Chapter X

Financial Management

This chapter aims at the function of financial management. It emphases important financial areas like finance function, sources of finance, capital structure, cost of capital, and capital budgeting. Further, it also analyses the financial statements of Sangam Dairy in detail using some important ratios.

Financial Management is a related aspect of finance function. In the present business administration financial management is an important branch. Nobody will think over about business activity without finance implication. Financial management includes adoption of general management principles for financial implementation.

The following may be said as the related aspects of financial management – rising of funds, using of these funds profitably, planning of future activities controlling of present implementations and future developments with the help of financial accounting, cost accounting, budgeting and statistics. It acts as guidance where more opportunities for investment are available. Financial management is useful as a tool for allotment of resources to various projects depending on their importance and repayment capacity.

Definition:

James Van Horne defines Financial Management as follows:

“Planning is an inextricable dimension of financial management. The term financial management connotes that funds flows are directed according to some plan”.

Financial management can be said a good guide for allotment of future resources of an organization. Preparing and implementation of some plans can be said as financial management. In other words, collection of funds and their effective utilization for efficient running of and organization is called financial management.
Financial management has influence on all activities of an organization. Hence it can be said as an important one. Its main responsibility is to complete the finance function successfully. It also has relations with other business functions. All business decisions also have financial implications. According to Raymond Chambers, Management of finance function is the financial management.

However, financial management shall not be considered as the profit-extracting device. If finance is properly utilized through plans, they lead to profits. Besides, without profits there won't be financed generation. All these are facts. But this is not complete. The implication of financial management is not only attaining efficiency and getting profits but also maximizing the value of the firm. It facilitates to protect the interests of various classes of people related to the firm. Hence, managing a firm for profit maximization is not the meaning for financial management.

Financial management is applicable to all kinds of organization. According to Raymond Chambers, "the word financial management is applicable to all kinds of firms irrespective of their objectives".

**Aims of financial management:**

The aims of financial management should be useful to the firm’s proprietors, managers, employees and consumers. For this purpose the only way is maximization of firm’s value. The following aspects have place in maximizing firm’s value.

1. **Rise in profits:** if the firm wants to maximize its value, it should increase its profits and revenues. For this purpose increase of sales volume or other activities can be taken up. It is the general feature of any firm to increase profits by proper utilization of all opportunities and plans. Theoretically, firm gets maximum profits if it is under equilibrium. At that stage the average cost
is minimal and the marginal cost and the marginal revenues are equal. Here, we can’t say the sales because there must be suitable market for the increased sales. Further, the above costs must also be controlled.

2. **Reduction in cost:** Capital and equity funds are utilized for production. So all types of steps should be taken to reduce firm’s cost of capital.

3. **Sources of funds:** It should be decided by keeping in view the value of the firm to collect funds through issue of shares or debentures.

4. **Reduce risks:** There won’t be profits without risk. But for this reason if more risk is taken, it may become danger to the existence of the firm. Hence risk should be reduced to minimum level.

5. **Long run value:** It should be the feature of financial management to increase the long-run value of the firm. To earn more profits in short time, some firms may do the activities like releasing of low quality goods, neglecting the interests of consumers and employees. These trials may give good results in the short run. But for increasing the value of the firm in the long run, avoiding such activities are even more essential.

**Scope and functions of financial management:**

The scope of financial management includes three groups. First – relating to finance and cash, second – rising of fund and their administration, third – along with the activities of rising funds, these are part and parcel of total management, Isra Salomon felt that in view of funds utilization third group has wider scope.

It can be said that all activities done by a finance officer are under the purview of financial management. But the activities of these officers change from firm to firm, it become difficult to say the scope of finance.
Financial management plays two main roles, one- participating in funds utilization and controlling productivity, two- identifying the requirements of funds and selecting the sources for those funds.

Liquidity, profitability and management are the functions of financial management.

Classification of functions

- **Liquidity**
  - Forecasting, Cash Flows, Rising funds, Management of internal funds flow

- **Profitability**
  - Cost control, Pricing policy, Forecasting Future profits, Measuring cost of capital

- **Management**
  - Management of long run funds and short run funds

1. **Liquidity**: Liquidity can be ascertained through the three important considerations:
   
   a) **Forecasting of cash flow**: Cash inflows and outflows should be equalized for the purpose of liquidity.

   b) **Rising of funds**: Finance manager should try to identify the requirements and increase of funds.
c) **Managing the flow of internal funds**: Liquidity at higher degree can be maintained by keeping accounts in many banks. Then there will be no need to depend on external loans.

2. **Profitability**: While ascertaining the profitability the following aspects should be taken into consideration:
   
   a) **Cost of Control**: For the purpose of controlling costs, various activities of the firm should be analyzed through proper cost accounting system.
   
   b) **Pricing**: Pricing policy has great importance in deciding sales level in company’s marketing. Pricing policy should be evolved in such a way that the image of the firm should not be affected.
   
   c) **Forecasting of future profits**: Often estimated profits should be ascertained and assessed to strengthen the firm and to ascertain the profit levels.

3. **Measuring the cost of capital**: Each fund source has different cost of capital. As the profit of the firm is directly related to cost of capital, each cost of capital should be measured.

4. **Management**: It is the duty of the financial manager to keep the sources of the assets in maintaining the business. Asset management plays an important role in financial management. Besides, the financial manager should see that the required sources are available for smooth running of the firm without any interruption. A business may fail without financial failures. Financial failures also lead to business failure. Because of this peculiar condition the responsibility of financial management increased. It can be divided into the management of long run funds and short run funds.
Long-run management of funds relates to the development and extensive plans. Short-run management of funds relates to the total business cycle activities. It is also the responsibility of financial management to coordinate different activities in the business. Thus, for the success of any firm or organization financial management is said to be a must.

**Importance of Finance:**

Finance is regarded as the lifeblood of a business enterprise. This is because in the money-oriented economy, finance is one of the basic foundations of all kinds of economic activities. It is the master key, which provides access to all the sources for being employed in manufacturing and merchandising activities. It has rightly been said that business needs money to make more money. However, it is also true that money begets more money, only when it is properly managed. Hence, efficient management of every business enterprise is closely linked with efficient management of its finances.

**Sources of Finance:**

The sources of capital to an individual are often limited. But a firm can raise money from various sources. In the case of an ongoing firm, in addition to the external sources that are available, it has recourse to internally generated resources as well.

The primary task of finance manager would be to ensure that the right quantum of money is mobilized from appropriate sources so that the resulting average cost of the resources is minimal. However, when mobilizing all the resources from the cheapest source the question of risk enters the picture. The cheapest source need not necessarily be the safest source. Therefore, the task involved in mobilizing resources for a corporation involves a judicious mix between costs and risks, thereby
ensuring that the firm has the lowest cost of capital, in line with the level of risk the firm is willing to bear. In recommending the choice of sources, the finance manager will also have to bear in mind aspects such as future maneuverability, the state of the capital market and implications in terms of control over the enterprise. The choice should be so made as to allow for flexibility in mobilizing resources in future. Similarly a management would not like to raise capital from a source, if it is likely to lose control over the enterprise. Further, while from the point of view of costs, a certain source might appear to be cheaper and therefore desirable, conditions prevailing in the stock markets may not allow rising of money in the form in which it is desired.

The exercise often starts with the identification of various sources from which a firm could mobilize resources. Having identified the sources, the costs at which funds could be mobilized from each of these sources are then identified. Third, having identified the sources and the costs, the manager will have to decide the optimal capital structure for the firm are determined how much he will raise from each one of the sources so as to reduce the overall cost of capital to the firm. The following diagram depicts the sources from which a firm can raise long-term resources:
**External Sources:**

From external sources, money can be raised in the form of loans and shares. These can be raised in various forms such as public deposits, long-term loans, deferred credit, debentures, preference shares, and equity shares.

1 **Public Deposits:** Public deposits are raised from the public for periods ranging from six months to 3 years. These deposits are unsecured, i.e., the assets of the company are not hypothecated for issuing these instruments. Most companies raise public deposits directly from their shareholders and employees, and also use the services of brokers and agents for mobilizing such deposits.

2 **Term Loans:** Companies generally obtain term loans from lending institutions. These may either be all India term lending institutions such as IDBI, IFCI, ICICI or any state level finance corporation. However, the IDBI has now become the **apex institution** for term lending in India. While companies are free to go to other all India institutions, state level institutions, and commercial banks, these institutions in
turn, normally come to the IDBI for refinancing their loans. The basic task of term lending institutions is to accelerate the industrial development of the country.

3. Deferred Credit: The third source of obtaining a loan is from the suppliers of plant and equipment. If the machinery supplier is to provide long-term loans, he naturally has to cover the cost of his borrowing or the opportunity cost of earning a return on his own money. Therefore, the machinery supplier will usually provide for the cost towards interest and include this in the price quoted for the plant and equipment. Only where severe competitive conditions prevail, the machinery supplier may be willing to bear this cost himself.

4. Debentures: Another way of raising a loan is to issue a financial instrument called the debenture. A debenture is a loan raised by a company from the capital market against which the assets of the company are mortgaged with the trustees. Normally, debentures are issued under the Indian Trust Act and a trustee or a group of trustees will have to be appointed to protect the interests of the debenture holders. Usually some prominent persons or financial institutions are appointed as trustees for this purpose.

5. Preference Shares: A company can also raise money in the form of preference shares. A preference share is a hybrid financial instrument between a loan and an ordinary share. While it is entitled to a fixed rate of return per year, it can be so issued that it becomes a part of the permanent capital of the company. Preference share will have the preference in the payment of dividend and in the repayment of the share capital on liquidation.

6. Equity Shares: The equity or ordinary shares are issued to the public and they become true owners of the company. In raising capital for expansion, diversification, formation of a new company etc., equity is an important source of capital.
Internal Sources:

The following are the internal sources of funds to an enterprise.

1. Retained earnings: Retained earnings are the residues left behind from earnings per share after the payment of annual dividend. It would be seen that the money belongs to the shareholders and the directors could have declared the entire earnings as dividends to the shareholders. But to promote the growth of the company a certain part of the earnings per share is retained and ploughed back into the business.

2. Depreciation: Depreciation is the decrease in the value of an asset for using it in the business. It is debited to profit and loss account every year and will be transferred to reserve account. This will automatically becomes one of the sources of funds.

3. Investment Deposit: Investment deposit scheme is special allowance given by the government of India for industrial development. Under this scheme, the company making an investment in plant and machinery can deduct such investment from its taxable profit subject to a ceiling of 20 per cent on such profit. Prior to introduction of investment deposit scheme, there was a scheme offered by the government of India known as the investment allowance scheme.

Working Capital:

Generally a company requires both long term and short-term funds to run the organization smoothly. The sources of long-term funds are discussed in the above pages. The short-term fund is also required to the organization for working capital purposes. Here, the meaning, nature, determinants etc., of working capital are discussed.
The working capital is the excess of current assets over current liabilities and provisions. It is often called as ‘circulating capital’. It is frequently used to denote those assets, which are changed with relative speed from one form to another i.e., starting from cash, changing into raw materials, converting into work in progress and finished products, sale of finished products and ending with realization of cash from debtors and bills.

**Concepts of working capital:**

There are two concepts of working capital. They are — gross working capital and net working capital. Gross working capital, simply called as working capital, refers to the firm’s investment in current assets. Current assets are the assets which can be converted into cash within an accounting year and include cash, short-term securities, debtors, bills receivables and stock (inventory). Net working capital refers to the difference between current assets and current liabilities. Current liabilities are those claims of outsiders, which are expected to mature for payment within an accounting year and include creditors, bills payable, and outstanding expenses. Net working capital can be positive or negative. A positive net working capital will arise when current assets exceed current liabilities. A negative net working capital occurs when current liabilities are in excess of current assets.

**Importance:**

The need for working capital to run the day-to-day business activities cannot be over emphasized. It will hardly find a business firm, which does not require any amount of working capital. Indeed, firms differ in their requirements of the working capital.

It is a well-known fact that firms aim at maximizing the wealth of shareholders. In its endeavour to maximize shareholders’ wealth, the firm should earn
sufficient return from its operations. Earning a steady amount of profit requires successful sales activity. The firm has to invest enough funds in current assets for the success of sales activity. Current assets are needed because sales do not convert into cash instantaneously. There is always an operating cycle involved in the conversion of sales into cash.

**Determinants of working capital:**

A company, as a general policy, wants to hold in balance as small a quantity of working capital as possible so long as undue solvency risks are not imposed on it. This is a logical approach indicating that working capital is a means to an end and not an end in itself. Quantitative amounts of working capital can hardly be set for individual firms. The corporate management has to consider the various factors in making decision regarding balances. An appraisal of these will provide guidance to management in estimating prospective needs. These are called determinants of working capital.

1. **Nature of Business:** A company’s working capital requirements are basically related to the kinds of business it conducts. Generally speaking, trading and financial firms require relatively large amounts of working capital, public utilities comparatively small amounts, whereas manufacturing concerns stand between these two extremes, their needs depending upon the character of industry of which they are a part.

2. **Production Policies:** Depending upon the kind of items manufactured, a company is able to offset the effect off-seasonal fluctuations upon working capital by adjusting its production schedules. The choice rests between varying output in order to adjust inventories to seasonal requirements and maintaining a steady rate of production and permitting stocks of inventories to
build up during of-season periods. It will thus be obvious that a level production plan would involve a higher investment in working capital.

3. **Manufacturing process:** If the manufacturing process in an industry entails a longer period because of its complex character, more working capital is required to finance that process. The longer it takes to make an approach and the greater it costs, the larger the inventory tied up in its manufacture and, therefore, higher the amount of working capital.

4. **Turnover of Circulating Capital:** The speed with which the circulating capital completes its round i.e., conversion of cash into inventory of raw material into inventory of finished goods, inventory of finished goods into book debts or accounts receivables, and book debt into cash account, plays an important and decisive role in judging the adequacy of working capital.

5. **Growth and Expansion of business:** As a company grows, it is logical to expect that larger amount of working capital will be required though it is difficult to draw up firm rules for the relationship between the growth in the volume of a company’s business and the growth of its working capital.

6. **Business Cycles Fluctuations:** Requirements of working capital of a company vary with the business variation. At a time when the price level comes up and boom condition prevail, the psychology of the management is to pile up a big stock of raw material and other goods likely to be used in the business operations as there is an expectation to take advantage of lower prices. The expansion of business units caused by inflationary conditions creates demand for more and more capital.

7. **Terms of Purchase and Sales:** A business unit, making purchases on credit basis and selling its finished products on cash basis, will require lower amount
of working capital, on the contrary, a concern having no credit facilities and at the same time forced to grant credit to its customers ma find itself in a tight position.

8. **Dividend Policy:** A desire to maintain an established dividend policy may affect working capital; often changes in working capital bring about an adjustment of dividend policy. The relationship between dividend policy and working capital is well established and very few companies declare a dividend without giving due consideration to its effects on cash and their needs for cash. A shortage of working capital often acts as a powerful reason for reducing or skipping a cash dividend. On the other hand, a strong position may justify continuing dividend payment.

9. **Other Determinants:** The following are the other determinants of working capital.
   
   a) Absence of co-ordination in production and distribution policies in a company results in a high demand for working capital.
   
   b) The absence of specialization in the distribution of products may enhance the need of working capital.
   
   c) If the means of transport and communication in a country like India are not well developed, the industries may face a great demand for working capital in order to maintain big inventory of raw materials and other accessories.
   
   d) The import policy of the government may also effect the requirement of the working capital for the companies as they have to arrange for funds for imposing the goods at specified times.
e) The hazards and contingencies inherent in a particular type of business decide the magnitude of working capital in terms of keeping liquid resources.

**Capital structure:**

Capital structure is sometimes known as financial plan and refers to the composition of long-term sources of funds, such as debentures, long-term debt, preferred stock and ordinary share capital including reserves and surpluses. A company should plan its capital structure to maximize the use of funds and to be able to adapt more easily to the changing conditions.

The financial manager of a company will be concerned more about an optional capital structure of his company. The optimum capital structure is obtained when the market value for the share is maximum or the average cost of the capital is minimum. The value will be maximized or the cost will be minimized when the marginal real cost of each source of finance is the same. In practice the determination of an optimum capital structure is a formidable task. There are significant variations among different industries and individual companies. A number of factors influence the capital structure decision of a company. These factors are highly complex in nature and do not always follow the accepted theory; since capital markets are not perfect the decision has to be taken under imperfect knowledge and risk.

**Features of an appropriate capital structure:**

The board of directors or the financial manager of a company should develop an appropriate capital structure, which is most advantageous to the company. This can be done only when all those factors, which are relevant to the company capital structure decision, are properly analyzed and balanced. The capital structure should be planned generally keeping in view the interests of the ordinary shareholders. The
interest of the other groups such as employees, customers, creditors, society and the
government should also be given the reasonable consideration while developing an
appropriate capital structure.

The financially manager should always aim at maximizing the value of the share in the capital market. While developing appropriate capital structure, he must try to maximize the use of favorable leverage subject to other requirements such as solvency, flexibility, profitability, etc. A sound capital structure should have the following features:

1. The capital structure must be the most profitable one within the constraints; maximum use of leverage at a minimum cost should be made.

2. The excessive debt threatens the solvency of the firm, so the use of debt does not add any significant risk; otherwise it should be avoided.

3. It should be flexible to meet the changing conditions. It should be possible for a company to adopt its capital structure with a minimum cost and delay if warranted by a change in situation. It should also be possible for the company to provide funds whenever needed to finance its profitable activities.

4. It should be conservative in the sense that the debt capacity of the firm should not be exceeded. The debt capacity of a company depends of its ability to generate future cash flows. It should have enough cash to pay creditors, fixed charges and principal sum.

5. The capital structure should involve minimum risk of loss of control of the company.

The above mentioned are the general features of an appropriate capital structure of an organization. The particular characteristics of a company may reflect
some additional specific features. Further the emphasis given to each of these features will differ from company to company. Further more, the relative importance of these requirements may change with shifting conditions. The company capital structure should, therefore, be easily adoptable.

**Determinants of capital structure:**

The management of the company will fix a target capital structure and the subsequent financing decisions will be made with a view to achieve the target capital structure. The company needs funds to finance its activities continuously. Every time the funds have to be procured, the financial manager weighs the pros and cons of various sources finance and selects the most advantageous source keeping in view the target capital structure. Thus the capital structure decision is a continuous one and has to be taken whenever a firm needs additional finances. Generally, the following factors should be considered whenever a capital structure decision has to be taken.

**Leverage or trading on equity:**

The use of fixed cost source of finance in the capital structure to finance the assets of the company is known as financial leverage or trading on equity. Generally, the leverage impact is felt more in case of debt due to the tax deduct ability of interest on debt capital.

Because of its effect on the earnings per share, financial leverage is one of the important considerations in planning the capital structure for a company. The companies with high level of earnings before interest and taxes (EBIT) can make profitable use of the high degree of leverage to increase the return on the share holder’s equity are common method of examining the impact of leverage. The EBIT-EPS analysis is an important tool in the hands of the financial manager to get an insight into the firm’s capital structure management. The greater the EBIT, the lower
the probability of downward fluctuation earnings per share, the more beneficial to employ debt in the capital structure. A firm should employ debt to the extent the financial risk perceived by the shareholders does not exceed the benefit of increased EPS.

One very important factor on which the degree of leverage depends is the growth and stability of sales. The firms with stable sales can employ a high degree of leverage, as they will not face any difficulty in meeting their fixed commitments. The higher the consistency in sale proceeds the greater the amount of debt financing needed.

Cost of capital:

The cost of a source of finance is the minimum return expected by its suppliers. The expected return depends on the degree of risk assumed by investors. Shareholders than debt holders assume a higher degree of risk. Thus debt capital is a cheaper source of finance. Thus, in order to minimize the overall cost of capital a company should employ a large amount of debt. However, it should be realized that a company couldn’t continuously minimize its overall cost of capital by employing debt, because beyond certain point the debt becomes more expensive due to the increased risk of excessive debt to creditors as well as shareholders. Thus up to a certain point the overall cost of capital decreases with increases of debt, and beyond that point the cost of capital would start increasing and therefore, it would not be advantageous to employ debt further. So there is a combination of debt and equity, which minimizes the firms’ average, cost of capital and maximize the marketed value of the share.
Cash flow ability of the company:

One of the features of a sound capital structure is conservation. Conservation related to the fixed charges reached by the use of debt or preference capital in the capital structure and the firm’s ability to generate cash to meet these fixed charges. A firm is conservatively financed if it is able to serve its fixed charges under any reasonably predictable adverse conditions.

The fixed charges of a company include payment of interest, and principal whenever a company thinks of rising additional debt; it should analyses its expected future cash flow to meet the fixed charges. If a company is not able to generate enough cash to meet its fixed obligation, it may have to face its financial insolvency. The company expecting larger and more stable cash inflows in the future can employ a large amount of debt in its capital structure. It is not the average cash inflow but the yearly cash inflows, which are important to determine the debt capacity of a company.

Control:

In designing the capital structure, sometimes the existing management of a company is governed by its desire to continue control over the company. The existing management may not only want to be elected to the Board of Directors, but also to manage the company without any outside interference.

If a company issues new shares, there is a risk of loss of control. It is not a very important consideration in case of a widely held company. The best way to ensure control and to have the confidence of the shareholders is to manage company most efficiently. Distributing shares can reduce the risk of loss of control widely and in small lots. But the consideration of maintaining control may be significant in case of a closely held company. To avoid the risk of loss of control, the company may slow their rate of growth or issue of preference shares or raise debt capital. If the
closely held companies can ensure a wide distribution of shares, they need not worry about the loss of control.

On the contrary, the debt holders do not have voting right. Therefore, it is suggested that a company should use debt, to avoid the loss of control. However, when a company uses large amount of debt, the debt holders on company to protect their interests put lot of restrictions. A very excessive amount of debt can also cause bankruptcy, which means a complete loss of control.

**Flexibility:**

Flexibility is one of the most serious considerations in setting-up the capital structure. Flexibility means the firm’s ability to adopt its capital structure to meet the changing conditions. The company should be able to raise funds, without any delay or cost, whenever needed, to finance the profitable investment. The company should be in a position to redeem its preference capital or debt whenever warranted by the future conditions. The financial plan of the company should be flexible enough to change the composition of capital structures. The company should compare the benefits and costs of attaining the desired degree of flexibility and balance them properly.

**Size of the company:**

The size of a company greatly influences the availability of funds from different sources. A small company finds great difficulties in rising long-term loans. The highly restrictive covenants in loan agreements in case of small companies make their capital structure very rigid and the management cannot run business freely without any interference. Small companies, therefore, depend on share capital and retained earnings for their long-term funds. But the cost of issuing shares is greater in case of small companies than larger ones.
A large company has a greater degree of flexibility in designing its capital structure. It can obtain loans at easy terms and sell shares to the public. Because of the large size of issue, its cost of distributing any kind of security is less for a small company. A company, then, makes the best use of its size in planning the capital structure.

**Marketability:**

Marketability means the readiness of investors to purchase a particular type of security in a given period of time. Marketability does not influence the initial capital structure, but it is an important consideration to decide about an appropriate timing of security issues. Owing to the changing market sentiments, the company has to decide whether to raise funds by common shares issue or with debt issue. The alternative methods of financing should therefore be evaluated in the light of general market conditions and internal factors of the company.

There are many other factors of less significance that can influence the capital structure decision of a firm. They are floatation cost, asset structure, taxes, etc.

**Purposes of the Capital Budgeting:**

While the general purpose of a capital budge is to plan and control the capital expenditure, it achieves a variety of additional purposes. Capital budgets forecast requirements for funds and there by permit management to plan in advance to secure additional necessary funds. Division can be noticed either to go ahead or to discard plans for a given project depending upon the management decision and availability of funds. A capital budget is an effective way of planning the demand for funds and selecting and assigning priorities to projects, within the frame work of general
company objectives and targets. This is achieved by setting company-wide goals in evaluation tests for projects and establishing minimum criteria for rejection.

Capital budgeting enables management to plan ahead to see in advance what funds it is likely to have available and to plan the most effective use of them. It also shows a company what funds it may need to obtain externally if it is to continue to grow and maintain or expand its share of the market.

**Planning of Capital expenditure:**

In the well-managed firms, capital expenditures are seldom hit or miss judgments. They are usually carefully conceived, based on well-grounded forecasts of prospective economic trends, demand, sales and other influences, protested by criteria which vary from firm to firm, and then subjected to a gauntlet of evaluation and scrutiny ranging from manager to board of directors, before they are finally approved.

Today, many companies attempt long-range forecasts of three to five, or in a few cases even ten, years of capital requirements. There are two approaches to these forecasts. Some begin at the grass roots. A foreman or a divisional manager or the research department has an idea for a better product, a cheaper, more efficient way of doing something a cost-saving machine, or an entirely new product. These are proposed, discussed, analyzed and if found to have merit, cast into financial terms and served up to top management in the annual consolidation of proposed capital projects. Indeed, some firms stop here. They prepare only a one-year estimate of proposed capital expenditure, which, in due course, after pruning, gets cast into a capital budget. But this approach from below, while useful and valuable in itself, has its limits.

Top management needs to take a large over-view and a long look ahead then down the line concerned with but are product or one process or one machine. The
better managements periodically undertake audits of facilitate, surveys of comparative position in the industry, industrial engineering analysis, research of expenditures for new products and new market and other such investigations and out of these frequently arise overall plans for major capital expenditures. The extent, to which this second approach is used, in deed, distinguishes the outstanding from the average managements.

**Review of Capital Projects:**

Procedures for review and approval of capital proposals have certain features in common. Approval of minor projects is usually permitted at lower management levels. Major projects on the other hand, must pass the scrutiny of top management and in many companies must receive the approval of the board of directors. Dividing lines are drawn according to the amount of funds required. As the amount involved increases, so does the level of authority required for approval.

The procedures for approval of capital projects vary from unit to unit. Some units require merely a statement of justification giving the essential facts about the project. Other, the better managed has standard form must be filled out for each proposed expenditure above a certain minimum level. These are generally known as authority for expenditure forms and are designed to (1) describe the proposals and its purpose, (2) show the estimated cost of the proposed project, (3) reflect the project’s influence on operating costs and profits, (4) provide data on any equipment to be replaced and (5) serve as a medium for obtaining necessary approvals.
Authorizing capital expenditure:

In many companies, the authorization of capital expenditure involves a two-step process, consisting of a formal capital budget and the use of appropriation requests for authority to commit funds. Proposed capital budgets are basically lists of new projects for the coming year or more, plus a forecast of expenditures for previously approved but not yet completed projects. The common practice is to require at budget time only the minimum information necessary to understand the nature and cost of proposed capital projects. Full details are usually not required until later when the second step, the authority to extend funds, is sought. The capital budget, then, is a type of blueprint, final approval for which must usually be given by the Board of Directors. Even this signifies only agreement in principle with the management's proposed capital investment programme and does not grant authority to commit funds. Approval of the capital budget is generally taken to mean that for projects included within it sponsors can proceed to the more detailed engineering studies and economic and technical analysis necessary to support individual appropriation requests.

Before actual capital expenditures are authorized for a project, it is customary to require that an appropriation request be submitted for management approval. Although such requests vary in form and title from company to company, they usually contain the information such as date of request; project identification number; description of the project; purpose of and reasons for the project; estimated total cost; estimated starting and completion dates; and estimates of the amount and timing of the expenditures.

The crucial importance of three major segments of the appropriation request should be stressed. These are (i) the estimate of the amount of investment required
(ii) the timing estimates and (iii) the estimates of income from the project. The timing estimate applies, of course, to both the investment outflow and the income outflow. No matter how carefully contrived and how intricate the evaluation test that have been developed are, their seeming decimal point precision will be wholly illusory if any one of the three estimate dimensions is seriously awry.

One of the most vital aspects, of the capital budgeting process is the accuracy of the three major estimates involved in the appropriation request for a capital project. The importance of accuracy in both the dollar dimension and the time dimension of the estimates in capital budgeting cannot be overstressed.

Financial Evaluation of Capital Projects:

Financial evaluation usually involves two broad procedures: (1) the development of a financial standard or minimum profit goal for the company against which individual proposed projects can be judged and (2) the use of some mathematical technique to rate and rank individual proposed projects in terms of prospective profitability and relative acceptability and desirability.

Rate of return on investment is used by financial managers to measure the effectiveness of past performance both for the company as a whole and for individual plants and division. It is also used, quite extensively now, as a management tool in capital decision making to evaluate proposed capital investment projects.

Among the various criteria found in the industry for establishing a standard or benchmark for rate of return are: Current rate of return on investment for the company, average return on investment for the industry, return on average investment of other companies, average rate of return for a group of plants or divisions or for an individual plant or division over all cost of capital.
Discussions with financial managers indicate that standards are seldom arbitrary and inflexible but are usually tempered by judgment and circumstances.

**Evaluation Techniques:**

A number of evaluation tests ranging from simple to complex have been developed to measure relative attractiveness or profitability of the project. They include:

- Payback period;
- Accounting rate of return;
- Internal rate of return;
- Net present value; and
- Profitability index.

The payback period is the ratio of the initial fixed investment over the annual cash inflows for the recovery period. The accounting rate of return method represents the ratio of the average annual profits after taxes to the average investment in the project. The common merits of both these methods are that they are simple to understand and easy to calculate. However, these methods are not theoretically sound. One great limitation of these methods is their inability to consider the timing of cash flows. The discounted cash flow method, viz., NPV and IRR, can fully recognize the timing of cash flows into analysis. The internal rate of return for an investment proposal is the discount rate that equates present value of the expected cash outflows with the present value of the expected inflows. The NPV method is a process of calculating the present value by subtracting the present value of cash outflows from the present value of cash inflows.

One important element that distinguished these two DCF models in the discounting factor. In case of NPV the required rate of return itself will be the
discounting factor whereas it shall have to be determined in IRR calculations. The profitability index is only a variation of the NPV method. It is the ratio of present value of future cash benefits, at the required rate of return to the initial cash outflow of the investment.

**Financial Analysis:**

Financial statements are prepared primarily for decision-making. They play a dominant role in setting the framework of managerial decisions. But the information provided in the financial statements is not an end in itself as no meaningful conclusions can be drawn from these statements alone. However, the information provided in the financial statements is of immense use in making decisions through analysis and interpretation of financial statements. Financial analysis is, ‘the process of identifying the financial strengths and weaknesses of the firm by properly establishing relationship between the items of the balance sheet and the profit and loss account’. There are various methods or techniques used in analyzing financial statements, such as comparative statements, trend analysis, common-size statements, schedule of changes in working capital, funds flow and cash flow analysis, cost–volume-profit analysis and ratio analysis.

The term *financial analysis* also known as analysis and interpretation of financial statements refers to the process of determining financial strengths and weaknesses of the firm by establishing strategic relationship between items of the balance sheet, profit and loss account and other operative data. “Analyzing financial statements”, according to Metcalf and Tirard, “is a process of evaluating the relationship between component parts of a financial statement to obtain a better understanding of a firm’s position and performance”. In the words of Myers, “financial statement analysis is largely a study of relationship among the various
financial factors in a business as disclosed by a single set of statements, and a study of
the trend of these factors as shown in a series of statements”.

The purpose of financial analysis is to diagnose the information contained
in financial statements so as to judge the profitability and financial soundness of the
firm. Just like a doctor examines his patient by recording his body temperature, blood
pressure, etc., before making his conclusion regarding illness and before giving his
treatment, a financial analyst analyses the financial statements with various tools of
analysis before commenting upon the financial health or weaknesses of an enterprise.
The analysis and interpretation of financial statements is essential to bring out the
mystery behind the figures in financial statements. Financial statements analysis is an
attempt to determine the significance and meaning of the financial statement data so
that forecast may be made of the future earnings, ability to pay interest and debt
maturities (both current and long-term) and profitability of a sound dividend policy.

The term ‘financial statement analysis’ includes both ‘analysis’ and
‘interpretation’. A distinction should, therefore, be made between the two terms.
While the term, ‘analysis’ is used to mean the simplification of financial data by
methodical classification of the data given in the financial statements, ‘interpretation’
means, ‘explaining the meaning and significance of the data so simplified’. However,
both ‘analysis and interpretation’ are interlinked and complimentary to each other
Analysis is useless without interpretation and interpretation without analysis is
difficult or even impossible. Most of the authors have used the term ‘analysis’ only to
cover the meanings of both analysis and interpretation as the objective of analysis is
to study the relationship between various items of financial statements by
interpretation. We have also used the term ‘financial statement Analysis’ or simply
‘Financial Analysis’ to cover the meaning of both analysis and interpretation.
Types of Financial Analysis:

We have studied in the previous chapter that various users of financial statements study them from different angles for different purposes. However, we can classify various types of financial analysis into different categories depending upon a) the material used, and b) the method of operation followed in the analysis or the *modus operandi* of analysis.

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**TYPES OF FINANCIAL ANALYSIS**

- **On the basis of material used**
  - External Analysis
  - Internal Analysis

- **On the basis of modus operandi**
  - Horizontal Analysis
  - Vertical Analysis

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a) **On the basis of material used**: According to material used, financial analysis can be of two types: I) external analysis, and II) internal analysis.

1) **External Analysis**: outsiders who do not have access to the detailed internal accounting records of the business firm do this analysis. These outsiders include investors, potential investors, creditors, potential creditors, government agencies, credit agencies, and the general public. For financial analysis, these external parties to the firm depend almost entirely on the published financial
statements. External analysis, thus serves only a limited purpose. However, the recent changes in the government regulations requiring business firms to make available more detailed information to the public through audited published accounts have considerably improved the position of the external analysis.

II) **Internal Analysis**: The analysis conducted by persons who have access to the internal accounting records of a business firm is known as internal analysis. Such an analysis can, therefore, be performed by executives and employees of the organization as well as government agencies which have statutory powers vested in them. Financial analysis for managerial purposes is the internal type of analysis that can be affected depending upon the purpose to be achieved.

b) **On the basis of modus operandi**: According to the method of operation followed in the analysis, financial analysis can be of two types: I) horizontal analysis and II) vertical analysis.

I) **Horizontal Analysis**: Horizontal analysis refers to the comparison of financial data of a company for several years. The figures for this type of analysis are presented horizontally over a number of columns. The figures of the various years are compared with standard or base year. A base year is a year chosen as beginning point. This type of analysis is also called ‘Dynamic Analysis’ as it is based on the data from year to year rather than on data of any one year. The horizontal analysis makes it possible to focus attention on items that have changed significantly during the period.
under review. Comparison of an item over several periods with a base year may show a trend developing. Comparative statements and trend percentages are two tools employed in horizontal analysis.

II) **Vertical Analysis:** Vertical analysis refers to the study of relationship of the various items in the financial statements of one accounting period. In these types of analysis the figures from financial statement of a year are compared with a base selected from the same years statement. It is also known as ‘Static Analysis’. Common-size financial statements and financial ratios are the two tools employed in vertical analysis. Since vertical analysis considers data for one time period only, it is not very conducive to a proper analysis of financial statements. However, it may be used along with horizontal analysis to make it more effective and meaningful.

**Procedure of financial statement analysis:**

Broadly speaking there are three steps involved in the analysis of financial statements. These are: a) selection, b) classification, and c) interpretation. The first step involves selection of information relevant to the purpose of analysis of financial statements. The second step involved is the methodical classification of the data and the third step includes drawing of inferences and conclusions.

The following procedure is adopted for the analysis and interpretation of financial statements:

1) The analyst should acquaint himself with the principles and postulates of accounting. He should know the plans and policies of the management so that he may be able to find out whether these plans are properly executed or not.
2) The extent of analysis should be determined so that the sphere of work may be decided. If the aim is to find out the earning capacity of the enterprise then analysis of income statement will be undertaken. On the other hand, if financial position is to be studied then balance sheet analysis will be necessary.

3) The financial data given in the statements should be re-organized and re-arranged. It will involve the grouping of individual components of statements according to nature. The data are reduced to a standard form.

4) A relationship is established among financial statements with the help of tools and techniques of analysis such as ratios, trends, common size, funds flow etc.

5) The information is interpreted in a simple and understandable way. The significance and utility of financial data is explained for helping decision taking.

6) The conclusions drawn from interpretation are presented to the management in the form of reports.

**Methods or Devices of Financial Analysis:**

The analysis and interpretation of financial statements is used to determine the financial position and results of operations as well. A number of methods or devices are used to study the relationship between different statements. An effort is made to use those devices, which clearly analyze the position of the enterprise. The following methods of analysis are generally used:

1. Comparative Statements.
2. Trend Analysis.
3. Common-Size statements.
4. FundsFlowAnalysis.

6. Ratio Analysis.

7. Cost-Volume-Profit Analysis

**FINANCIAL ANALYSIS OF SANGAM DAIRY:**

The nature of analysis will differ depending on the purpose of analysis. Trade creditors are interested in the fact whether the firm is able to meet its claims within a very short period of time. Their analysis, therefore, confine to the evaluation of the company’s liquidity position. On the other hand, the suppliers of the long-term debt are interested in the company’s ability to meet its long-term obligations. Similarly, investors who have invested their money in the form of shares are more concerned about the company’s earnings. As such they concentrate on the analysis of the company’s profitability. Finally, the management of the company would be interested in every aspect of the financial analysis. It is their overall responsibility to see that the resources of the company are used most effectively and efficiently.

Ratio analysis is a powerful tool in financial analysis and is used as an index for evaluating financial position and performance of a company. The absolute accounting figures reported in the financial statements do not provide meaningful information about the company’s performance and financial condition unless they are related to some other relevant information. Thus it is important to note that these ratios indicate a quantitative relationship, which can, in turn, be used to make a qualitative judgment.

Though there are various methods for financial analysis, the researcher considered this ratio analysis as one of the major and important yardstick to measure the financial strengths and weaknesses of Sangam Dairy. Therefore, in this chapter various ratios are calculated based on the financial statements of the dairy for the period of study i.e., from 1993-94 to 2002-03.
**Ratio Analysis:**

For the purpose of financial analysis, eight important ratios are calculated and analyzed to know the financial strengths and weaknesses of sangam dairy. They are:

2. Liquid Ratio.
3. Debt-Equity Ratio.
4. Inventory Turnover Ratio.
5. Gross Profit Ratio.

1. **Current Ratio:**

Current Ratio may be defined as the relationship between current assets and current liabilities. This ratio, also known as working capital ratio, is a measure of general liquidity and is most widely used to make the analysis of a short-term financial position or liquidity of a firm. It is calculated by dividing the total of current assets by total of the current liabilities.

\[
\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} \quad \text{(or)}
\]

\[
= \frac{\text{Current Assets}}{\text{Current Liabilities}}
\]

Two basic components of this ratio are: Current Assets and Current Liabilities. Current assets include cash and those assets, which can be easily converted into cash within a short period of time generally, one year, such as marketable securities, bills receivables, sundry debtors, inventories, work-in-progress etc. The prepaid expenses should also be included in current assets because they represent payments made in advance which will not have to be paid in near future.

Current liabilities are those obligations which are payable within a short period of generally one year and include outstanding expenses, bills payable, sundry creditors,
accrued expenses, short term advances, income tax payable, dividends payable, etc.

Bank overdraft should also generally be included in current liabilities because it represents short-term arrangement with the bank and is payable within a short period. But where bank overdraft is permanent or long-term arrangement with the bank, it should be excluded.

Here in the analysis the current ratio is calculated based on the above parameters.

Table X.1: Current Ratios of Sangam Dairy from 1993-94 to 2002-03.

(Amount in lakhs of rupees)

<table>
<thead>
<tr>
<th>S. NO</th>
<th>YEARS</th>
<th>CA</th>
<th>CL</th>
<th>RATIO (CA/CL)</th>
<th>DIFFERENCE IN RATIO</th>
<th>DIFFERENCE IN CA</th>
<th>DIFFERENCE IN CL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1993-94</td>
<td>24.29</td>
<td>10.9</td>
<td>2.24</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1994-95</td>
<td>19.75</td>
<td>7.67</td>
<td>2.57</td>
<td>0.34</td>
<td>-4.54</td>
<td>-3.19</td>
</tr>
<tr>
<td>3</td>
<td>1995-96</td>
<td>22.88</td>
<td>8.18</td>
<td>2.80</td>
<td>0.22</td>
<td>3.13</td>
<td>0.51</td>
</tr>
<tr>
<td>4</td>
<td>1996-97</td>
<td>25.2</td>
<td>8.29</td>
<td>3.04</td>
<td>0.24</td>
<td>2.32</td>
<td>0.11</td>
</tr>
<tr>
<td>5</td>
<td>1997-98</td>
<td>26.51</td>
<td>9.97</td>
<td>2.66</td>
<td>-0.38</td>
<td>1.31</td>
<td>1.68</td>
</tr>
<tr>
<td>6</td>
<td>1998-99</td>
<td>26.35</td>
<td>12.4</td>
<td>2.12</td>
<td>-0.54</td>
<td>-0.16</td>
<td>2.44</td>
</tr>
<tr>
<td>7</td>
<td>1999-2000</td>
<td>29.13</td>
<td>11.5</td>
<td>2.53</td>
<td>0.41</td>
<td>2.78</td>
<td>-0.91</td>
</tr>
<tr>
<td>8</td>
<td>2000-2001</td>
<td>32.54</td>
<td>9.14</td>
<td>3.56</td>
<td>1.03</td>
<td>3.41</td>
<td>-2.36</td>
</tr>
<tr>
<td>9</td>
<td>2001-2002</td>
<td>31.49</td>
<td>9.29</td>
<td>3.39</td>
<td>-0.17</td>
<td>-1.05</td>
<td>0.15</td>
</tr>
<tr>
<td>10</td>
<td>2002-2003</td>
<td>34.18</td>
<td>8.29</td>
<td>4.12</td>
<td>0.73</td>
<td>2.69</td>
<td>-1</td>
</tr>
</tbody>
</table>

From the table it can be observed that from 1993-94 to 2002-03 the current ratio is always above 2 times (it is generally called as a standard). The minimum ratio is 2.12 during the year 1998-99 and the maximum ratio is 4.12 during the last year i.e.2002-03. These ratios are calculated taking into consideration all current assets and all current liabilities. Though the current ratio is above 2 in all the 10 years, it is not in steady condition. In the year 1993-94 the ratio was 2.24. It increased to 2.57 in the next year, 2.80 following year and 3.04 in 1996-97. It is a
continuous increase for these four years. However, it came down to 2.66 in 1997-98 and again coming down further to 2.12 in the following year. In the year 2001-02 the ratio recovered and reached to 3.39. Continuing this trend, the ratio reached to a 10-year maximum of 4.12. This denotes that the current assets are more than double in all these years of study period with some ups and downs.

The current assets of the dairy are Rs.24.29 lakhs during the year 1993-94. In the next year i.e., in 1994-95 they reduced to only Rs.19.75 lakhs. Later, the assets figure started increasing and reached to a maximum of Rs.34.18 lakhs by the year 2002-03. This denotes that the dairy has been investing increased amounts in the form of current assets during the study period. On the contrary the current liabilities of the dairy are not much in many years with an exception of two years i.e., 1993-94 and 1998-99. In 1998-99 the current liabilities of the dairy are as big as Rs.12.41 lakhs, which resulted in low current ratio for this year. Though there are big amount of current liabilities in the year 1993-94, the current ratio was not low due to higher current assets. The current liabilities are minimal during the year 1994-95 with Rs.7.67 lakhs.

When the difference in the current ratios is observed, the table shows that except in 3 years, the difference was positive. It means that the ratio of the previous year was less than the present year, which is a good sign. During the years 1997-98, 1998-99 and 2001-02 the current ratios have shown some decrease than that of the previous years.

The table also shows the difference in current assets in those 10 years. During the years 1994-95, 1998-99 and 2001-02 the current assets are less than the current assets of the previous years. Except this, in all the remaining years, the current assets have been increasing slightly or considerably.
Coming to difference in current liabilities, it was negative during 1994-95, 1999-2000, and 2000-01. Even in the remaining years the increase in current liabilities is marginal. This denotes the low burden of current liabilities throughout the study period.

On the whole it can be said that the current ratio or the working capital of the dairy is in good health. Throughout the study period the ratio is above 2 and even as high as above 4.

2. Quick Ratio:

Quick ratio, also known as acid test ratio or liquid ratio, is a more rigorous test of liquidity than the current ratio. The term ‘liquidity’ refers to the ability of a firm to pay its short-term obligations as and when they become due. The two determinants of current ratio, as a measure of liquidity, are current assets and current liabilities. Current assets include inventories and prepaid expenses, which are not easily convertible into cash with in a short period. Quick ratio may be defined as the relationship between quick or liquid assets and current or liquid liabilities. An asset is said to be liquid if it can be converted into cash with in a short period without loss of value. In that sense cash in hand and cash at bank are the most liquid assets. The other assets, which can be included in the liquid assets, are bills receivable, sundry debtors, marketable securities and short-term temporary investments. The quick ratio can be calculated by dividing the total of the quick assets by total current liabilities.

Quick Ratio = Quick Assets/Current Liabilities
Usually, a high quick ratio is an indication that the firm is liquid and has the ability to meet its current or liquid liabilities in time and on the other hand a low quick ratio represents that the firm’s liquidity position is not good. As a convention, a quick ratio of 1:1 is considered satisfactory.

The quick ratio at Sangam Dairy is calculated based on the above method.

The following table depicts the quick ratio position of the dairy.

Table X.2: Quick Ratios of Sangam Dairy from 1993-94 to 2002-03.
(Amount in lakhs of rupees)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1993-1994</td>
<td>5.8</td>
<td>10.9</td>
<td>0.53</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1994-1995</td>
<td>10.72</td>
<td>7.67</td>
<td>1.4</td>
<td>0.86</td>
<td>4.92</td>
<td>-3.19</td>
</tr>
<tr>
<td>3</td>
<td>1995-1996</td>
<td>12.99</td>
<td>8.18</td>
<td>1.59</td>
<td>0.19</td>
<td>2.27</td>
<td>0.51</td>
</tr>
<tr>
<td>4</td>
<td>1996-1997</td>
<td>10.2</td>
<td>8.29</td>
<td>1.23</td>
<td>-0.36</td>
<td>-2.79</td>
<td>0.11</td>
</tr>
<tr>
<td>5</td>
<td>1997-1998</td>
<td>15.11</td>
<td>9.97</td>
<td>1.52</td>
<td>0.29</td>
<td>4.91</td>
<td>1.68</td>
</tr>
<tr>
<td>6</td>
<td>1998-1999</td>
<td>10.74</td>
<td>12.4</td>
<td>0.87</td>
<td>-0.65</td>
<td>-4.37</td>
<td>2.44</td>
</tr>
<tr>
<td>7</td>
<td>1999-2000</td>
<td>12.11</td>
<td>11.5</td>
<td>1.05</td>
<td>0.19</td>
<td>1.37</td>
<td>-0.91</td>
</tr>
<tr>
<td>8</td>
<td>2000-2001</td>
<td>10.25</td>
<td>9.14</td>
<td>1.12</td>
<td>0.07</td>
<td>-1.86</td>
<td>-2.36</td>
</tr>
<tr>
<td>9</td>
<td>2001-2002</td>
<td>8.12</td>
<td>9.29</td>
<td>0.87</td>
<td>-0.25</td>
<td>-2.13</td>
<td>0.15</td>
</tr>
<tr>
<td>10</td>
<td>2002-2003</td>
<td>12.88</td>
<td>8.29</td>
<td>1.55</td>
<td>0.68</td>
<td>4.76</td>
<td>-1</td>
</tr>
</tbody>
</table>

Table X.2 shown above gives the quick ratios of Sangam Dairy for the ten years period from 1993-94 to 2002-03. The table denotes that quick ratio during the year 1993-94 was only 0.53 times. This is mainly due to low liquid assets during the year. From the year 1994-95 onwards the ratios of the dairy crossed 1 except in 1998-99 and 2001-02. The ratio was high in the year 1995-96 at 1.59 times followed by 1.55 times in 2002-03, 1.52 times in 1997-98 and 1.40 times in 1994-95. During the years 1996-97, 2000-01, and 1999-2000 the ratio crossed 1 with 1.23, 1.12, and 1.05 respectively. During the years 1998-99 and 2001-02, the ratios are less than 1 and
further, they are same with 0.87 times. From this analysis it can be said that the quick ratio for the study period on the whole is satisfactory. Though the ratio is less than 1(a traditional standard) in three out of ten years is not be a threatening factor.

Though the current liabilities are same as in table X.2, the quick or liquid assets from 1993-94 to 2002-03 range from Rs.5.8 lakhs to Rs. 12.99 lakhs. These are at their minimum during 1993-94 at Rs.5.8 lakhs and maximum during 1995-96 at Rs.12.99 lakhs. Except during 2001-02 where liquid assets are Rs.8.12 lakhs, they have crossed Rs.10 lakh mark.

As for as the difference in ratios is concerned, there is negative during the years 1996-97,1998-99 and 2001-02 when compared to their respective previous years. In all the remaining years the difference is positive which denotes some increase in the ratios compared to their previous years.

Similar to the difference in ratios, the difference in quick assets also follows the same. During the years 1994-95, 1997-98 and 2002-03 the difference in quick assets compared to their respective previous years is more than 4 times i.e., 4.92, 4.91 and 4.76 times respectively.

3.Debt Equity Ratio:

The Debt Equity ratio, also known as external-internal equity ratio is calculated to measure the relative claims of outsiders and the owners i.e. shareholders against the firm’s assets. This ratio indicates the relationship between the external equities or the outsiders’ funds and the internal equities or the shareholders’ funds.

Debt Equity Ratio = Outsiders Funds or Debt/Shareholders Funds or Equity

The two basic components of the ratio are outsiders’ funds, i.e. external equities and shareholders’ funds, i.e. internal equities. The outsiders’ funds include
all debts/liabilities to outsiders, whether long-term or short-term or whether in the form of debenture bonds, mortgages or bills. The shareholders’ funds consist of equity share capital, preference share capital, capital reserves, revenue reserves and reserves representing accumulated profits and surpluses like reserves for contingencies, sinking fund etc. The accumulated losses and deferred expenses, if any should be deducted from the total to find out shareholders’ funds. When accumulated losses and deferred expenses are deducted from the shareholders’ funds it is called net worth and the ratio may be termed as **debt to net worth ratio**.

A ratio of 1:1 may be usually considered to be a satisfactory ratio. There cannot be any rule of thumb or standard norm for all types of businesses. In some businesses a high ratio 2:1 or even more may be considered satisfactory.

The debt equity ratio of Sangam Dairy is calculated based on the above pattern. However, the standard mentioned above cannot be applicable to this firm as this is a cooperative one and runs on weak equity base contributed by the rural masses.
Table X.3: Debt Equity Ratios of Sangam Dairy from 1993-94 to 2002-03
(Amount in lakhs of rupees)

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>DEBT=BORROWINGS + CL</th>
<th>EQUITY</th>
<th>RATIO = (A/B)</th>
<th>DIFFERENCE IN RATIOS</th>
<th>CHANGES IN DEBT</th>
<th>CHANGES IN EQUITY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-1994</td>
<td>2651.27</td>
<td>109.65</td>
<td>24.17</td>
<td>5.065</td>
<td>560.04</td>
<td>0.24</td>
</tr>
<tr>
<td>1994-1995</td>
<td>2079.55</td>
<td>109.8</td>
<td>18.93</td>
<td>-5.23</td>
<td>-571.72</td>
<td>0.15</td>
</tr>
<tr>
<td>1995-1996</td>
<td>2,308.00</td>
<td>166.64</td>
<td>13.85</td>
<td>-5.089</td>
<td>228.45</td>
<td>56.84</td>
</tr>
<tr>
<td>1996-1997</td>
<td>2430.73</td>
<td>200.34</td>
<td>12.13</td>
<td>-1.71</td>
<td>122.73</td>
<td>33.7</td>
</tr>
<tr>
<td>1997-1998</td>
<td>2598.54</td>
<td>200.34</td>
<td>12.97</td>
<td>0.83</td>
<td>167.81</td>
<td>0</td>
</tr>
<tr>
<td>1998-1999</td>
<td>2717.43</td>
<td>459.12</td>
<td>5.918</td>
<td>-7.05</td>
<td>118.89</td>
<td>258.78</td>
</tr>
<tr>
<td>1999-2000</td>
<td>2626.42</td>
<td>682.06</td>
<td>3.85</td>
<td>-2.06</td>
<td>-91.01</td>
<td>222.94</td>
</tr>
<tr>
<td>2000-2001</td>
<td>2828.88</td>
<td>682.06</td>
<td>4.14</td>
<td>0.29</td>
<td>202.46</td>
<td>0</td>
</tr>
<tr>
<td>2001-2002</td>
<td>2712.42</td>
<td>682.06</td>
<td>3.97</td>
<td>-0.17</td>
<td>-116.46</td>
<td>0</td>
</tr>
<tr>
<td>2002-2003</td>
<td>2940.92</td>
<td>682.06</td>
<td>4.31</td>
<td>0.33</td>
<td>228.5</td>
<td>0</td>
</tr>
</tbody>
</table>

Table X.3 shows the debt equity ratio of Sangam Dairy for ten years period from 1993-94 to 2002-03. It is astonishing to know from the table that the debt burden of the dairy has been huge throughout the study period when compared to its equity. It is a well-known fact that the cooperative societies have low equity, as this amount must come from the shareholders of weak financial background. However, after increasing share contribution, the equity raised reasonably from 1998-1999 onwards.
From the table it can be understood that the debt of the dairy, consisting of both long term and current liabilities, is Rs. 2,651.27 lakhs during the year 1993-94. However, in the following year i.e., in 1994-95 it came down to Rs.2,079.55 lakhs. But from 1995-96 the debt started increasing up to 1998-99. The debt of Rs. 2,308 lakhs in 1995-96 increased to Rs.2,717.43 lakhs by 1998-99. With some ups and downs the debt burden continued to be at high and reached to a maximum of Rs. 2,940.92 lakhs by the year 2002-03.

As mentioned above, because of low equity, the debt equity ratio has been in big figures. During the year 1993-94 the ratio is at its maximum of 24.18 times. But later, the ratio came down in the following years. It is 18.94, 13.85, 12.13, and 12.97 times during the years 1994-95, 1995-96, 1996-97 and 1997-98 respectively. From 1998-99 onwards the debt equity ratio came down drastically due to increased equity share. It is 5.92 in 1998-99, 3.85 in 1999-2000, 4.15 in 2000-01, 3.98 in 2001-02 and 4.31 in 2002-03.

As for as the differences in ratios concerned there are both negatives and positives. During the years 1994-95 and 1995-96 the difference in the ratios are 5 times less when compared to their previous years. In the year 1998-99 the difference in the ratio is at its maximum of 7 times i.e. the ratio came down from 12 to 5 times compared to the previous year. In the remaining years of the study the difference in the ratios is not much and it is less than 2 times.

When observed the changes in debt, it can be said that the debt reduced by Rs.571.72 lakhs during the year 1994-95 when compared to the year 1993-94. In the later years i.e., from 1995-96 to 1998-99 the difference is positive ranging from Rs.118.89 lakhs to Rs.228.45 lakhs compared to their respective previous years. But in the year 1999-2000 and in 2001-2002 the debt reduced by Rs.91.01 lakhs and
Rs.116.46 lakhs respectively when compared to their previous years. In 2000-2001 and 2002-03 the debt increased by Rs. 202.46 lakhs and Rs.228.5 lakhs respectively to that of their previous years.

The changes in equity are attractive phenomena. The equity during the year 1993-94 is only Rs.109.65 lakhs. It increased to Rs.166.64 lakhs by 1995-96 with a jump of Rs. 56.84 lakhs. Similarly, during the year 1998-99 and in 1999-2000 the increase is more than Rs. 220 lakhs to that of their previous years. In all the remaining years the change in the equity of the dairy is almost nil.

From the above analysis it is clear that the debt equity ratio of the dairy is abnormal. But at the same time due to its peculiar position i.e. the shareholders are poor farmers and the dairy runs mainly on debt basis, the equity do not create any threat to the dairy. Further, the ratio after increase in the equity came down drastically from 24 to 4 times during the study period.

4. Inventory Turnover Ratio:

   Every firm has to maintain a certain level of inventory of finished goods so as to meet the requirements of the business. But the level of inventory should neither be too high nor too low. It is advisable to dispose off inventory as early as possible. On the other hand, too low inventory may mean loss of business opportunities. Thus, it is very essential to keep sufficient stocks in business.

   Inventory turn over ratio also known, as stock velocity is normally calculated as follows:

   \[ \text{Inventory turn over ratio} = \frac{\text{Sales}}{\text{Closing Stock (Inventory)}} \]

   This ratio indicates whether inventory has been efficiently used or not. The purpose is to see whether only the required minimum funds have been
locked up in inventory. Inventory turn over ratio indicates the number of times
the stock has been turned over during the period and evaluates the efficiency with
which a firm is able to manage its inventory.

The inventory turn over ratio of Sangam Dairy is calculated taking
sales and closing stock into consideration. The following table shows inventory
turn over ratios of the dairy for ten years period.

Table X.4: Inventory turnover ratios of Sangam Dairy from 1993-94 to 2002-03.
(Amount in lakhs of rupees)

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>A</th>
<th>B</th>
<th>INVENTORY</th>
<th>DIFFERENCE IN RATIO</th>
<th>CHANGES IN SALES + TRANSFERS</th>
<th>CHANGES IN INVENTORY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-1994</td>
<td>5354.47</td>
<td>1848.51</td>
<td>2.896641</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1994-1995</td>
<td>6717.95</td>
<td>903.45</td>
<td>7.435885</td>
<td>4.539244</td>
<td>1363.48</td>
<td>-945.06</td>
</tr>
<tr>
<td>1995-1996</td>
<td>5667.58</td>
<td>989.01</td>
<td>5.730229</td>
<td>-1.70533</td>
<td>-1050.37</td>
<td>85.56</td>
</tr>
<tr>
<td>1996-1997</td>
<td>6531.12</td>
<td>1300.05</td>
<td>5.023745</td>
<td>-0.70681</td>
<td>863.54</td>
<td>311.04</td>
</tr>
<tr>
<td>1997-1998</td>
<td>8054.76</td>
<td>1139.73</td>
<td>7.067253</td>
<td>2.043508</td>
<td>1523.64</td>
<td>-160.32</td>
</tr>
<tr>
<td>1998-1999</td>
<td>8509.71</td>
<td>1560.8</td>
<td>5.452146</td>
<td>-1.61511</td>
<td>454.95</td>
<td>421.07</td>
</tr>
<tr>
<td>1999-2000</td>
<td>10444.6</td>
<td>1702.08</td>
<td>6.136357</td>
<td>0.68421</td>
<td>1934.86</td>
<td>141.28</td>
</tr>
<tr>
<td>2000-2001</td>
<td>10931.3</td>
<td>2229.16</td>
<td>4.903771</td>
<td>-1.23259</td>
<td>486.72</td>
<td>527.08</td>
</tr>
<tr>
<td>2001-2002</td>
<td>11912.6</td>
<td>2336.92</td>
<td>5.097543</td>
<td>0.193772</td>
<td>981.26</td>
<td>107.76</td>
</tr>
<tr>
<td>2002-2003</td>
<td>11716.4</td>
<td>2129.49</td>
<td>5.501993</td>
<td>0.404451</td>
<td>-196.11</td>
<td>-207.43</td>
</tr>
</tbody>
</table>

The above table pictures the sales and inventory and their ratios of
Sangam Dairy for the study period. It also shows the differences in the ratios
comparing to their respective previous years. The turnover of the dairy denoting sales and transfers are Rs.5, 354.47 lakhs in the initial year of the study i.e., in 1993-94. By next year the turnover of the dairy increases by about Rs.1, 400 lakhs and reached to Rs.6, 717.95 lakhs. During the year 1995-96 though the turnover came down to Rs.5, 667.58 lakhs, it started recovering from 1996-97 and reached to a maximum of Rs. 11,912.55 lakhs by the year 2001-02. In the year 1996-97 the turnover is Rs.6, 531.12 lakhs and reached to Rs. 8,054.76 lakhs in 1997-98, Rs.8, 509.71 lakhs in 1998-99, Rs.10, 444.57 lakhs in 1999-2000, Rs.10, 931.29 lakhs in 2000-01 and Rs.11, 912.55 lakhs in 2001-02. In the year 2002-03 the turnover reduced by Rs.200 lakhs when compared to the previous year.

As for as the inventory is concerned it is Rs.1, 848.51 lakhs in the year 1993-94. But by the next year the inventory reduced by 50 per cent and reached to Rs.903.45 lakhs only. In the later year the inventory increased to Rs.989.01 lakhs. In 1996-97 the inventory crossed Rs. 1300 lakhs. However, in the next year i.e., in 1997-98 it declined to Rs.1139.73 lakhs. From 1998-99 onwards, the inventory started increasing. It is Rs.1, 560.80 lakhs in 1998-99, Rs.1, 702.08 lakhs in 1999-2000, Rs.2, 229.16 lakhs in 2000-01 and Rs.2, 336.92 lakhs in 2001-02. In the last year i.e. in 2002-03 the inventory reduced by more than Rs. 200 lakhs and recorded as Rs.2, 129.49 lakhs.

The inventory ratio is the result of division of turnover with inventory. It is 2.9 times in the beginning of the study period i.e. in 1993-94. From then on, this ratio oscillated between 4.9 and 7.4 times in the remaining nine years period. In five of the ten years the ratio is around 5 times. During the year 2002-03 the ratio is 5.5 times. From the analysis it can be understood that the turnover ratio is around 5 times on an average and it is said to be satisfactory.
When look at the difference in ratio it is 4.5 times during the year 1994-95 when compared to the previous year. But from 1995-96 the ratio is negative during the years 1995-96, 1996-97, 1998-99 and 2000-01. Even in the years 1999-2000, 2001-02 and 2002-03 the difference in the ratios of the previous years is less than one time. Only in the year 1997-98 the difference in the ratio is 2 times higher than that of the previous year.

When looks into the changes in the turnover, except in the years 1995-96 and 2002-03, the turnover in the remaining years has been positive and increased when compared to the previous years. Similarly, when look into the changes in inventory; it is also negative for three years i.e. in 1994-95, in 1997-98 and in 2002-03. In the remaining years the turnover is positive when compared to the previous years.

5. Gross Profit Ratio:

Gross profit ratio measures the relationship of gross profit to net sales and is usually represented as a percentage. It is calculated by dividing the gross profit by sales.

Gross Profit Ratio = Gross Profit / Sales X100

The two basic components of the gross profit ratio are gross profit and sales. Gross profit is the excess of net sales over cost of goods sold. Net sales can be found by deducting the sales returns from the sales.

The gross profit ratio indicates the extent to which selling prices of goods per unit may decline without resulting in losses on operations of a firm. It reflects the efficiency with which a firm produces its products. As the gross profit ratio is found
by deducting cost of goods sold from the net sales, higher the gross profit ratio better the result.

The gross profit ratio of Sangam Dairy is calculated based on the mentioned procedure and shown in the following table for the study period.

**Table X.5: Gross Profit Ratio of Sangam Dairy from 1993-94 to 2002-03.**

(Amount in lakhs of rupees)

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>A</th>
<th>B</th>
<th>RATIO = (A/B) X 100</th>
<th>DIFFERENCE IN RATIO</th>
<th>CHANGES IN GROSS PROFIT</th>
<th>CHANGES IN SALES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-1994</td>
<td>672.23</td>
<td>5354.47</td>
<td>12.55</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1994-1995</td>
<td>840</td>
<td>6717.95</td>
<td>12.5</td>
<td>0.05</td>
<td>167.77</td>
<td>1363.48</td>
</tr>
<tr>
<td>1995-1996</td>
<td>783.13</td>
<td>5667.58</td>
<td>13.81</td>
<td>-1.31</td>
<td>-56.87</td>
<td>-1050.4</td>
</tr>
<tr>
<td>1996-1997</td>
<td>950.8</td>
<td>6531.12</td>
<td>14.55</td>
<td>-0.74</td>
<td>167.67</td>
<td>863.54</td>
</tr>
<tr>
<td>1997-1998</td>
<td>1084.82</td>
<td>8054.76</td>
<td>13.46</td>
<td>1.09</td>
<td>134.02</td>
<td>1523.64</td>
</tr>
<tr>
<td>1998-1999</td>
<td>1301.71</td>
<td>8509.71</td>
<td>15.29</td>
<td>-1.83</td>
<td>216.89</td>
<td>454.95</td>
</tr>
<tr>
<td>1999-2000</td>
<td>1403.54</td>
<td>10444.6</td>
<td>13.43</td>
<td>1.86</td>
<td>101.83</td>
<td>1934.86</td>
</tr>
<tr>
<td>2000-2001</td>
<td>1708.59</td>
<td>10931.3</td>
<td>15.63</td>
<td>-2.2</td>
<td>305.05</td>
<td>486.72</td>
</tr>
<tr>
<td>2001-2002</td>
<td>1875.5</td>
<td>11912.6</td>
<td>15.74</td>
<td>-0.11</td>
<td>166.91</td>
<td>981.26</td>
</tr>
<tr>
<td>2002-2003</td>
<td>1628.3</td>
<td>11716.4</td>
<td>13.89</td>
<td>1.85</td>
<td>-247.2</td>
<td>-196.11</td>
</tr>
</tbody>
</table>
Sangam dairy earned profits throughout the study period. Even before and after this period the trend heard almost same. Table X.5 shown above gives the gross profit and sales particulars of the dairy along with gross profit ratios and changes in them compared to their previous years.

The table depicts that the dairy earned a gross profit of Rs.672.23 lakhs during 1993-94. Except during 1995-96 the gross profit of the dairy increased continuously up to 2001-02 and reached to Rs.1, 875.50 lakhs. In the year 2002-03 there is a reduction in the gross profit by about Rs.250 lakhs. Due to entry of private milk dairies, the sales and the gross profit of the dairy recorded a decrease. During the year 1996-97 the gross profit of the dairy is only Rs. 950.80 lakhs and in just six years the profit doubled and reached that Rs.1, 875-lakhs mark.

As explained in the above table the sales of the dairy starting with Rs. 5,354.47 lakhs in 1993-94 reached to Rs. 11,716.44 lakhs i.e. more than double in the study period of ten years.

The fourth column in the table shows the gross profit ratios in percentages for the study period. It can easily be understood that the gross profit ratio for all the
ten years is between 12.5 and 15.7 per cent. During the first two years the ratio is almost same with 12.55 and 12.50 respectively. Later in the next two years i.e. in 1995-96 and 1996-97 the ratios increased and reached to 13.82 and 14.56 respectively. The gross profit percentage slightly came down in 1997-98, 1999-2000 and 2002-03 when compared to their previous years with 13.46, 13.44 and 13.9 per cent respectively. In the remaining years the gross profit percentage is above 15. This analysis shows that the dairy has been earning reasonable gross profit throughout the study period.

As the difference in ratios of different years is not much, the fifth column in the table reflects the same. During the years 1994-95, 1997-98, 1999-2000 and 2002-03 the difference in the ratios is negative i.e. less than the previous years percentages though the difference is less than 2 per cent. Similarly, in the remaining years the difference between the ratios is positive and also the difference is less than 2.2 per cent.

The changes in gross profit year after year in rupees are look significant. During the year 1995-96 and 2002-03 the decrease in the gross profit is Rs. 56.87 lakhs and Rs.247.2 lakhs respectively to that of their respective previous years. In all the remaining years there is an increase in the gross profit of one year to the other, which ranges from Rs.101 lakhs to Rs. 305 lakhs.

The sales of the dairy in ten years recorded more than double. But the change from one year to the other looks erratic. During the year 1994-95 there is an increase of sales to the extent of Rs.1, 363.48 lakhs to that of the previous year. But in the next year i.e. in 1995-96 recorded a downfall of Rs.1, 050 .37 lakhs. However, from 1996-97 to 2002-03 there are increases in the sales figures ranging from Rs. 455
lakhs to Rs. 1935 lakhs. In the last year of the study the sales reduced by Rs.196.11 lakhs.

From the above analysis it can be understood that the gross profit position of the dairy has been encouraging throughout the period and more than doubled in the study period of ten years.

6. Net Profit Ratio:

Net profit ratio establishes a relationship between net profit (after taxes) and sales, and indicates the efficiency of the management in manufacturing, selling, administrative and other activities of the firm. This ratio is the overall measure of firm's profitability.

Net Profit Ratio = \( \frac{\text{Net profit after tax}}{\text{Net sales}} \times 100 \)

The net profit ratio of the Sangam Dairy is calculated as mentioned above and the ratios for the ten years period are given in the following table.
Table X.6: Net Profit Ratio of Sangam Dairy from 1993-94 to 2003-04.

(Amount in lakhs of rupees)

<table>
<thead>
<tr>
<th>PARTICULARS</th>
<th>A</th>
<th>B</th>
<th>RATIO(^{(A/B)}) X 100</th>
<th>DIFFERENCE IN RATIO</th>
<th>CHANGES IN NET PROFIT</th>
<th>CHANGES IN SALES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993-1994</td>
<td>-64.36</td>
<td>5354.47</td>
<td>-1.2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1994-1995</td>
<td>1.09</td>
<td>6717.95</td>
<td>-1.216</td>
<td>65.45</td>
<td>1363.48</td>
<td></td>
</tr>
<tr>
<td>1995-1996</td>
<td>4.09</td>
<td>5667.58</td>
<td>-0.056</td>
<td>3</td>
<td>-1050.4</td>
<td></td>
</tr>
<tr>
<td>1996-1997</td>
<td>2.47</td>
<td>6531.12</td>
<td>0.035</td>
<td>-1.62</td>
<td>863.54</td>
<td></td>
</tr>
<tr>
<td>1997-1998</td>
<td>25.21</td>
<td>8054.76</td>
<td>-0.273</td>
<td>22.74</td>
<td>1523.64</td>
<td></td>
</tr>
<tr>
<td>1998-1999</td>
<td>92.06</td>
<td>8509.71</td>
<td>0.31</td>
<td>66.85</td>
<td>454.95</td>
<td></td>
</tr>
<tr>
<td>1999-2000</td>
<td>11.25</td>
<td>10444.6</td>
<td>-0.77</td>
<td>-80.81</td>
<td>1934.86</td>
<td></td>
</tr>
<tr>
<td>2000-2001</td>
<td>5.47</td>
<td>10931.3</td>
<td>0.98</td>
<td>-5.78</td>
<td>486.72</td>
<td></td>
</tr>
<tr>
<td>2001-2002</td>
<td>3.89</td>
<td>11912.6</td>
<td>0.05</td>
<td>-1.58</td>
<td>981.26</td>
<td></td>
</tr>
<tr>
<td>2002-2003</td>
<td>3.9</td>
<td>11716.4</td>
<td>-0.001</td>
<td>0.01</td>
<td>-196.11</td>
<td></td>
</tr>
</tbody>
</table>
The above table is drawn to know the net profit ratio of the dairy for the study period. It can be understood from the table that during the year 1993-94 there is a loss of Rs.64.36 lakhs. But in the next year the dairy came out of the trouble and gained a nominal net profit of Rs.1.09 lakhs. During the years 1995-96 and 1996-97 the net profits of the dairy are Rs.4.09 and Rs.2.47 lakhs respectively. From 1997-98 to 1999-2000 the dairy earned higher net profits comparative to the remaining seven years i.e. Rs.25.21 lakhs in 1997-98, Rs.92.06 lakhs in 1998-99 and Rs.11.25 lakhs in 1999-2000. In the year 2000-01 the net profit is Rs.5.47 lakhs, in 2001-02 and 2002-03 these are same at Rs.3.89 lakhs.

An important point to be noted here is that the dairy is running on cooperative basis and its main objective is not profiteering. Much of the gross profit it earns is transferred to staff welfare and other relevant reserves. That is the reason why the net profit looks very less. The weak equity base demands no profit and the members of the society are not for dividends. The figures in the balance sheets of the dairy in terms of various reserves support this view.
In the year 1993-94 the net profit ratio is negative with 1.2 per cent. From 1994-95 to 2002-03 the ratios are less than one per cent with an exception of 1998-99, where the net profit ratio is 1.08 per cent.

Except in the year 1994-95 in all the remaining nine years the difference in net profit ratio is not more than one per cent to that of the respective previous years irrespective of increase or decrease.

As for the changes in net profit is concerned, there is an increase of Rs. 65.45 lakhs in 1994-95 compared to that of the previous year. But in the next year i.e. in 1995-96 the increase is only Rs.3 lakhs to that of the previous year and even negative i.e. less than Rs.1.62 lakhs in 1996-97. However, during the years 1997-98 and 1998-99 the increase in net profit is Rs.22.74 lakhs and Rs.66.85 lakhs respectively. In the year 1999-2000 the net profit declined by Rs.80.81 lakhs. Even in the following two years i.e. in 2000-01 and in 2001-02 the net profits are less than previous years by Rs.5.78 lakhs and Rs.1.58 lakhs respectively. In the last year i.e. in 2002-03 the change is almost nil.