Ratio Analysis

Meaning of Ratio

A ratio is a number expressed in terms of another. It is a fraction whose numerator is the antecedent and denominator is the consequent. A ratio indicates the quantitative relationship between two figures. It may be expressed in different forms like-

1. Pure Ratio [For example, Current Ratio, say 3:1]

2. Rates [For example, Stock Turnover Ratio, say 3 times]

3. Percentage [For example, Gross profit Ratio, say 30%]

Accounting or Financial Ratio

It is a ratio between two accounting figures or data expressing the relationship between the two. It is an expression of the relation involving different pertinent accounting variables. The Financial statements of a business comprise of

(a) The Revenue Statement or the Profit & Loss Account and

(b) The Balance Sheet.

These contain a bunch of figures which make it difficult to infer any decision. An accounting ratio is used to gauge the financial solvency and profitability of the business. It is computed from the basic financial statements periodically published by the business.

Importance of Financial Ratio Analysis or Utility of Accounting Ratio

1. It helps the management to gauze the efficiency of performance and assess the financial health of the business.

2. The interrelationship that exists among the different items in the financial statement is revealed by accounting ratios. Thus, they are equally useful to the internal management, prospective investors, creditors and outsiders etc. Moneylenders and creditors can ascertain whether a business will be a desirable debtor or a potential investment zone.

3. It assists to make an inter-firm comparison, either between the different departments of a firm or between two firms employed in the identical types of business, or between the same firms on two different dates.

Disadvantages of Ratio Analysis

Ratio analysis is a widely used technique for assessing the operating performance and financial position of a firm. But it has got some inherent problems. Some of these problems are as follows:

1. The efficacy of ratio analysis depends upon the sanctity of accounting data. Accounting data may remain over or understated in financial statements. The ratio becomes automatically defective as it is based on such incorrect data. The result expressed by the application of a ratio may be misleading.

2. When any business has a number of divisions in different industries, aggregate data available for ratio analysis prove useless.

3. The Ratio becomes misleading where inconsistent methods are applied for valuations of stock, etc. It also fails to tackle the effects of seasonal fluctuations.

Classification of Ratios

Generally accounting ratios can be classified in three ways viz.—

1. Classification according to sources,

2. Classification according to purposes.

Classification according to sources

- Balance Sheet Ratios
- Revenue Statement Ratios, and
- Composite / Mixed Ratios (Balance Sheet & Revenue Statement Ratios)

Balance Sheet Ratios:

Balance Sheet ratios are those which deal with the relationship between two items, or groups of items, which are both in the balance Sheet. These ratios are also known as Financial Ratios. A very few of such ratios are given below:

Current Ratio= Current Assets / Current Liabilities

Quick or Liquid Ratio or Acid Test Ratio

= (Current Assets – Closing Stock — Pre-paid Expenses) / (Current Liabilities – Bank Overdraft)

Super Quick Ratio or Absolute Liquid Ratio

= (Cash + Bank + Marketable securities) / (Current Liabilities – Bank Overdraft)

Revenue Statement Ratios:

Revenue Statement Ratios are those which deal with the relationships between two items or groups of items which are both contained in the Revenue statement. These ratios are also known as operating ratios. A very few of such ratios are given below:

Gross profit Ratio = (Gross profit/ Net sales) X 100

Net profit Ratio = (Net profit/ Net sales) X 100

Operating Ratio = (Cost of Goods Sold + Operating Expenses) / Net sales X 100

Mixed Ratios:

Balance Sheet and Revenue Statement Ratios deal with relationships between items from both the Revenue statement and items from the Balance sheet. A very few of such ratios are given below:

Debtors Turnover Ratio or Velocity = Receivables / Credit sales x 12 or 365

Creditors Turnover Ratio or Velocity = Payables / Credit purchases x 12 or 365

Capital Turnover or Turnover of Capital Employed

= Turnover or Sale / Capital Employed

Classification according to purposes:

Purpose	Name of the Ratio	Parties interested
Solvency	Current Ratio Acid Test Ratio Fixed Assets-Proprietorship Ratio Debt-Equity Ratio Capital-Gearing Ratio Interest coverage Ratio Debt service coverage Ratio etc.	Management, Bank, Money lenders, Creditors, Competitive business, etc.
Liquidity	Current Ratio Liquid Ratio Working Capital /Current Assets Stock/Current Assets Super Quick ratio Debtors Turnover Ratio Creditors Turnover Ratio Stock/Inventory Turnover Ratio	Creditors, Lenders Management, Bankers and Debenture holders.
Profitability	Gross profit Ratio Net profit Ratio Operating Ratio Operating profit Ratio Expense Ratio Return on Capital Employed Return on Shareholders' Equity Earnings per share Dividend per share	Management, Investors, Shareholders, Prospective buyers of the business, Money lenders, Competitors, etc.
Use of Assets	Net Sales/Capital Employed Fixed Assets to Net Worth Fixed Assets/Capital Employed Sales/Average Stocks Average Debtors/Average Daily Sales Cash Position Ratios	Shareholders (actual and potential), Potential takeover bidders, Competitive firms, Management.
Capital Structure	Asset-Proprietorship Ratio Capital gearing Ratio Total liabilities to Net worth etc.	Management, Shareholders, Prospective buyers of the business, Lenders, Potential take-over bidders etc.
Managerial Efficiency	Return on Capital Employed Profitability Ratios Stock Turnover Ratio Debtors Turnover Ratio Creditors Turnover Ratio Debt-Equity Ratio Turnover of Fixed Assets, etc.	Shareholders, Interested parties and Management itself.
Investment Analysis	Earnings per share	Management, Shareholders,

	Dividend per share	Prospective buyers
	Dividend payout ratio	
	Price earnings ratio	

Example

From the following particulars prepare the Balance Sheet of Sun Ltd. for the year ended 31.12.2008.

Fixed Assets to Net Worth	5:8
Current Ratio	2:1
Acid Test Ratio	1:1
Reserves to Proprietors' Funds	1:5
Current Liabilities	Rs.36,000
Cash in hand	Rs.1,500
Fixed Assets	Rs.60,000

Solution:

Current Ratio = 2:1

$$\text{or, } \frac{\text{Current Assets}}{\text{Current Liabilities}} = 2$$

or, CA= 2CL= 2 x Rs.36,000=Rs.72,000

Acid Test Ratio = 1:1

$$\text{or, } \frac{\text{Current Assets – Closing Stock — Pre-paid Expenses}}{\text{Current Liabilities – Bank Overdraft}} = 1$$

$$\text{or, } \frac{\text{Rs.72,000– Stock -Nil}}{\text{Rs.36,000 - Nil}} = 1$$

or, Rs.72,000 – Stock=Rs.36,000 or, stock = Rs.36,000

Now, Current Assets = Stock + Debtors + Cash or, Rs.72,000=Rs.36,000 + Debtors + Rs.1,500

or, Debtors=Rs.72,000 – Rs.36,000 – Rs.1,500=Rs.34,500

or, $\frac{\text{Fixed Assets}}{\text{Net Worth}} = \frac{5}{8}$

Here, Fixed Assets = 5= Rs.60,000 (given)

Net Worth = 8 = Rs.60,000x$\frac{8}{5}$ = Rs.96,000

Proprietors Fund + Loans + Current Liabilities = Fixed Assets + Current Assets

Here,Rs.96,000 + Loans + Rs.36,000 = Rs.60,000 + Rs.72,000

or, Loans = Nil

or, $\frac{\text{Reserves}}{\text{Prop. Fund}} = \frac{1}{5}$

or, Reserves = $\frac{1}{5}$x Rs.96,000 =Rs.19,200Prop. Fund

Share capital = Prop. Fund - Reserves = Rs.96,000 - Rs.19,200 = Rs.76,800

Balance Sheet of Sun Ltd. as on 31.12.2008

Liabilities	Amount	Assets	Amount
	Rs.		**Rs.**
Share Capital	76,800	Fixed Assets	60,000

Reserves	19,200	Current Assets:	
Loans	Nil	Stock	36,000
Current Liabilities	36,000	Debtors	34,500
		Cash	1,500
	1,32,000 00		1,32,000

Example:

From the following information given below, prepare Trading A/c, Profit & Loss A/c and Balance Sheet of Moon Ltd.

(a) Gross Profit Ratio 25%, (b) Net Profit/Sales 20%, (c) Sales Inventory Ratio 10, (d) Fixed Assets/Total Current Assets=⅝ (e) Current Ratio = 1, (f) Fixed Assets/Share

Capital=5/4(g) Fixed Assets Rs. 8 lakhs, (h) Closing Stock Rs. 80,000.

Solution:

or, Sales to Inventory Ratio=$\frac{\text{Sales}}{\text{Inventory}}$

or, 10=$\frac{\text{Sales}}{\text{Rs.80,000}}$

or, Sales=Rs.8,00,000

or, Gross Profit Ratio=$\frac{\text{Gross Profit}}{\text{Sales}}$x100

or, 25=$\frac{\text{Gross Profit}}{}$x100

Rs.8,00,000

Gross Profit = Rs.2,00,000

Net Profit= 20% of sales = Rs.8,00,000 x 20%= Rs.1,60,000

Operating Expenses = Gross Profit — Net Profit

= Rs.2,00,000 — Rs.1,60,000

= Rs.40,000

or, Fixed Assets to Current Assets=Fixed Assets

Current Assets

or, 5/8=Rs.8,00,000

Current Assets

or, Current Assets=Rs.12,80,000

Liquid Assets=Current Assets — Stock

=Rs.12,80,000 — Rs.80,000=Rs.12,00,000

or, Current Ratio=Current Assets

Current Liabilities

or, 1=Rs.12,80,000

Current Liabilities

or, Current Liabilities=Rs.12,80,000

or, Fixed Assets to Share Capital=Fixed Assets

Share Capital

or, 5/4=Fixed Assets

Share Capital

or, Share Capital=Rs.6,40,000

Trading & Profit & Loss Account

for the year ended

Dr. Cr.

	Rs.		Rs.
To Cost of Goods Sold	6,00,000	By Sales	8,00,000
To Gross Profit c/d	2,00,000		
	8,00,000		8,00,000
To Operating Expenses	40,000	By Gross Profit b/d	2,00,000
To Net Profit	1,60,000		
	2,00,000		2,00,000
	Balance	**Sheet**	

As at……………

Liabilities	**Rs.**	**Assets**	**Rs.**
Share Capital	6,40,000	Fixed Assets	8,00,000
Profit & Loss A/c	1,60,000	Current Assets:	
Current Liabilities	12,80,000	Stock	80,000
		Liquid Assets	12,00,000
	20,80,000		20,80,000