RATIO ANALYSIS

Accounting ratios are relationships between accounting figures which are connected with each other in some manner.

CLASSIFICATION OF RATIOS

Accounting ratios can be classified on the following basis:

Traditional Classification

The traditional classification has been on the basis of the financial statements. The ratios could be classified as:

(i) Profit and loss account ratios, i.e., ratios calculated on the basis of the profit and loss account only

(ii) Balance sheet ratios, i.e. ratios calculated on the basis of the figures of balance sheet only.

(iii) Composite ratios or inter-statement ratios, i.e. ratios based on figures of profit and loss account as well as the balance sheet.

Functional Classification

When ratios serve as a tool for financial analysis, they are now classified as:

(i) Profitability Ratios,

(ii) Turnover or activity ratios, and

(iii) Financial or solvency ratios.

<u>Financial ratios may be further classified into two categories:</u>

(a) Short-term Solvency Ratios are the ratios that disclose the financial position or solvency of be firm in the short period. Called as 'Liquidity Ratios'.

(b) Long-term Solvency Ratios are the ratios that disclose the financial position or solvency of the firm in the long period. Called as 'Solvency Ratios'.

USES OF ACCOUNTING RATIOS

(i) Simplify financial statements
(ii) Facilitate inter-firm comparison
(iii) Facilitate intra-firm comparison
(iv) Help in planning: Ratios help in planning and forecasting.

LIMITATIONS OF ACCOUNTING RATIOS

- **Ratios provide a glimpse of the past performance and forecasts for future which may not prove correct**, since several other factors like market conditions, management policies, etc. may affect the future operations.
- **Limitations of financial statements:** Ratios are based only on the information which has been recorded in the financial statements. As indicated in the preceding pages, financial statements suffer from a number of limitations. The ratios derived from there, therefore, are also subject to those limitations. For example, non-financial charges, change in management of the company etc
- **Ratios alone are not adequate:** Ratios are only indicators; they cannot be taken as final regarding good or bad financial position of the business. Other things have also to be seen. For example, a high current ratio does not necessarily mean that the concern has a good

liquid position, in case the current assets mostly comprise of outdated stocks.

- **Window Dressing:** On account of such a situation, the presence of particular ratio may not be a definite indicator of a good or bad management. For example, a high stock turnover ratio is generally considered to be an indication of operational efficiency of the business. But this might have been achieved by unwarranted price reductions or failure to maintain proper stock of goods.
- **Problems of price level changes:** Financial analysis, based on accounting ratios, will give misleading results if the effects of changes in the price level are not taken into account.
- **No fixed standards:** No fixed standards can be laid down for ideal ratios.

CACULATION AND INTERPRETATION OF VARIOUS RATIOS

Solvency Ratios

A company is considered to be solvent or financially sound if it is in a position to carry on its business smoothly and meet all obligations, both long-term as well as short-term, without strain.

Short-term Solvency Ratios/ Liquidity Ratios

Current Ratio: This ratio is an indicator of the firm's commitment to meet its short-term liabilities.

Current assets / Current liabilities

An ideal current ratio is 2. A very high current ratio is also not desirable since it means inefficient use of funds.

Liquidity Ratio/ 'Acid test ratio' or 'quick ratio'

This is ratio of quick assets and current liabilities. This ratio measures the capacity of the firm to pay off the current liabilities of the urgent nature immediately.

Liquid assets (Quick Assets)/ Current liabilities

The ideal ratio is 1. The ratio is also an indicator of short-term solvency of the company.

Long-term Solvency Ratios/ Leverage Ratios/ Solvency Ratios

Fixed Assets Ratio

This ratio is calculated as:

Fixed Assets/ Long Term Funds

Fixed assets include net fixed assets and trade investments and Long-term funds include capital, reserves and long term outside liabilities.

* The ratio should not be more than 1. If it is less than 1, it shows that a part of the working capital has been financed through long-term funds.

Debt-equity Ratio

The debt-equity ratio is calculated to ascertain the soundness of the long-term financial policies of the company. It shows dependence of the unit on the outside long-term finance.

Debt-equity ratio = External equities / Internal equities

OR

Long Term Outside Liabilities/ Tangible Net worth

The ratio indicates the proportion of owners' stake in the business. Excessive liabilities tend to cause insolvency. The ratio indicates the extent to which the firm depends upon outsiders for its existence.

The ratio provides a margin of safety to the creditors. It tells the owners the extent to which they can borrow, to increase the profits, with a limited investment.

DEBT SERVICE COVERAGE RATIO (DSCR)

The Debt Service Coverage Ratio (DSCR) measures the ability of a company to use its operating income to repay all its debt obligations,

including repayment of principal and interest on both short-term and long-term debt.

(Profit After tax (PAT) + Depreciation + Annual Interest on term loans) / (Annual Interest on long term loans & liabilities + Annual Instalment payable on long term loans)

(Benchmark DSCR Ratio 2)

Turnover Ratios/ Activity Ratios

Stock Turnover Ratio: This ratio indicates whether the investment in inventories is efficiently used or not. It, therefore, explains whether investment in inventories is within proper limits or not.

Cost of goods sold during the year/ Average inventory

OR

Sales/ Average Inventory

- The average inventory be computed on the basis of the average of inventory at the beginning and at the end of the accounting period.
- The inventory turnover ratio signifies the liquidity of the inventory.

Debtors' Turnover Ratio (Debtors Velocity): Debtors are an important constituent of current assets

and, therefore, the quality of debtors, to a great extent, determines a firm's liquidity. Two ratios are used by financial analysts to judge this. They are:

(i) Debtors, turnover ratio, and

(ii) Debt collection period ratio.

Debtors' turnover ratio =

Credit sales/ Average accounts receivable

The term Accounts Receivable' includes 'Trade Debtors' and 'Bills Receivable.

In case, details regarding opening and closing receivables and credit sales are not available, the ratio may be calculated as follows:

Total sales / Accounts receivables

"Sales to Accounts Receivable Ratio" indicates the efficiency of the staff entrusted with collection of book debts. The higher the ratio, the better it is.

Debt Collection Period Ratio: The ratio indicates the extent to which the debts have been collected in time. It gives the average debt collection period.

Average accounts receivable x Months (or days) in a year/ Credit sale for the year

it measures the rapidity or slowness with which money is collected from them. A shorter collection period implies prompt payment by debtors. It reduces the chances of bad debts.

Profitability Ratios

Overall Profitability Ratio (Return on Investment/ Return on Capital Employed)

It indicates the percentage of return on the total capital employed in the business. It is calculated on the basis of the following formula:

= Operating profit (PBIT) / Capital employed x 100

Here return is profit before interest and tax and capital employed means the tangible net worth or shareholder's funds and outside term liabilities

Earnings per Share (EPS)

EPS tells about the earning per equity share. It can be computed as follows:

Earnings per Share = Net profit after tax and preference dividend / Number of equity shares

EPS helps in determining the market price of the equity share of the company.

Price Earning (P/E) Ratio

This ratio indicates the number of times the earning per share is covered by its market price. This is calculated according to the following formula:

Market price per equity share/ Earning per share

Operating Profit Ratio

It denotes the margin on the profits arising from the main business revealing the operational efficiency of the unit.

Operating Profit/ Sales X 100

Gross Profit Ratio

This ratio expresses the relationship between the gross profit and the net sales. Its formula is:

Gross profit / Net sales

Net Profit Ratio

Net profit is surplus of Gross Profit after the meeting other expenses. This can be before tax or after tax.

Net profit / Net sales X 100

Return on Equity

This ratio provides information about the earnings which the funds put in the business by the owners/ promoters and retained, earns.

ROE = Net Profit/ Tangible Net Worth x 100

DIFFERENT USERS AND THEIR USE OF RATIOS

(i) Accounting ratios used by a long-term creditor:

- Fixed charges cover = Income before interest and tax/ Interest charges

- Debt service coverage ratio = Cash profit available for debt service/ Interest + Principal payments instalment

(ii) Accounting ratios used by a bank granting a short-term loan:

- Quick ratio = Quick assets/ Current liabilities
- Current ratio = Current assets / Current liabilities

(iii) Accounting ratios used by shareholders:

- Earnings per share = Profit available for equity shareholders / No. of equity shares
- Dividend yield ratio = Dividend per share / Market price per share

(i) **Payment of current liability:** On payment of a current liability out of current assets, working capital will remain unchanged. However, current ratio will improve.

(ii) **Purchase of fixed assets:** On purchase of fixed assets in cash, current assets will decrease without any change in current liabilities. Thus, the transaction will result in decline of current ratio.

(iii) **Cash collected from customers:** Collection of debtors, results in the conversion of one current asset, viz., debtors into another current asset, viz., cash. Hence, amount of current assets and current liabilities remain unchanged.

(iv) **Bills receivable dishonoured:** When a bill receivable is dishonoured, it cannot always be presumed that the customer has become insolvent. Hence, if the customer is solvent, the amount of bills receivable will get reduced and the amount due from debtors will increase. There will be no change in the amount of current liabilities.

However, if it is anticipated that the debt becomes bad and it is recorded as such, it will result in the reduction of current assets resulting in fall in the current ratio from 2:1.

(v) **Issue of new shares:** If issue of new shares is for cash it will result in an increase in the current assets. Hence, there will be consequential improvement in current ratio as there will be no change in current liabilities.

However, if issue is in consideration of conversion of debentures, there will be no change in current assets or current liabilities and, therefore, no change in current ratio.

Solve the Following

1	unsecured loan long term	80	LTL
2	Goodwill	30	IA
3	Sundry debtors	160	CA
4	plant & Machinery	250	FA
5	Bills Payables	120	CL
6	Reserves	100	NW
7	Sundry creditors	20	CL
8	land and Building	150	FA
9	CC Limit/ OD	140	CL
10	Prepaid expenses	20	CA
11	Stock	200	CA

12	Preliminary expenses	20	IA
13	Shared Capital	200	NW
14	cash in hand	20	CA
15	provision for expenses	20	CL
16	machinery	100	FA
17	unquoted investments	30	NCA
18	Term loans including installment	200	LTL
19	Security Deposit	20	NCA
20	Bonds/ Debentures	120	LTL
	Profit and Loss Items		
21	Sales	**1000**	
22	Net Profit	50	
23	Interest on term loan	30	
24	Depreciation	20	
	Others		
	Installment per month	4	

Liabilities			**Assets**		
Net worth			**Fixed Assets**		
13	capital	200	16	Machinery	100
6	reserves	100	4	Plant & Machinery	250
Long term Liabilities			8	Land or Building	150
1	unsecured loans	80	**Non-Current Assets**		
18	Term Loans	200	17	unquoted Investments	30
20	Bonds	120	19	Security Deposit	20
Current Liabilities			**Current Assets**		
15	Provisions for expenses	20	14	Cash	20
7	sundry creditors	20	3	Sundry Debtors	160
5	bills payables	120	11	Stocks	200
9	CC Limit	140	10	Prepaid Expenses	20
			Intangible Assets		
			2	Goodwill	30
			12	Preliminary Expenses	20
Total		**1000**	**Total**		**1000**

1	LONG TERM LIABILITY	80+120+200	400
2	CURRENT LIABILITY		300
3	OUTSIDE LIABILITY	LTL+CL	700
4	NET WORTH		300
5	INTANGIBLE ASSETS		50
6	TANGIBLE NETWORTH	NW-IA	250
7	SHORT TERM **SOURCES**		300
8	LONG TERM SOURCES		700
9	LONG TERM USES		600
10	WORKING CAPITAL (GROSS)	CA	400
11	NET WORKING CAPITAL	CA-CL	100
12	QUICK ASSETS		180
13	SHORT TERM **USES**	CA	400
14	CURRENT ASSETS		400

CURRENT RATIO	CA/CL	400/300	1.33
QUICK RATIO	QA/CL	180/300	0.6
NWC	CA – CL	400-300	100
DER	LTL/TNW	400/250	1.6
DSCR	(PAT + Dep + Intt)/(Installment + intt)	50+20+30/78	1.28
STOCK TURNOVER RATIO	Sales/ stock	1000/200	5
DEBTOR TURNOVER RATIO	Sales/ sundry debtors	1000/160	6.25
NET PROFIT Ratio	NP/Sales x 100	50/1000 x 100	5%
RETURN ON EQUITY	NP/TNW x 100	50/250 x 100	20%

Q3893: To calculate quick assets, which of the following is not reduced from current assets:

A.) Stocks
B.) inventories
C.) pre-paid expenses
D.) trade debtors

Q3897: Net working capital of a firm is 80 and current ratio is 1.5:1. Its current liabilities and assets are:

A.) 80,120
B.) 160,240
C.) 240,320
D.) 120,200

Q3900: The debt equity ratio is 3:1 and current ratio is 1.5:1. If current assets are 45 and long-term liabilities are 45, which of the following is correct:

A.) current liabilities are 15 and tangible net worth 30
B.) current liabilities are 30 and tangible net worth 15
C.) current liabilities are 30 and tangible net worth 30
D.) current liabilities are 15 and tangible net worth 15

current liabilities = 45/1.5 and tangible net worth = 45/3

Q3903: DSCR coverage ratio is used for which of the following purposes:

A.) to calculate the amount of term loan
B.) to calculate working capital limits
C.) to decide whether to sanction a term loan and fix instalments
D.) all the above

Q3898: capital of a firm is 35 reserves 11, its debentures are 80 and preliminary expenses 6. The debt equity ratio will be:

A.) 0.5:1
B.) 02:01
C.) 1.7:1
D.) none of the above

Q3905: Firm-A has sales of 5000 and stocks of 400.Firm-B has stocks of 600 and sales of 7200.in this connection which of the following is not correct :

A.) stock turnover ratio of Firm-A=12.5
B.) stock turnover ratio of Firm-B=12

C.) stock turnover ratio of Firm-A is better than of Firm-B
D.) stock utilisation of Firm-B is better than of Firm-A

Q3919: The net profit before tax of a firm is 200.The interest amount is 20. The tangible net worth is 300 and long-term liabilities of 400.The return on investment shall be:

A.) 29.50%
B.) 29.40%
C.) 25.71 %
D.) 32.80%

Q3902: net profit of a firm is 45, depreciation 20 and term loan interest 15, If term loan instalment is 25, what will be DSCR:

A.) 1.5
B.) 2
C.) 2.5
D.) 3

Q3892: The formula for which of the following ratios is not correct:

A.) current ratio=current assets/current liabilities
B.) quick ratio = quick assets/quick liabilities
C.) net working capital=current liabilities + current assets
D.) none of the above

Q3901: Debt service coverage ratio is calculated as:

A.) (net profit + depreciation + term loan interest)/term loan instalment
B.) (net profit + depreciation + term loan instalment)/term loan interest
C.) (net profit + depreciation + term loan interest)/ (term loan instalment + term loan interest)
D.) (net profit + depreciation + term loan interest)/(term loan instalment + depreciation)

Q3896: current ratio of a firm was 1.33:1 in the previous year which continues to be same. But the quick ratio has changed from 0.69:1 to 0.97:1. The change will be on account of:

A.) %age of stocks in total current assets increased
B.) %age of quick assets in total current assets increased
C.) %age of stocks in total current assets increased slightly
D.) %age of quick assets in total current assets decreased

Q3918: The return on investment is calculated as:

A.) net profit before interest and tax/ (tangible net worth + long term liabilities)
B.) net profit after interest and tax/ (tangible net worth + long term liabilities)
C.) net profit before interest and tax/ (tangible net worth + outside

liabilities)
D.) net profit before interest and tax/ (net worth + long term liabilities)

Q3894: A firm has stocks of 10, debtors 12, trade creditors of 7, cash 1, bank overdraft 4, prepaid expenses 2 and expenses outstanding 2. Which of the following is not correct?

A.) quick assets=12
B.) current assets = 25
C.) current liabilities = 13
D.) quick ratio = 1:1

Q3906: which of the following is correct with regard to debtor turnover ratio:

A.) ratio is calculated as = sales/ avg debtors
B.) ratio indicated credit period extended by the firm to its customer
C.) ratio indicates the inefficiency of recovery of debtors
D.) debt velocity ratio is another variant of this ratio

Q3910: sales of a firm are 6000 and its debtors 300. Debtor velocity of the firm in the previous year was 0.8 months. Which of the following statements is not correct?

A.) debtor turnover ratio is 20 times
B.) debtor velocity ratio is 0.6 months
C.) debt collection has improved over the previous year
D.) debt collection has shown deterioration over the previous year

FINAL ACCOUNTS OF BANKING COMPANIES

Banks and Banking activities are mainly regulated under banking regulation act 1949.

Definition (Section 5 of BR Act): accepting of deposits of money from the public, for the purpose of lending or investment and the deposits are repayable on demand or otherwise by cheque, draft, order or otherwise

In addition to banking business, a bank is permitted to perform some other functions as per section 6(1) of the BR Act.

CONSTITUTION OF BANKS

Banks in India fall under one of the following categories:

1. Body corporate constituted under special act of parliament
2. Company registered under the Companies Act. 1956 (Companies Act 2013) or a foreign company,
3. Co-operative society registered under a central or state enactment on co-operative societies.

REQUIREMENTS OF BANKING COMPANIES AS TO ACCOUNTS AND AUDIT

Preparation of Financial Statements and Accounting Date (Section 29)

A Company registered under the Companies Act, 2013 is required to present its financial statements, i.e. balance sheet and profit and loss account in the formats laid down in the Schedule III annexed to the Companies Act.

The Banking Regulation Act gives the format of the balance sheets and the profit and loss account in the third schedule of the Act, form A (proforma balance sheet) and form B (proforma profit and loss account)

The Government has notified that accounts of the banking companies shall be closed on 31st March every year.

Signatures (Section 29)

The financial statements of banking companies incorporated in India should be signed by the manager or principal officer of the banking company and by at least three directors (or all the directors in case the number is less than three).

The financial statements of a foreign banking company are to be signed by the manager or agent of the principal office in India.

The provisions of section 29 are also applicable to nationalised banks, State Bank of India, its subsidiaries, and regional rural banks.

Audit (Section 30)

- Accounts must be audited by a person, duly qualified under any law, for the time being in force, to be an auditor of companies.
- Every banking company is, before appointing, reappointing or removing any auditor, required to obtain the prior approval of the Reserve Bank of India.

Submission of Accounts (Secs 31 and 32)

- Three copies of the balance sheet and profit and loss account prepared under Section 29 together with auditors' report under Section 30 must be submitted to the Reserve Bank of India within three months from the end of the period to which they refer.
- it can be extended up to a further period of three months by RBI (Section 31).
- Section 32 of the Act requires a banking company (but not other types of banks) to furnish three copies of its annual accounts and auditor's report thereon to the Registrar of Companies at the same time when it furnishes these documents to the RBI.

Publication of Accounts

Rule 15 of the Banking Regulating (Companies) Rules, 1949 prescribes that accounts and auditors' report shall be published in a newspaper circulating in a place where a banking company has its principal office, within six months from the end of the period to which they relate.

Display of Balance Sheet by Foreign Banks

Every Banking Company incorporated outside India shall not later than first Monday in August of any year in which it carries on business, display in a conspicuous place in its principal office and in every branch office in India a copy of its last audited balance sheet and profit & loss account prepared under section 29.

SIGNIFICANT FEATURES OF ACCOUNTING SYSTEMS OF BANKS

- Banks follow the **mercantile system of accounting**.
- Banks need to post the entries in ledger accounts, especially those of customers, being accurate and up-to-date.
- It is therefore necessary to keep the customers' accounts up to date and check them regularly.
- In the case of banks, relatively lesser emphasis is placed on books of prime entry such as cash books or journals.

Bankers' Books

According to Section 2 (3) of the Bankers' Books Evidence Act, Bankers' Books' include ledgers, day book, cash books, account books and all other books used in the ordinary business of a bank.

Cash Book

- All cash receipts and payments are recorded in the receiving cashier 's cash book.
- After this, on the basis of pay-in slips received by the receiving cashier and cheques and withdrawals slips by the paying cashier, these transactions are entered first in the accounts of customers and after that Day Books are written. This is called the 'Slip System' of posting.

Ledger Book

General Ledger contains the total accounts of each ledger. Besides the GL, the following ledger books are maintained:

- Current Accounts Ledger

- FD Accounts Ledger
- RD Accounts Ledger
- Loan Ledger
- Investment Ledger
- Bills discounted and purchased Ledger

Other Books

- Clearing Register
- Securities Register
- Draft Register
- Bills for collection Register
- Safe deposit vault Register
- Dishonoured cheques Register
- Letter of credit Register