UNIT - II

Ration Analysis

Introduction

The analysis of the financial statements and interpretations of financial results of a particular period of operations with the help of 'ratio' is termed as "ratio analysis." Ratio analysis used to determine the financial soundness of a business concern. Alexander Wall designed a system of ratio analysis and presented it in useful form in the year 1909.

Steps involved in analysing ratios

1. Selection of relevant data from financial statements.
2. Calculation of appropriate ratios
3. Comparison of calculated ratios with the ratios of same firm in the past.

4. Interpretation of ratios.

Meaning and Definition

The term 'ratio' refers to the mathematical relationship between any two inter-related variables. In other words, it establishes relationship between two items expressed in quantitative form.

According J. Batty, Ratio can be defined as "the term accounting ratio is used to describe significant relationships which exist between figures shown in a balance sheet and profit and loss account in a budgetary control system or any other part of the accounting management."

Ratio can be used in the form of (1) percentage (20%) (2) Quotient (say 10) and (3) Rates. In other words, it can be expressed as a to b; a: b (a is to b) or as a simple fraction, integer and decimal. A ratio is calculated by dividing one item or figure by another item or figure.

Analysis or Interpretations of Ratios

The analysis or interpretations in question may be of various types. The following approaches are usually found to exist:

(a) Interpretation or Analysis of an Individual (or) Single ratio.
(b) Interpretation or Analysis by referring to a group of ratios.
(c) Interpretation or Analysis of ratios by trend.
(d) Interpretations or Analysis by inter-firm comparison.

Principles of Ratio Selection

The following principles should be considered before selecting the ratio:

1) Ratio should be logically inter-related.
(2) Pseudo ratios should be avoided.
(3) Ratio must measure a material factor of business.
(4) Cost of obtaining information should be borne in mind.
(5) Ratio should be in minimum numbers.
(6) Ratio should be facilities comparable.

Advantages of Ration Analysis

Ratio analysis is necessary to establish the relationship between two accounting figures to highlight the significant information to the management or users who can analyse the business situation and to monitor their performance in a meaningful way. The following are the advantages of ratio analysis:

(1) It facilitates the accounting information to be summarized and simplified in a required form.
(2) It highlights the inter-relationship between the facts and figures of various segments of business.
(3) Ratio analysis helps to remove all type of wastages and inefficiencies.
(4) It provides necessary information to the management to take prompt decision relating to business.
(5) It helps to the management for effectively discharge its functions such as planning, organizing, controlling, directing and forecasting.
(6) Ratio analysis reveals profitable and unprofitable activities. Thus, the management is able to concentrate on unprofitable activities and consider to improve the efficiency.
(7) Ratio analysis is used as a measuring rod for effective control of performance of business activities.

(8) Ratios are an effective means of communication and informing about financial soundness made by the business concern to the proprietors, investors, creditors and other parties.
(9) Ratio analysis is an effective tool which is used for measuring the operating results of the enterprises.
(10) It facilitates control over the operation as well as resources of the business.
(11) Effective co-operation can be achieved through ratio analysis.
(12) Ratio analysis provides all assistance to the management to fix responsibilities.
(13) Ratio analysis helps to determine the performance of liquidity, profitability and solvency position of the business concern

Limitations of Ratio Analysis

Ratio analysis is one of the important techniques of determining the performance of financial strength and weakness of a firm. Though ratio analysis is relevant and useful technique for the business concern, the analysis is based on the information available in the financial statements. There are some situations, where ratios are misused, it may lead the management to wrong direction. The ratio analysis suffers from the following limitations:

1. Ratio analysis is used on the basis of financial statements. Number of limitations of financial statements may affect the accuracy or quality of ratio analysis.
2. Ratio analysis heavily depends on quantitative facts and figures and it ignores qualitative data.
3. Therefore this may limit accuracy.
4. Ratio alibis is a poor measure of a firm's performance due to lack of adequate standards laid for ideal ratios.
5. It is not a substitute for analysis of financial statements. It is merely used as a tool for measuring the performance of business activities.
6. Ratio analysis clearly has some latitude for window dressing. It makes comparison of ratios between companies which is questionable due to differences in methods of accounting operation and financing.
7. Ratio analysis does not consider the change in price level, as such, these ratio will not help in drawing meaningful inferences.

Classification of Ration

Accounting Ratios are classified on the basis of the different parties interested in making use of the ratios. A very large number of accounting ratios are used for the purpose of determining the financial position of a concern for different purposes. Ratios may be broadly classified in to:
(1) Classification of Ratios on the basis of Balance Sheet.
(2) Classification of Ratios on the basis of Profit and Loss Account.
(3) Classification of Ratios on the basis of Mixed Statement (or) Balance Sheet and Profit and Loss Account.
This classification further grouped in to:
I. Liquidity Ratios
II. Profitability Ratios
III. Turnover Ratios
IV. Solvency Ratios
V. Over all Profitability Ratios

These classifications are discussed hereunder :

1. Classification of Ratios on the basis of Balance Sheet: Balance sheet ratios which establish the relationship between two balance sheet items. For example, Current Ratio, Fixed Asset Ratio, Capital Gearing Ratio and Liquidity Ratio etc.
2. Classification on the basis of Income Statements: These ratios deal with the relationship between two items or two group of items of the income statement or profit and loss account. For example, Gross Profit Ratio, Operating Ratio, Operating Profit Ratio, and Net Profit Ratio etc.
3. Classification on the basis of Mixed Statements: These ratios also known as Composite or Mixed Ratios or Inter Statement Ratios. The inter statement ratios which deal with relationship between the item of profit and loss account and item of balance sheet. For example, Return on Investment Ratio, Net Profit to Total Asset Ratio, Creditor's Turnover Ratio, Earning Per Share Ratio and Price Earning Ratio etc.

Profitability

SUM

From the following particulars, calculate i) Gross profit ratio ii) Net profit ration iii) Operating ration

Sales 5,00,000

Cost of goods sold 3,00,000

Operating expenses 1,00,000

Non-operating expenses 20,000

Solution

i) Gross profit= Sales – Cost of goods sold

= 5,00,000 – 3,00,000

= 2,00,000

ii) Gross profit ratio

$$= \frac{\text{Gross profit}}{\text{Net Sales}} \times 100$$

$$= \frac{2,00,000}{5,00,000} \times 100$$

= 40%

iii) Operating ratio

$$= \frac{\text{Cost of goods sold} + \text{Operating expenses}}{\text{Net sales}} \times 100$$

$$= \frac{3,00,000 + 1,00,000}{5,00,000} \; 100$$

= 80%

Turnover Ratios

Sum

From the following details, calculate debtors turnover ratio

Total sales for the year = 1,75,000
Cash sales = 20% of total sales
Sales returns out of credit sales =10,000
Sundry debtors
Opening balance = Rs. 8,000
Closing balance = Rs, 12,000

Solution

Debtors turnover ration

$$= \frac{\text{Net credit ratio}}{\text{Average debtors}}$$

Credit sales = Total sales – Cash sales
= 1,75,000- 35,000
= 1,40,000

Net Credit sales = Credit sales-Sales return
= 1,40,000-10,000
= 1,30,000

Average debtors =

$$= \frac{\text{Opening stock Closing stock}}{2}$$

$$= \frac{8,000+12,000}{2}$$

Debtors turnover ratio

$$= \frac{1,30,000}{10,000}$$

= 13 times

Long – term financial position

Sum

From the following particulars, prepare a statement showing the proprietos fund as at 31 st December 1999 with as many details as possible

Current ratio 2.5;1
Acid test ratio 1:5:1
Fixed assets to proprietors fund 0.75:2
Working capital 90,000
Reserve and surplus

Sum

From the following particular, calculate the fixed assets ratio

Share capital	4,00,000
General reserve	1,00,000
6% Debenture	4,00,000
Trade creditors	1,50,000
Plant & Machinery	4,00,000
Land & Building	1,50,000
Fruriture	1,00,000
Trade debtors	1,20,000
Cash in hand	80,000
B/P	48,000
Stock	1,60,000

Solution

Fixed assets ratio

$$= \frac{\text{Long – term funds}}{\text{Fixed Assets}}$$

Long term funds = Share capital + G/R+6% debenture
= 4,00,000+ 1,00,000+ 4,00,000
= 9,00,000

Fixed Assets = P & M + L& B + Furniture
= 4,00,000+ 4,00,000+1,00,000
= 9,00,000

Fixed assets ration

$$\frac{9,00,000}{9,00,000}$$

= 1:1

Working capital Management

Introduction

Capital required for a business can be divided into two categories fixed capital and fluctuating working capital. Fixed capital is that part of total capital which is used for purchase of permanent assets like land, building, machinery etc.,

Meaning of working capital

The capital required for purchasing raw materials, payment of direct and indirect expenses

Definitions of working capital

J.M Mill The sum of the current assets is the working capital of the business.

Importance, Determinants of working capital

Working capital is the life blood of a business concern just as circulation of bold is exxential in the human body for maintaining life, working capital is very essential to maintain the smooth running of the business. The main advantages of working capital or adequate working capital may ne enumerated as below

- Cash discount
- Creation of goodwill
- No distress sales
- Exploitation of good opportunities
- Contented labour force
- Easy Loan
- Ability to face crisis
- High return on investments

Computation of Working Capital

Sum

M/S Senthil industries Ltd are engaged in large scale customer retailing from the following information, you are required to forest their working capital

Projected annual sales Rs. 65 lakhs
Percentage of net profit on cost of sales 25%
Average credit allowed to debtors 10 weeks
Average credit allowed by creditors 4 weeks
Average stock carrying 8 weeks
Add 10% to computed figures to allow for contingencies

Ans:

	Per annum
Projected Sales	65,00,000
Less: Net profit 25% cost	13,00,000
Cost of sales	52,00,000

Statement of working capital requirement

Particulars	
Stock	8,00,000
Average amount locker up in debtors	12,50,000
Total investment to current assets	**20,50,000**
Less: Current Liabilities	4,00,000
Net working capital	16,50,000
Add: 10% Contingency	1,65,000
Average working capital requirement	**18,15,000**

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Computation of Working Capital

Construction of balance sheet

From the following information, prepare a summarized balance sheet as at 31.3.1981:

(a) Working capital Rs.1,20,000

(b) Reserves and surplus Rs.80,000

(c) Bank overdraft Rs.20,000

(d) Assets(fixed assets) – proprietary ratio 0:75

(e) Current ratio 2:5

(f) Liquid ratio 1:5

Forecast of working Capital requirement

1. From the following information make out a balance sheet.

Current ratio	2.5
Liquid ratio	1.5
Proprietary ratio	0.75
Working capital	60,000
Reserves and surplus	40,000
Bank overdraft	10,000

Forecast of working Capital requirement

From the following summarized balance sheets of sri Krishna ltd prepare schedule change in workingcapital .

Liabilities	2008	2009	Assets	2008	2009
Capital	400000	575000	Plant	75000	100000
Creditors	106000	70000	Stock	121000	136000
P&La/c	14000	31000	Debtors	181000	170000
			Cash	143000	270000
	520000	676000		520000	676000