

## Module 7 : Interpretation and Analysis of Accounts

### Lecture 2 : Ratio Analysis

#### Objectives

#### In this lecture you will learn the following

- Ratios.
- Ratio Analysis.
- Types of Ratio.
  1. Liquidity Ratios.
  2. Capital Structure/Leverage ratios.
  3. Activity Ratios.
  4. Profitability Ratios.
  5. Return Ratios.

#### What is a Ratio ?

- Ratio is a relationship between two or more items of the financial statements. E.g. Net Profit Ratio

•	Profit	A	65	B	45
•	Sales	A	650	B	300

#### Ratio Analysis

- A single accounting figure by itself may not communicate any meaningful information but when expressed as a relative to some other figure, it may definitely provide some significant information. Hence ratio analysis proves very beneficial.
- Ratio analysis is not just comparing different numbers from financial statements. It involves comparing the ratio against previous years, against peers, and with the industry average for the purpose of financial analysis.

#### Ratio Analysis - Advantages

Ratios help stakeholders (like owners, managers, investors, lenders, employees) to draw conclusion about the

- Performance (past, present and future).
- Strengths & weakness.
- And take decision in relation to the firm.

#### Types of Ratio

The ratios can be classified into following four broad categories:

1. Liquidity Ratios.
2. Capital Structure/Leverage ratios.
3. Activity Ratios.
4. Profitability Ratios.
5. Return Ratios.

#### 1. Liquidity Ratios:

i. Current Ratio =  $\frac{\text{Current Asset}}{\text{Current Liabilities}}$

where,

Current Asset (CA) = Inventories + Sundry Debtors + Cash & Bank balances + Receivables / Accruals + Loans & Advances + Disposable Investments

Current Liabilities (CL) = Creditors + Short term Loans + Bank Overdraft + Cash Credit + Outstanding Expenses + Provision for Taxation + Proposed Dividend + Unclaimed Dividend

### Current Ratio

The main question this ratio address is: Does business have enough current assets to meet its current debts.

A generally acceptable current ratio is 2:1.

But whether or not a specific ratio is satisfactory depends on the nature of business and characteristics of its CA and CL.

## 1. Liquidity Ratios:

ii. Quick Ratio / Acid Test Ratio = 
$$\frac{\text{Quick Asset}}{\text{Quick Liabilities}}$$

Quick Asset = CAs - Inventories

Quick Liabilities = CLs - Bank Ovdraft

- o The quick ratio is a much more conservative measure than current ratio.
- o This ratio measure the immediate solvency of the company.
- o The ideal liquid ratio is 1:1. This is irrespective of nature of business.

## 2. Capital Structure/Leverage Ratios:

These ratios indicate the mix of funds provided by owners and lenders. Leverage ratios are of two types

- a. Capital Structure ratios.
- b. Coverage ratios.

## 2. Capital Structure/Leverage Ratios:

### a. Capital Structure ratios:

These ratios provide an insight into the financing techniques used by a business and focus, as a consequence, on the long term solvency position.

#### 1. Equity ratio:

This ratio indicates proportion of owners fund to total fund invested in the business.

$$\text{Equity Ratio} = \frac{\text{Shareholder's Equity}}{\text{Total Capital Employed}}$$

#### 2. Debt ratio:

$$\text{Debt Ratio} = \frac{\text{Total Debt}}{\text{Capital Employed}}$$

Total debt includes short and long term borrowing from financial institution, debentures/ bonds deferred payment arrangements for buying capital equipments, bank borrowings, public deposits and any other interest bearing loan. Capital employed includes total debt and net worth.

This ratio is used to analyse long term solvency of the firm.

## 2. Capital Structure/Leverage Ratios:

### a. Capital Structure ratios:

#### 3. Debt equity ratio:

$$\text{Debt equity Ratio} = \frac{\text{Debt + Preference Share Capital}}{\text{Shareholders Equity}}$$

This ratio indicates the proportion of debt fund in relation to equity. Lenders are very keen to know this ratio since it shows relative weight of debt and equity.

A high ratio here means less protection for creditors.

A low ratio, on the other hand, indicates a wider safety cushion.

### b. Coverage ratios:

The coverage ratios measure the firm's ability to service the fixed liabilities. These ratios

establish the relationship between fixed claims and what is normally available out of which these claims are to be paid. The fixed claims of:

- i. Interest on loans.
- ii. Preference Dividends.
- iii. Repayment installment of loans.

## 2. Capital Structure/Leverage Ratios:

### b. Coverage ratios:

$$1. \text{ Debt Service Coverage ratios} = \frac{\text{Earnings available for debt service}}{\text{Interest} + \text{Installments}}$$

Earnings for debt service = Net Profit + Non cash operating expenses like depreciation and other amortisation + non-operating adjustments like loss on sale of fixed assets + Interest on debt funds

Lenders are interested in debt service coverage to judge the firms ability to pay off current interest and instalments.

$$2. \text{ Interest Coverage ratios} = \frac{\text{EBIT}}{\text{Interest}}$$

This ratio indicates the extent to which earnings may fall without causing any embarrassment to the company regarding the payment of interest charges.

A high ratio means that an enterprise can easily meet its interest obligation even if EBIT suffers a considerable decline.

A lower ratio indicates excessive use of debt or inefficient operations.

## 2. Capital Structure/Leverage Ratios:

### b. Coverage ratios:

$$3. \text{ Preference dividend Coverage ratio} = \frac{\text{EAT}}{\text{Preference dividend liability}}$$

This ratio measures the ability of a firm to pay dividend on preference shares which carry a stated rate of return.

$$4. \text{ Capital Gearing ratio} = \frac{\text{Preference Share Capital} + \text{Debenture} + \text{Long Term Loan}}{\text{Equity Share Capital} + \text{Reserves \& Surplus} - \text{Losses}}$$

## 3. Activity Ratios:

Activity ratios are also called as Turnover ratios or Performance ratios. These ratios are used to evaluate efficiency with which the company manages and utilises its assets. These ratios are usually calculated with reference to sale/cost of goods sold and are expressed in terms of rate or times. Some of the important activity ratios are as follows:

$$a. \text{ Capital Turnover Ratio} = \frac{\text{Sales}}{\text{Capital Employed}}$$

This ratio indicates the firm's ability of generating sales per rupee of long term investments.

$$b. \text{ Fixed Asset Turnover Ratio} = \frac{\text{Sales}}{\text{Capital Asset}}$$

This ratio indicates the firm's ability to efficient utilisation of fixed asset in generating sales.

### 3. Activity Ratios:

$$c. \text{ Working Capital Turnover Ratio} = \frac{\text{Sales}}{\text{Working Capital}}$$

Working Capital Turnover is further segregated into Inventory turnover, Debtors Turnover, Creditors turnover.

$$i. \text{ Inventory Turnover Ratio} = \frac{\text{Cost of Sales or Sales}}{\text{Average or Closing Inventory}}$$

$$\text{Average Inventory} = \frac{\text{Opening Stock} + \text{Closing Stock}}{2}$$

Inventory turnover ratio indicates average stock holding period. However it can be directly calculated as

$$\text{Stock holding Period} = \frac{\text{Average Inventory}}{\text{Sales or Cost of sales}} \times 365/12$$

This ratio indicates that how fast inventory is sold. It establishes the relationship between cost of goods sold during the year and average inventory held during the year.

### 3. Activity Ratios:

c.

$$ii. \text{ Debtors Turnover Ratio} = \frac{\text{Credit Sales}}{\text{Average Accounts Receivables}}$$

This ratio throw light on the collection and credit policies of the firm. Debtors turnover ratio indicates average collection period. However it can be directly calculated as

$$\text{Debtors velocity} = \frac{\text{Average Debtors}}{\text{Credit Sales}} \times 365/12$$

$$iii. \text{ Creditors Turnover Ratio} = \frac{\text{Credit Purchase}}{\text{Average Accounts Payables}}$$

This ratio shows the velocity of the debt payment by the firm. This ratios reflect the credit terms granted by creditors.

Average payment period can be calculated as

$$\text{Creditors Velocity} = \frac{\text{Average Creditors}}{\text{Credit Purchases}} \times 365/12$$

### 4. Profitability Ratios:

Profitability ratios measure the profitability as a percentage of sales.

$$a. \text{ Net Profit Ratio} = \frac{\text{Net Profit After Tax}}{\text{Sales}} \times 100$$

$$b. \text{ Gross Profit Ratio} = \frac{\text{Gross Profit} \times 100}{\text{Sales}}$$

$$c. \text{ Operating Profit Ratio} = \frac{\text{Operating Profit} \times 100}{\text{Sales}}$$

### 5. Return Ratios:

Return ratios measure the profitability in relation to capital used. These ratios reflect the final results of the business.

$$a. \text{ Return on Equity (ROE)} = \frac{\text{Profit after Taxes} * 100}{\text{Net worth}}$$

Return on equity measures the profitability of equity funds invested in the firm.

$$b. \frac{\text{Return on capital employed (ROCE)}}{\text{Return on Investment (ROI)}} = \frac{\text{Return}}{\text{Capital Employed}}$$

where ,

Return= Net Profit before Taxes +Interest +/- Non trading adjustment

Capital Employed = Equity + Preference + Reserves & Surplus + Debentures & Other Long Term Loan – Misc. Expenditure & Losses – Non trade investments

Return on Investment (ROI) = Profitability Ratio X Capital Turnover Ratio

ROI can be improved either by improving operating profit ratio or capital turnover or by both.

### 5. Return Ratios:

$$c. \text{ Return on Asset} = \frac{\text{Net Profit After Tax}}{\text{Average Fixed Assets}}$$

This ratio measures the profitability of the firm in terms of assets employed in the firm.

$$d. \text{ Earnings per Share (EPS)} = \frac{\text{Net Profit available to Equity shareholders}}{\text{Number of Equity Shares}}$$

The profitability per share from the point of view equity share-holders

$$e. \text{ Price Earning Ratio (PE)} = \frac{\text{Market Price Per share}}{\text{Earning Per Share}}$$

The PE ratio indicates the expectation of equity investors about the earnings of the company.

### 5. Return Ratios:

$$f. \text{ Dividend per Share (DPS)} = \frac{\text{Dividend distributed to Equity shareholders}}{\text{Number of Equity Shares}}$$

Dividend per share ratio indicates the amount of profit distributed per equity share.

Various ratios are good measure of:

- Growth potential of investment.
- Risk characteristics.
- Profitability.
- Degree of liquidity.
- Corporate image.