067/68 after that it is increasing. The average ratio of the bank is 69.52% and the standard deviation is 3.967%.
- Correlation analysis shows that the positive relationship between total cost and net profit. The coefficient of determination shows that 40.20% of the variation in the dependent variable (i.e. net profit) is explained by the independent variable (i.e. total cost). There is insignificant relationship between the total cost and net profit.

- There is positive correlation between income and net profit. The value of coefficient of determination shows that 41.41% of the total variation in dependent variable (Net Profit) is explained by independent variable (Income). The relationship between income and net profit is insignificant.
- The trend line of income of EBL is increasing with time it shows that the income increasing by Rs. 3297.58 million every year.
- The trend line of net profit of EBL is increasing with time it shows that the net profit increasing by Rs. 67.94 million every year.

CHAPTER - V

SUMMARY, CONCLUSIONS & RECOMMENDATIONS

This is the final chapter of this thesis, which has been divided into summary, conclusion and recommendations. In this chapter, we examine the processed data to come into new concluding upon the CVP analysis of Everest Bank Ltd. It also aims to give forth some suggestion that must be helpful for further enhancement of the operation of Everest Bank Limited.

5.1 Summary

Every business organization set up with certain objective of providing services to people and earns profit as income whether that is productive or non- productive. But it is not a joke to fulfill that objective easily in this competitive world of business. As globalization take place it became tougher to sustain in market. So, they not only just try and see the result also do hard work and provide many facilities to secure from loss. Hence they need to think about future course of action in such a way so hat they can accomplish their business objectives. In order to make profit it is necessary to check business capacity, activities, utilization of resources and if there is any part to reduce cast because little reduction in expenses can make profit in income. Hence, profit planning tools helps to assist in analyzing the situation. Therefore, proper planning & controlling is important to survive & lead the company successfully. Organization cannot achieve its goal without proper planning and implementation. People invest huge amount of money in the business to earn profit. But future is uncertain that creates risk. Therefore, it is necessary to make good management to reduce such risk. For this various management tools can be utilized. CVP analysis is one of the tool to analyze the technique for examining the relationship between change in activity, change in total income revenue, expenses & net profit which helps to manage future cost & profit. CVP analysis is the powerful & helpful tool for managerial decision making, cost control & profit planning. Profit is primary a measuring rod of

success of business enterprises. It is a basic test of the performance of any business concern. CVP analysis is one of the tool uses in organization for analyzing profit. CVP analyzing is a way of quick answer a number of important questions about profitability of a bank's service. Profitability is a deviation of the term profit, which explains the ability to make a profit. The main objective of this study is to examine the practice of CVP analysis and its effectiveness in commercial bank. Everest Bank Ltd represent as one of the commercial bank leading in the country. In this study mostly secondary data have been used & informal conversation for other information. The data are tabulated whenever necessary.

Profit planning of the companies and firms has become very important and necessary tools for both deficit and surplus units of the growing financial markets of our country Nepal. So, profit plan is the lifeblood of every organization, which not only keeps it alive but also assures the future and creates the soundness on it. PPC means the development of objectives, which motivates the organization to achieve the objectives effectively and efficiently. It is one of the most important mechanisms for planning and controlling business operations. The effective operation of a business concern resulting into the excess of income over the expenditure fully depends upon as to what extent the management follows proper planning, effective coordination and dynamic control.

The main objective of the present research is to examine the use of cost-volume-profit analysis to plan the profit. So, this study is undertaken to evaluate CVP analysis of the company. As per the nature of the study, the secondary data have been used. This study covers 5 fiscal years data from FY 2063/63 to 22069/70. This study is divided into five chapters, which consist (1). Introduction (2) Conceptual framework & literature Review (3) Research & Methodology (4) Presentation & Analysis of Data and (5) Summary, Conclusion & Recommendation.

5.2 Conclusions

Management can effectively achieve organizational objectives through the efficient use of scarce available resources in a changing environment of business. Future is uncertain which creates risk and only the good management can reduce it. CVP analysis is an analytical technique for studying the relationship between volume, costs and profit which helps manage future costs and profit. Profit planning is management technique and it is a written plan in all aspect of business operation for definite future period. CVP analysis is a technique used to determine the usefulness and effectiveness of profit planning process of the organization. In fact, the entire field of profit of profit planning has become associated with the CVP inter relationship.

On the basis of different analysis the following conclusion has been derived.

- CVP analysis has not practiced yet.
- Costs are not segregated into fixed & variable.
- EBL has been successful in mobilizing their total assets on loans and advances for the purpose of income generation.
- EBL is successful to mobilize its total assets on purchase of shares & debentures of other companies to generate incomes
- All the level of management is not involved in profit planning & decision making.
- MOS is very higher than BEP income. It means well performance of Bank.
- Income from interest is in increasing trend.
- Sundry income is also increasing each year.
- Interest expenses are also increasing each year.
- Net profit increases every year i.e. It is profit making bank.

5.3 Recommendations

Nepal has become the member of WTO. Hence, globalization in market takes place. Competitions become tough for each other various international banks set up their branches that create competitions & need to provide high quality service

to people to sustain in the market. Application of CVP analysis with advanced profit planning and control tools can help to achieve bank goal in strong competition. Based on the major findings of the study following recommendations suggest to improve the management of the bank.

- The first and most important recommendation regarding this study is to practice CVP analysis as profit planning tool by every commercial banks to accelerate profit.
- The bank should prepare direct costing which is based on those cost that are closely and directly connected to the operation volume. This method is more than a cost calculation; it is short term earning calculation method, which makes these cost a useful bank management tools.
- Nepal is second richest country in the world in water recourses but nowadays it is suffering from shortage of electricity because of the poor planning and narrow concept so government should facility to the running every company.
- Cost should be segregated into fixed and variable.
- All level of management team should be involved in profit plannind and decision making.
- Everest bank should be practiced in CVP analysis.
- BEP analysis should be done while planning.
- Everest Bank Ltd should recruit skilled manpower and provide equal opportunity to every people, not based on relationship of staff.
- Everest Bank Ltd should invest in research and development to carried new technology and invented new product.
- Everest Bank Ltd should reduce its service charge.
- Everest Bank Ltd should increases interest rate providing in deposits to lure people.
- This study carries a lot of limitation. So, a more comprehensive study need to be carried from the concerned authorities and the further researches to reach a more authentic conclusion depicting the picture of the banks.

BIBLIOGRAPHY

Books

Agrawal, G. R. (2000). *Project Management in Nepal*. Kathmandu: M. K. Publishers.

Bhandari, D. R. (2004). *Banking and Insurance*. Kathmandu: Aayush Publication

Drury, C (1980). *Management and cost Accounting*. New Delhi: Vikash Publishing House Pvt. Ltd.

Fremgen, J. M. (1964), *Accounting for Managerial Analysis.*New work: Illinos Publications

Gupta, S. P. (1992), *Management Accounting*, Kathmandu: Agra Sahitya Bhandar.

Horn Green, C. T. (1976), *Cost Accounting and Management Emphasis*, New Delhi; Printing Hall of India Pvt. Ltd.

Horngren, C. T., Sundem, G. L. & William, T. O. (2004). *Introduction to Management Accounting*. New Delhi: Prentice Hall of India Pvt. Ltd.

Jain and Narayan (1993), *Cost Accounting,* New Delhi: Tata Mc-Graw Hill Publishing Co. Ltd.

Joshi, P. R. (2003) *Research Methodology*. Kathmandu: Buddha Academic Publishers and Distributors Pvt. Ltd.

Joshi, P. R. (2003), *Research Methodology,* Kathmandu: Buddha Academic Publishers and Distributors Pvt. Ltd.

Khan, M. Y. and Jain P. K. (1993), *Management Accounting,* New Delhi: Mc-Graw Hills Publishing Co. Ltd.

Kothari, C. R. (1989) *Research Methodology & Techniques*. New Delhi: Willey Easterly Ltd.

Kulkarni, P. B. (1985), *Financial Management*, Bombay: Everest Publishing House.

Lynch, R. M. and Williamson, R. W. (1989), *Accounting for Management,* New Delhi; Tata MC-Graw Hill Publishing Co. Ltd.

Maheswari (2001). *Management Accounting and Financial Control*. New Delhi: Sultan Chand & Sons Educational Publishers.

Munakaimi, S. P. (2003), *Management Accounting*, Kathmandu, Nepal; Buddha Academic Publishers and Distributors Pvt. ltd.

Sharma, P. R. (2064). *Research Methodology with SPSS*. Pokhara: Manakamana Books and Stationers.

Tery, G. R. (1964). *Principle of Management.* Addison: Weley Publishing Co. Ltd.

Vanhorne, J. C. (2002). *Financial Management and Policies* (8th edition). New Delhi: Prentice Hall of India Pvt. Ltd.

Welsch, A. W. (1998). *Profit Planning and Control* (5th edition). London: Business Book Ltd.

Journals & Reports

EBL (22067/68 to 2069/70). *Annual Reports to Share Holders*. Kathmandu.

Hilton R. W. (2004) *"Developing a Profit Plan for Your Business"* The wall Street Journal. Volume IX, P, 45-46

Horngren C. T. (2010), *CVP Analysis as a Managerial Tool.* The wall Street Journal. Volume IX, P, 45-46

Nepal Rastra Bank (2011). *Banking and Financial Statistics*. Kathmandu.

Pksal, J. (2011). *Marginal Costing: A Management Technique for Profi Planning, Cost Control and Decision Making"* http//www. pksal.com/blog/?p=275

Welsch Glenn A. (2000). *Cost volume and Profit analysis. The journal of managerial accounting.* Vol. 7, No. 5.

Previous Research Works

Adhikari, B. J. (2011). *Cost-Volume-Profit Analysis of Nepal Lube Oil Limited.* Kathmandu: An Unpublished Master Degree Thesis submitted to Shanker Dev Campus. Faculty of Management. T. U.

Bhushal (2012). *Use of Cost Volume Profit Analysis to plan the profit in Nepalese Manufacturing Companies (A case study of Bottlers Nepal Ltd.).* Kathmandu: An Unpublished Master Degree Thesis submitted to Shanker Dev Campus. Faculty of Management. T. U.

Gautam, Y. (2008). *A Study on Comprehensive planning practice of Everest Bank Ltd.* Kathmandu: An Unpublished Master Degree Thesis submitted to Shanker Dev Campus. Faculty of Management. T. U.

Shakya, D. (2009). *A study on Cost Volume and Profit Analysis of Soaltee Hotel Limited.* Kathmandu: An Unpublished Master Degree Thesis submitted to Shanker Dev Campus. Faculty of Management. T. U.

Sherpa (2010). *A study on Application of Cost-Volume-Profit Analysis as a Managerial Tool in Bhaktapur Craft Paper Limited.* Kathmandu: An Unpublished Master Degree Thesis submitted to Shanker Dev Campus. Faculty of Management. T. U.

Yadav, K. (2008). *Cost Volume and Profit Analysis in Nepal Aushadhi Limited.* Kathmandu: An Unpublished Master Degree Thesis submitted to Shanker Dev Campus. Faculty of Management. T. U.

Websites

www.EBL.com.np

www.nrb.org.np

www. pksal.com

Appendix – I

Calculation for Mean Value, & Correlation between Total Cost & Net Profit of EBL

Year	TC (X_1)	NP (X_2)	$x_1=X_1-\bar{x}_1$	$x_2=X_2-\bar{x}_2$	$x_1 . x_2$	x_1^2	x_2^2
2065/66	1381.2	491.84	-710.13	-165.05	117205.87	504287.46	27240.84
2066/67	1460.28	635.88	-631.05	-21.01	13257.14	398226.63	441.34
2067/68	1694.07	752.84	-397.26	95.95	-38118.08	157817.10	9206.79
2068/69	2406.51	508.77	315.18	-148.12	-46683.54	99337.17	21938.94
2069/70	3514.6	895.11	1423.27	238.22	339053.75	2025691.80	56749.72
$N_1 = 5$ $N_2 = 5$	**$\sum X_1$ =10456.66**	**$\sum X_2$ =3284.44**			**$\sum x_1.x_2$ = 384715.14**	**$\sum x_1^2$= 3185360.15**	**$\sum x_2^2$= 115577.63**

For Total Cost,

$$\text{Mean } (\bar{X}) = \frac{\sum X_1}{N_1} = \frac{10456.66}{5} = 2091.33$$

For Net Profit,

$$\text{Mean } (\bar{X}) = \frac{\sum X_2}{N_2} = \frac{3284.44}{5} = 656.89$$

Correlation between Total Cost & Net Profit,

$$(r_{12}) = \frac{\sum x_1 x_2}{\sqrt{\sum {x_1}^2 \sum {x_2}^2}}$$

$$= \frac{384715.14}{\sqrt{3185360.15 \times 115577.63}} = 0.634$$

$$r^2 = 0.634^2 = 0.402 \text{ Or, } 40.2\%$$

T-value,

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2}$$

$$= \frac{0.634}{\sqrt{1-0.634^2}} \times \sqrt{5-2} = 1.42$$

Appendix – II

Calculation for Mean Value, & Correlation between Income and Total Revenue & Net Profit of EBL

Year	Income (X_1)	NP (X_2)	$x_1=X_1-\bar{x}_1$	$x_2=X_2-\bar{x}_2$	$x_1 . x_2$	x_1^2	x_2^2
2065/66	33519.1	491.84	-6176.50	-165.05	1019418.97	38149152.25	27240.84
2066/67	36175.5	635.88	-3520.10	-21.01	73950.26	12391104.01	441.34
2067/68	39330.1	752.84	-365.50	95.95	-35070.46	133590.25	9206.79
2068/69	42717.1	508.77	3021.50	-148.12	-447538.54	9129462.25	21938.94
2069/70	46736.2	895.11	7040.60	238.22	1677225.81	49570048.36	56749.72
$N_1 = 5$ $N_2 = 5$	**$\sum X_1$= 198478**	**$\sum X_2$= 3284.44**			**$\sum x_1.x_2$ = 2287986.05**	**$\sum x_1^2$= 109373357.12**	**$\sum x_2^2$= 115577.63**

For Income,

$$\text{Mean } (\bar{X}) = \frac{\sum X_1}{N_1} = \frac{198478}{5} = 39695.6$$

For Net Profit,

$$\text{Mean } (\bar{X}) = \frac{\sum X_2}{N_2} = \frac{3284.44}{5} = 656.89$$

Correlation between Total Cost & Net Profit,

$$(r_{12}) = \frac{\sum x_1 x_2}{\sqrt{\sum {x_1}^2 \sum {x_2}^2}}$$

$$= \frac{2287986.05}{\sqrt{109373357.12 \times 115577.63}} = 0.6435$$

$$r^2 = 0.6435^2 = 0.4141 \text{ Or, } 41.41\%$$

T-value,

$$t = \frac{r}{\sqrt{1-r^2}} \times \sqrt{n-2}$$

$$= \frac{0.6435}{\sqrt{1-0.6435^2}} \times \sqrt{5-2} = 1.45$$

Appendix - III

Trend Analysis of Income or Total Revenue of EBL

The trend line Y = a + bX ---------- (A)

Let's assume that middle year be 3, then X = t – 3

Year	t	Income (Y)	X= t-3	XY	X^2
2065/66	1	33519.1	-2	-67038.2	4
2066/67	2	36175.5	-1	-36175.5	1
2067/68	3	39330.1	0	0	0
2068/69	4	42717.1	1	42717.1	1
2069/70	5	46736.2	2	93472.4	4
Total		**$\sum y = 198478$**	**$\sum X = 0$**	**$\sum xy = 32975.8$**	**$\sum x^2 = 10$**

Since, $\sum X = 0$

The two normal equations obtained from the above equations will be

$\sum Y = na$ ---------- (i)

$\sum XY = b\sum X^2$ ---------- (ii)

Since, n = number of years under study = 5, the value of 'a' and 'b' can be calculated by solving equation (i) and (ii).

From equation (i)

$\sum Y = na$

Or, $198478 = 5 \times a$

Or, $a = 39695.6$

Again, from equation (ii)

$\sum XY = b\sum X^2$

Or, $32975.8 = b \times 10$

Or, $b = 3297.58$

Now, putting the value of 'a' and 'b' in the equation of trend line (A),

$Y = a + bX$

Or, $Y = 39695.6 + 3297.58X$

Calculation of Trend Values

Year	X	Actual Income	Income (Y) = 39695.6 + 3297.58 X
22065/66	-2	33519.1	39695.6 + 3297.58 × (-2) = 33100.44
22066/67	-1	36175.5	39695.6 + 3297.58 × (-1) = 36398.02
22067/68	0	39330.1	39695.6 + 3297.58 × 0 = 39695.6
22068/69	1	42717.1	39695.6 + 3297.58 × 1 = 42993.18
22069/70	2	46736.2	39695.6 + 3297.58 × 2 = 46290.76
2068/69	3	-	39695.6 + 3297.58 × 3 = 49588.34
2069/70	4	-	39695.6 + 3297.58 × 4 = 52885.92
2070/71	5	-	39695.6 + 3297.58 × 5 = 56183.5
2071/72	6	-	39695.6 + 3297.58 × 6 = 59481.08
2072/73	7	-	39695.6 + 3297.58 × 7 = 62778.66

Appendix - IV

Trend Analysis of Profit of EBL

The trend line $Y = a + bX$ ---------- (A)

Let's assume that middle year be 3, then $X = t - 3$

Year	t	NP(Y)	X= t-3	XY	X^2
2065/66	1	491.84	-2	-983.68	4
2066/67	2	635.88	-1	-635.88	1
2067/68	3	752.84	0	0	0
2068/69	4	508.77	1	508.77	1
2069/70	5	895.11	2	1790.22	4
Total		**$\sum y = 3284.44$**	**$\sum X = 0$**	**$\sum xy = 679.43$**	**$\sum x^2 = 10$**

Since, $\sum X = 0$

The two normal equations obtained from the above equations will be

$\sum Y = na$ ---------- (i)

$\sum XY = b\sum X^2$ ---------- (ii)

Since, n = number of years under study = 5, the value of 'a' and 'b' can be calculated by solving equation (i) and (ii).

From equation (i)

$\sum Y = na$

Or, $3284.44 = 5 \times a$

Or, $a = 656.89$

Again, from equation (ii)

$$\sum XY = b\sum X^2$$

Or, $679.43 = b \times 10$

Or, $b = 67.94$

Now, putting the value of 'a' and 'b' in the equation of trend line (A),

$$Y = a + bX$$

Or, $Y = 656.89 + 67.94X$

Calculation of Trend Values

Year	X	Actual Profit	Profit (Y) = 656.89 + 67.94 X
22065/66	-2	491.84	656.89 + 67.94 × (-2) = 521.01
22066/67	-1	635.88	656.89 + 67.94 × (-1) = 588.95
22067/68	0	752.84	656.89 + 67.94 × 0 = 656.89
22068/69	1	508.77	656.89 + 67.94 × 1 = 724.83
22069/70	2	893.11	656.89 + 67.94 × 2 = 792.77
2068/69	3	-	656.89 + 67.94 × 3 = 860.71
2069/70	4	-	656.89 + 67.94 × 4 = 928.65
2070/71	5	-	656.89 + 67.94 × 5 = 996.59
2071/72	6	-	656.89 + 67.94 × 6 = 1064.53
2072/73	7	-	656.89 + 67.94 × 7 = 1132.47