CHAPTER - III

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THEORETICAL FRAMEWORK OF FINANCIAL ANALYSIS

3.1 Introduction

Simply speaking ratio is numerical relationship between two number. Ratio analysis means the process of determining and presenting the relationship of the items in the financial statement. The ratio calculated by dividing one figure by the other figure. It may be expressed in any of the three ways i.e. times, proportion or percentage.

3.2 Ratio Analysis

An absolute figure does not convey mach meaning. Therefore becomes necessary to study a certain in relation to some other relevant figure to arrive at certain conclusion e.g. if we are given figure of only net profit is heavy reasonable or insufficient for this purpose we must take into consideration the figure of sales to decide, the percentage of net profit to sales. On the basis of this percentage we can conclude, whether net profit earned its reasonable or otherwise. Thus, relationship between two figures expressed mathematically is called ratio. The ratio is calculated by dividing one figure by other figure.

3.3 Meaning of Ratio

Ratio are simply a means highlighting in arithmetical terms the relationship between figures drawn from various financial statements. Robert Anthony: - defines ' a ratio as simply one number expressed in term of another.'

Ratio analysis means the process of computing determining and presenting relationship of items and groups of items in the financial statements. It involves three steps-

- 1. The financial manager selects from the statement those sets of data which are relevant to his objective of analysis and calculates appropriate ratio for the firm.
- 2. The seconds sales for the comparison either with the industry standards or with the ratio of the same firm relating to past.
- 3. After such comparison the conclusion may be drawn and presented in the form of report.

3.4 Significance of Ratio

Financial statement provide an absolute figure. These absolute figure does not convey anything unless, it is related with the other relevant figures. The interrelationship that exists among the different items appeared in the financial statement, are revealed by accounting ratios. Thus they are equally useful to the internal management, prospective investors, creditors and outsiders etc. Besides, ratios are very much significant to increase the efficiency of the management, to reduce the expenditure and to increase the rate of profit. The importance of ratio analysis are discussed here under.

a) It helps to analysis the probable causal relation among different items after analyzing the scrutinizing the past result.

- b) Ratio analysis helps to the management to prepare various budgets, to formulate policy and to prepare the future plan of action and thus helps as a guide. It to harmonize amount different items for preparing budgets.
- c) It helps to take time dimension into a account by trend analysis i.e. whether the firms is improving or deteriorating over a number of years, that can easily be studied by the trend analysis so, comparison can be made without difficulty by the analysis and to see whether the said that ratio is high or low in comparison with the standard or normal ratio
- d) It throws light on the degree of efficiency of the management and utilization of the assets and that is why it is called survey of efficiency.
- e) It helps to make an interfirm comparison either between the different departments of a firm or between two firms employed in the identical types of business or between the same firm of two different dates. Thus the comparative analysis can be possible between the industry average ratio and the ratio of each business unit.
- f) Short term liquidity position e.g. to maintain its short term obligations or not that can be easily known and measured by the application of leverage or profitability ratio. Thus the ratio helps an invaluable aid to the users of financial statement.
- g) Ratio analysis helps to the management for comparison present ratios with past and expected future ratios.
- h) Ratio analysis helps to the management for decision making

3.5 Necessity of Ratio Analysis

The financial statement prepared in absolute manner are not more than a group of accounting figure. These statements are mainly meant for external parties having a financial state in business. The management is not satisfied with only total figures recorded in the financial statement. It wants to know the financial strength of the business the liquidity, profitability and solvency position of the firm. Ratio analysis is the process of identifying the financial strength and weaknesses of the firm by properly establishing relationships between the items of the balance sheet and the profit and loss account. The figures recorded in the financial statements are analyzed interrelated and then they are interpreted i.e. the concussion are drawn.

Ratio analysis is considered to be a very valuable tool of management control ratio enable data to be summarized and simplified for presentation to management for managerial decisions. By studying various ratios the management can understand the financial facts of the business. Short term as well as long term solvency, capita structure, its ability to earn a fair returns on its investments, the performance and efficiency of various department etc. This enables the management to have effective control over the business operation. The ratio analysis helps the management in discharging its basic functions like forecasting, planning, co-ordination, control etc. Analysis, analytical study of the past performance of the business helps the management in predicting and projecting the future. It conveys the necessary information to the respective personnel and thus assists in the work

of communication. It promotes co-ordination among the departments and the staff by a study of performance and efficiency of each department. The knowledge derived through the analysis may be used by the manager in planning business co-operations.

The usefulness of ratio analysis is not confined to the financial manager or executives only but the ratios are also useful to the financial institutions. Credit suppliers and investors for evaluating the financial position of the firm and judge the solvency and profitability of the business.

3.6 Advantages of Ratio Analysis

The following are the advantages of the ratio analysis.

- 1. Ratio simplify the comprehension of financial statements.

 They tell the whole story as a help of financial data is condensed in them. They indicate the changes in the financial condition of the business.
- 2. Ratio analysis provides data for interfirm or intrafirm comparison cannot be made with absolute figures. Net profit of the other firm. But percentage of net profits can be compared of evaluate the performance. Similarly performance and efficiency of different departments in the same firm can be compared with the help of ratio.
- 3. They act as an index of the efficiency of enterprise. As such they serve as an instrument of management control. It is an instrument for diagnosis of the financial health of an enterprise. The efficiency of the various individual units

similarly situated can be judged through inter firm comparison.

- 4. The ratio analysis can be of invaluable aid to management in the discharge of its basic function of forecasting, planning, co-ordination communicating and control. A study of the trend of strategic ratio may help the management in this respect. Past ratio indicate trends in cost, sales, profit and other relevant facts.
- 5. Investment decisions can at times be based on the conditions revealed be certain ratios.
- 6. They make it possible to estimate the other figure when one figure is know.

Thus, the ratio analysis points out the financial condition of business. Whether it is very strong, good, questionable or poor and enables the management to take necessary steps.

3.7 Limitation of Ratio Analysis

The ratio analysis is one of the most powerful tool of financial management. Though ratios are simple to calculate and easy to understand they suffer from some limitations.

1. Limited Use of Single Ratio

A single ratio usually does not convey much of a sense. To make a better interpretation a number of ratios have to be calculated which is likely to confuse the analysis than help him in making any meaningful conclusions.

2. Lack of Adequate Standard

There are no well accepted standards or rules of thumb for all ratio. Which can be accepted as norms. It renders interpretation of the ratios difficult.

3. Inherent Limitations of Accounting

Like financial statements, ratios also suffer from the inherent weakness of accounting records such as their historical nature. Ratios of the past are not necessarily true indicators of the nature.

4. Change of Accounting procedure

Change in accounting procedure by a firm often makes ratio analysis misleading e.g. a change in the valuation of method of inventories, from FIFO to LIFO increases the cost of sales and reduces considerably the value of closing stocks which makes stock turnover ratio to be lucrative and an unfavorable gross profit ratios.

5. Window dressing

Financial statements can easily be window dressed to present a better picture of its financial and profitability position to outsiders. Hence one has to be very difficult for an outsider to know about the window dressing made by a firm.

6. Personal Bias

Ratio are only means of financial analysis and not an end itself ratio have to be interpreted and different people may interpret the same ratio in different ways.

7. Uncomparable

Not only industries differ in their nature but also the firms of the similar business widely, differ in their size and accounting procedures etc. It makes comparison of ratios difficult and misleading. Moreover, comparisons are made difficult due to differences in definitions of various financial terms used in the ratio analysis.

8. Absolute figures distortive

Ratio devoid of absolute figures may prove distortive as ratio analysis is primarily a quantitative analysis and not a qualitative analysis.

9. Price Level Changes

Which making ratio analysis no consideration is made to the changes in price levels and this makes the interpretation of ratios invalid.

10. Ratio no Substitutes

Ratio analysis is merely a tool of financial statements. Hence ratios become useless if separated from the statements from which they are computed.

Functional Classification of Ratios



Liquidity Ratios

Long term solvency and Leverage Ratios.

- A) 1. Current Ratio
 - 2. Liquid (Acid test or Quick Ratio)
 - 3. Absolute Liquid Ratio.
- B) 1. Debtor's turnover ratio.
 - 2. Creditors turnover ratio.

Composite / Operating / financial

- 1. Debt equity ratio
- 2. Debt to total capital ratio
- 3. Cash flow debt service ratio
- 4. Interest coverage ratio
- 5. Capital gearing ratio

3. Inventory turnover ratio. **Activity Ratios Profitability Ratios**

- 1. Inventory to turnover ratio.
- 2. Debtors turnover ratio.
- 3. Fixed assets to turnover ratio.
- 4. Total assets to turnover ratio.
- 5. Working capital to turnover ratio. 4. Net profit ratio
- 6. Payables to turnover ratio.
- 7. Capital employed turnover ratio.
- A) In relation to sales.
 - 1. Gross profit ratio
 - 2. Operating ratio
 - 3. Operating profit ratio

 - 5. Expense ratio
 - B) In relation to investment
 - 1. Return on investments
 - 2. Return on capital employed
 - 3. Return on equity capital
 - 4. Return on total resources
 - 5. Earning per share
 - 6. Price earning ratio

3.8 Types of Ratio

Financial ratio have been classified in several ways i.e. according to nature of items, which are re-classified into balance sheet ratios on profit and loss A/c and composite ratio.

A) Liquidity Ratios

Liquidity refers to the ability of firm to meet its obligation in short-run, usually period one year. Liquidity values are generally based on relationship between current assets and current liabilities.

1. Current Ratio

Current ratio may be defined as the relationship between current assets and current liabilities. This ratio is also known as working capital ratio. Current ratio 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 current liability.

Current Assets

Current Ratio = -----

Current Liabilities

The two basic components of this ratio are current assets and current liabilities. Current assets includes 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, pre-paid expenses etc. current liabilities are those obligation 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, dividend payables etc.

Components of Current Ratio

Current Liabilities
,
1. Outstanding
expenses/Accrued
expenses.
2. Bills payable
·3. Sundry creditors
4. Short-term
advances
5. Income-tax payable
6. Dividend payable
7. Bank overdraft.

It is a ratio of current assets to current liabilities some have suggested that in order to ensure solvency of a concern. Current assets should be at least twice the current liability.

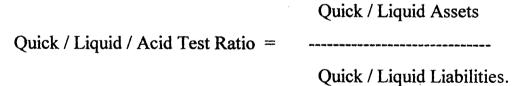
Significance:-

This ratio indicates the solvency of be business i.e. ability to meet the liability of the business as and when they fall due. 2:1 ratio is satisfactory ratio. A high current ratio is also not desirable. It means less efficient use of funds and therefore this will result in considerably lowering down the profitability of the concern.

It is to be noted that high does not mean that current ratio is quite high does not mean that the bank will be in a position to meet adequate its short-term liabilities. In fact the current ratio should be seen in relation to the component of current assets and current liabilities.

2. Quick or Acid test or Liquid Ratio

Quick ratio, also known as Acid test or liquid ratio, is a more rigorous test of liquidity that the current ratio. The term liquidity refers to the ability of a firm to pay its short-term obligations as and be they become due. The two determinants of current ratio, as a measure of liquidity, are current assets and current liabilities. Current assets include inventor 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 liquid assets and liquid liabilities. 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 receivables, sundry debtors, marketable securities and short-term or temporary investments prepaid expenses and inventories are excluded from current assets. The quick ratio can be calculated by dividing the total of quick assets by total current liabilities.



The current ratio fails to serve as a realistic guide to the solvency of the bank, as the major portion of the converted liabilities in cash i.e. stock to meet the immediate liabilities. Therefore liquid ratio is used to know the adequacy of funds.

The liquid or quick ratio indicates the relation of quick assets with quick liabilities. Quick or liquid assets includes current assets except stock and prepaid expenses. Quick liabilities includes currents liability except outstanding expenses and bank overdraft. This ratio 1:1 is satisfactory ratio.

Components of Quick / Liquid Ratio

Quick / Liquid Assets	Quick / Liquid Liabilities
 Cash in hand Cash at bank Bills Receivables Sundry Debtors Temporary investment 	 Outstanding / Accrued expenses Bills payable Sundry creditors Short term advances (Payable shortly) Income tax payable
	6. Dividend payable
	7. Bank overdraft

Significance of Quick Ratio:-

The quick ratio is very useful in measuring the liquidity position of a firm. It measures the firms capacity to pay off current obligations immediately and is a more rigorous test of liquidity that the current ratio.

Quick ratio is measure of the extent to which liquid resources are immediately available to meet current obligation. This ratio is more rigorous test of liquidity than the current ratio

and when used in conjunction with it, given a better picture of the firms ability to meet, its short-term debts out of short term assets.

3. Absolute Liquid or Cash Position Ratio

Although receivables, debtors and bills receivable are generally more liquid than inventories yet there may be doubts regarding their realization into cash immediately or in time. Hence, some authorities are of the opinion that the absolute liquid ratio should also be calculated together with current ratio and acid test ratio so as to exclude even receivables from the current assets and find out the absolute liquid assets.

Absolute liquid assets

Absolute liquid ratio = ----
Current liabilities

Absolute liquid assets include cash in hand and cash at bank and marketable securities or temporary investment. The acceptable norm for this ratio is 50% or 0.5:1 or 1:2. Rs. 1 worth absolute liquid assets are considered adequate to pay Rs. 2 worth current liabilities in time as all the creditor are not expected to demand cash at the same time and then cash may also be realized from debtors and inventories.

B) Leverage / Safety Ratio

The purpose of calculating these ratios is to ascertain the stake of proprietors, vis a vis the creditors. In an undertaking where the proprietors, funds from a small part, the maximum risk has to be borne by the creditors. In financial terms a large amount of debt capital related to equity is called high capital gearing, where as a

large amount of equity capital, related to debt is called low capital gearing.

Some of the important ratios are discussed are as follows.

1. Proprietary or Equity Ratio.

A variant to the debt-equity ratio is the proprietary ratio which is also known as equity ratio or shareholders to total equities ratio or net worth or total assets ratio. This ratio establishes the relationship between shareholders funds to total assets of the firm. The ratio of proprietors funds to total funds is an important ratio for determining long-term solvency of a firm. The components of this ratio are shareholders funds or proprietors funds and total assets. The shareholders funds are equity share capital, preference share capital, undistributed profits, reserves and surpluses. Out of this amount accumulated losses should be deducted. The total assets other hand denote total resources of the concern.

It is calculated as-

The ratio establish the relationship between proprietors funds and total assets. 100% less percentage of this ratio = ratio of total liabilities total assets. If this ratio is 75%. It means ratio of total liabilities to total assets 25%. Equity ratio represents the relationship of owners funds to total assets, higher the ratio or the share of the shareholders in the total capital of the company, better is the long term solvency position of the company. The ratio

indicates the extent to which the assets of the company can be lost without affecting the interest of creditors of the company.

Significance:-

Greater is the percentage of proprietors fund, the stronger is financial position of the concern. This ratio is normally a test of strength of credit worthiness of the concern. To the extent percentage of liabilities increase or the percentage of capital windless, the credit strength of the concern deteriorates.

The high proprietary ratio is however, frequently indicative of over capitalization and an excessive investment in fixed assets in relation to actual needs. A ratio nearing 100% often gives low earnings per share and consequently a how rate of dividend to shareholders. A low proprietary ratio on the other hand is a symptom of under capitalization and an excessive. Use of creditors funds to finance the business.

2. Debt to Equity Ratio or Total Liabilities to Proprietors funds Ratio.

It is a measure of the relative claims of creditors and owners against the assets of the firm. It is calculated as under.

	Total debt
Debt to equity ratio =	
	Net worth or owners equity

The term total debt includes all debts i.e. long term, short term, mortgages, bills, debentures etc. whereas the term net worth means equity share capital, preference share capital, reserve and surplus i.e. shareholders funds or equity. 1:1 ratio is desirable.

Significance:-

It is a measure of financial strength of a concern. Lower the ratio greater is the security available to creditors. A satisfactory current ratio and ample working capital may not always be a guarantee against insolvency, if the total liabilities are inordinately large.

The purpose of this ratio is to derive an idea of the amount of capital supplied by the owners and of assets, cushion available to creditors on liquidation. Generally 1:1 ratio is acceptable. The greater the interest of the owners as compared with that of the creditors, the more satisfactory is the financial structure of the business, because in such a situation. The management is less handicapped by interest charges and debt repayment requirements.

A company having a stable profit can afford to operate on a relatively high debt equity ratio where as in the case of the company having an unstable profit a high debt equity ratio reflects a speculative situation. Too much reliance on external equities may indicate under capitalization, where as too much reliance on internal equities may lead to over capitalization.

3. Fixed assets to net worth ratio

This ratio is also called fixed assets to tangible net worth or capital to fixed assets ratio. This ratio establishes the relationship between fixed assets and shareholders funds i.e. share capital plus, reserves, surpluses and retained earnings. This ratios can be calculated as follows.

Fixed assets – Deprecations Fixed assets to net worth ratio = Net worth

The ratio of fixed assets to net worth indicates the extent to which shareholders funds are sunk into the fixed assets. Generally the purchase of fixed assets should be financed by shareholders equity including reserve, surpluses and retained earnings. If the ratio is less than 100% it implies that owners funds are more than total fixed assets and a part of the working capital is provided by shareholders. When the ratio is more than 100%. It implies that owners funds are not sufficient to finance the fixed assets and the firm has to depend upon outsiders to finance the fixed assets. There is no rule of thumb to interpret this ratio but 60% to 65% is considered to be satisfactory ratio in case of industrial undertakings.

Significance:-

Normally proprietors should provide all the funds required to purchase fixed assets. If the ratio exceeds 100%. If indicates that the company has used short term funds for acquiring fixed assets. This policy may not be desirable. To the extent the fixed assets exceed the amount of capital and reserve, the working capital is depleted. When the amount of proprietors fund exceeds the value of fixed assets i.e. when the percentage is less than 100, a part of the net working is supplied by the shareholders providing that there are no other non-current assets. Through, it is not possible to pay down a rigid standard as regards the percentage of capital. Which should be invested in fixed assets in each industry, there always is a maximum. Which should not be exceeded, so that the harmony

among the fixed assets, debtors and stock is not disturbed. The ratio should generally be 65%.

4. Interest Coverage Ratio.

Interest coverage ratio is also called as debt service ratio. Net income to debt service ratio or simply debt service ratio is used to test the debt servicing capacity of a firm. The ratio is also know as interest coverage ratio or coverage ratio or fixed charges cover or times interest earned. This ratio is calculated by dividing the net profit before interest and taxes by fixed interest charges.

Formula is -

Interest coverage ratio = ----
Fixed interest charges

= No. of times.

Interest coverage ratio indicates the number of times interest is covered by the profits available to pay the interest charges. Long – term creditors of a firm are interested in knowing the firms ability to pay interest on their long – term borrowing. Generally, higher the ratio, more safe are the long term creditors because even if earnings of the firm fall, the firm shall be able to meet its commitment of fixed interest charges. But a too high interest coverage ratio may not be good for the firm because if may imply that firm is not using debt as a source of finance so as increase the earnings per share. The interest coverage ratio does not take into consideration other fixed obligations like payment of preference dividend and repayment of loan installment.

The standard interest coverage ratio is six-seven times. The weakness of the ratio would indicate difficulty in securing additional funds from outside sources. However too high ratio may mean every conservative use of debt is being made by the firm. A lower ratio indicates excessive use of debt and points out that the firm should improve that operating efficiency or repay the debt to improve the coverage. Normally the standard ratio is taken to be 6 to 7 times.

C) Activity Efficiency Ratio

They are called efficiency or performance ratios or assets management ratio. The purpose of this ratios is to judge how effectively it company is utilizing the facilities at its command. The better the management of assets the large is the amount of sales and the profits. Activity ratio measure the efficiency or effectiveness with which a firm manages its resources or assets.

1. Total assets to turnover Ratio

This ratio is arrived at by dividing sales by total assets.

Sales

= ----
Total assets

= No. of times.

This ratio indicates the sales generated per rat of investment in total assets. Thus, it aims to point out the efficiency or inefficiency in the use of total assets or capital employed. Increase in ratio indicates more revenue us generated per rupee of total investment in assets. Some analysis take only tangible assets and in

that case the ratio will be arrived at by dividing assets and in that case the ratio will be arrived at by dividing sales by tangible assets only i.e. goodwill, patents, copyrights and trademarks etc. are not taken into account normally standard ratio is taken 2 times.

2. Fixed Assets to Turnover ratio.

This ratio is arrived as under.

Sales

= ----
Net fixed assets

= No. of times

This ratio measures the efficiency in the utilization of fixed assets. This ratio indicates whether the fixed assets are being fully utilized. It is an important measure of the efficient and profit earning capacity of the business. A high ratio is an index of the overtrading while a low ratio suggests idle capacity and excessive investment in fixed assets. Normally standard ratio is taken as five times.

D) Profitability Ratio

The profitability reflects the find results of business operations. Profitability ratio depict the capacity of the unit to generate profits and its rate of return. The two popular profit margin ratios are gross profit ratio and net profit ratio.

The rate of return ratios on the other hand reflect the relationship between profit and investment. The important measures in this category are net income to total assets ratio, return on investment and return on equity ratio.

1. Net Profit Ratio

Net profit is that portion of net sales, which remains to the owners or the share holders after all costs, changes and expenses include income tax, have been deducted net profit ratio establish the 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 firms profitability and is calculated as-

The two basis elements of the ratio are net profits and sales. The net profits are obtained after deducting income – tax and generally non operating incomes and expenses are excluded from the net profits for calculating this ratio. Thus incomes such as interest on investment outside the business profit on sale of fixed asset etc. are excluded. The ratio is very useful as if the profit is not sufficient the firm shall not be able to achieve a satisfactory return on its investment. This ratio are indicates the firms capacity to face adverse economic conditions such as price completion, low demand obviously, higher the ratio, the better is the profitability. But while interpreting the ratio, it should be kept in mind that the performance of profits must also be seen in relation to investments or capital of the firm and not only in relation to sales.

The differs from the ratio of operating profits to net sales in as much as it is calculated after adding non operating incomes like interest, dividends on investments etc. to operating profits and deducting non- operating expenses, such as loss on operating expenses. Such as loss on sale of old assets, provision for legal expenses etc. tram such profits. The ratio is widely used as a measure of over all profitability and is very useful to the proprietor reading it along with the operating ratio gives on idea of the efficiency as well as profitability of the business to a limited extent.

2. Return on shareholders investment ratio

return on shareholders investment popularly known as R.O.I. or return on share holder proprietors funds is the relationship between net profit and the proprietors funds.

	No	et profit (after tax and interest)
Return on shareholders investmen	nt =	
	S	hareholders fund / net work

The two basic component of this ratio are net profits and shareholders funds. Shareholders funds include equity share capital preference share capital free reserves such as share premium, revenue reserve, capital reserve, retained earnings and surplus, less accumulated losses, if any. Net profits are visualized from the viewpoint of owners i.e. shareholders. Thus, net profit are arrived at after deducting interest on long term borrowing and income tax, because those will be the only profits available for shareholders.

This ratio is one of the most important ratios used for measuring the overall efficiency of a firm. As the primary objective of business is to maximize its earnings, this ratio also indicates the extent to which this primary object of business is being achieved. This ratio is of great importance to the present and prospective shareholder as well as the management of the company. As this ratio reveals how well the resources of a firm are being used, higher the ratio better are the results. The return on shareholders investments should be compared with the return on other similar firm are attractive or not as the investment would like to invest only, where the return is higher, similarly, trend ratio can also be calculated for a number of years to get on idea of the prosperity, growth or deteriorations which in the company's profitability and efficiency.