

## Accounting Ratios

A ratio is a mathematical number that shows the ~~time~~ relationship between two accounting figures. It may be a fraction, %, proportion or a number of times.

$$\text{G.P. Ratio} = \text{G.P.} / \text{Net Revenue} \times 100 \text{ eg.}$$

Numbers must be meaningfully related ; a ratio of unrelated figures serves no purpose.

### Objectives of Ratio Analysis

- ① Locate weak areas needing attention \*
- ② Spot potential areas to improve \*
- ③ Analyse profitability, liquidity, solvency & efficiency
- ④ Help cross-sectional comparison
- ⑤ Aid projections for the future

### Limitations

Means and not the end ; ignore price-level changes ; ignore qualitative aspects ; vary with accounting practices ; no universally accepted standard levels exist.

## Types of Ratios

Functional classification (most used) :-

- ① Liquidity short-term solvency \*
- ② Solvency long-term debt safety
- ③ Activity efficiency of use
- ④ Profitability earning capacity

Traditional : statement of P&L ratios,  
\*  
balance sheet ratios & composite ratios.

### Current Ratio

Proportion of current assets to current liabilities.

$$\text{C.R.} = \frac{\text{Current Assets}}{\text{Current Liab.}} \quad <-2:1$$

C.A. = inventories + trade receivables +  
cash & equivalents + short-term loans &  
advances + other current assets.

C.L. = short-term borrowings + trade  
payables + other C.L. + short-term  
provisions.

## Current Ratio - Example

Inventories 50,000 ; Trade recv. 50,000 ;

Advance tax 4,000 ; Cash 30,000 ;

Trade payables 1,00,000 ; S.T. borrow. 4,000

$$\begin{aligned} \text{C.A.} &= 50,000 + 50,000 + 4,000 + 30,000 \\ &= \text{Rs. } 1,34,000 \end{aligned}$$

$$\text{C.L.} = 1,00,000 + 4,000 = \text{Rs. } 1,04,000$$

$$\text{C.R.} = 1,34,000 / 1,04,000 = 1.29 \leftarrow \text{ans.}$$

## Quick (Liquid) Ratio

Ratio of quick assets to current liabilities.

Also called the Acid-Test Ratio.

$$\text{Quick Ratio} = \text{Quick Assets} / \text{C.L.}$$

$\leftarrow$  ideal 1:1

Quick Assets = C.A.  $\neq$  - (inventories + advance tax + prepaid expenses).

From example above :

$$\text{Q.A.} = 1,34,000 - (50,000 + 4,000) = 80,000$$

$$\text{Quick Ratio} = 80,000 / 1,04,000 = 0.77 : 1$$

## Solvency Ratios

Measure long-term debt-paying ability of the business.

### Debt-Equity Ratio

$$D/E = \text{L.T. Debts} / \text{Shareholders' Funds} \leftarrow 2:1$$

Shareholders' Funds = Share capital + Reserves & surplus + Money against share warrants + Share application money pending allotment.

= Non-current assets + Working capital  
- Non-current liabilities.

### Other Solvency Ratios

Debt to Capital Employed = L.T. Debt / Capital Employed.

Proprietary Ratio = Shareholders' Funds / Capital Employed ( or Net Assets ).

Total Assets to Debt = Total Assets / Long-term Debts.

Note : Debt to Cap. Empl. + Proprietary Ratio = 1 ( on net-assets basis ).

## Interest Coverage Ratio

Number of times interest on long-term debt is covered by available profits.

$$\text{I.C.R.} = \frac{\text{NP before Int. \& Tax}}{\text{Interest}}$$

( interest on long-term debt )

Eg : NP after tax 60,000 ; tax 40% ;  
15% L.T. debt 10,00,000.

$$\text{NP before tax} = 60,000 \times \frac{100}{60} = 1,00,000$$

$$\text{Interest} = 15\% \times 10,00,000 = 1,50,000$$

$$\text{NPBIT} = 1,00,000 + 1,50,000 = 2,50,000$$

$$\text{I.C.R.} = \frac{2,50,000}{1,50,000} = 1.67 \text{ times}$$

## Activity (Turnover) Ratios

Speed at which assets are converted into sales. Higher = better utilisation.

1. Inventory turnover
2. Trade recv. \*
3. Trade payable
4. Net assets / cap. employed
5. Fixed assets
6. Working capital turnover.

## Turnover Ratios

### Inventory Turnover Ratio

$$\text{I.T.R.} = \text{Cost of Revenue} / \text{Avg. Inv.} \leftarrow \text{times}$$

$$\text{Avg. Inventory} = (\text{Opening} + \text{Closing}) / 2$$

$$\text{Cost of Revenue} = \text{Revenue} - \text{Gross Profit}$$

Eg : Cost 60,000 ; Avg. inv. 20,000

$$\text{I.T.R.} = 60,000 / 20,000 = 3 \text{ times}$$

### Trade Receivables Turnover

$$\text{T.R.T.R.} = \text{Net Credit Rev.} / \text{Avg. T.R.}$$

( T.R. = trade receivable )

$$\text{Avg. Trade Recv.} = (\text{Opening} + \text{Closing}) / 2$$

Debtors taken ~~after~~ before provision for doubtful debts.

$$\text{Avg. Collection} = 365 / \text{T.R.T.R.} \leftarrow \text{in days}$$

Higher turnover = speedy collection.

If start figures absent, use year-end only.

## More Turnover Ratios

### Trade Payables Turnover

$$\text{T.P.T.R.} = \text{Net Credit Purch.} / \text{Avg. T.P.}$$

( T.P. = trade payable )

$$\text{Avg. Trade Payable} = (\text{Opening creditors} + \text{B/P} + \text{Closing creditors} + \text{B/P}) / 2$$

$$\text{Avg. Payment Period} = 365 / \text{T.P.T.R.} \leftarrow \text{days}$$

Lower ratio = longer credit from suppliers.

### Capital & Asset Turnover

$$\text{Net Assets T.R.} = \text{Revenue} / \text{Cap. Employed}$$

$$\text{Fixed Assets T.R.} = \text{Net Revenue} / \text{Net}$$

Fixed Assets

$$\text{Working Cap. T.R.} = \text{Net Revenue} /$$

Working Capital

Eg : Revenue 30,00,000 ; Cap. empl.

18,00,000 ; W.C. 2,00,000

Net Assets T.R. = 1.67 ; W.C. T.R. = 15

times. Higher = efficient use of resources.

## Profitability Ratios

Analyse earning capacity of the business.

$$\text{Gross Profit Ratio} = \text{G.P.} / \text{Net Revenue} \\ \times 100$$

$$\text{Operating Ratio} = (\text{Cost} + \text{Op. Exp.}) / \\ \text{Net Revenue} \times 100$$

$$\text{Op. Profit Ratio} = 100 - \text{Operating Ratio}$$

$$\text{Net Profit Ratio} = \text{Net Profit} / \text{Revenue} \\ \times 100$$

$$\text{R.O.I.} = \text{PBIT} / \text{Cap. Employed} \times 100^{\text{key}}$$

$$\text{Return on Net Worth} = \text{PAT} /$$

$$\text{Shareholders' Funds} \times 100$$

$$\text{EPS} = (\text{PAT} - \text{Pref. Div.}) / \text{No. of equity} \\ \text{shares} *$$

$$\text{Book Value/share} = \text{Equity S.H. funds} / \\ \text{No. of equity shares}$$

$$\text{Dividend Payout} = \text{D.P.S.} / \text{E.P.S.}$$

$$\text{P/E Ratio} = \text{Market Price} / \text{E.P.S.}$$

Higher profitability = efficient use of  
funds & resources employed.