

Introduction

- Financial analysis is the process of identifying the financial strength and weaknesses of the firm by properly establishing relationships between the items of the balance sheet and profit and loss account.
- The nature of analysis is differ depending on the purpose of the analysis.

Users of Financial Analysis:

- Trade Creditors: Interested in firms ability to meet their claims over a very short period of time.
- Supplier of long term debt: Long term creditors do analyze the historical financial statements, but they place more emphasis on the firms projected or proforma.
- Investor: Concentrate on the analysis of the firms present and future profitability.
- Management: Interested in every aspect. It see overall responsibility of the resources of the firm are used most effectively and efficiently and the firm financial conditions is sound.

Standard of Comparisons

- Past ratios: (Time Series analysis) Compare the present ratio with past ratios. It gives the indication of the direction of change and reflects whether the firm's financial performance has improved, deteriorated or remained constant over time.
- Competitors ratios: (Cross sectional analysis) Compare with some selected firm in the same industry at the same point of time.
- Industry ratios: Overall industry comparison
- Projected ratios (Preforma ratio): Planned or Projected comparison

Ratio Analysis

Ratio analysis is a commonly used tool of financial statement analysis. Ratio is a mathematical relationship between one number to another number. Ratio is used as an index for evaluating the financial performance of the business concern. An accounting ratio shows the mathematical relationship between two figures, which have meaningful relation with each other. Ratio can be classified into various types. Classification from the point of view of financial management is as follows:

- Liquidity Ratio
- Activity Ratio
- Solvency Ratio
- Profitability Ratio

Liquidity Ratio

It is also called as short-term ratio. This ratio helps to understand the liquidity in a business which is the potential ability to meet current obligations. This ratio expresses the relationship between current assets and current assets of the business concern during a particular period. The following are the major liquidity ratio:

S. No.	Ratio Formula	Significant Ratio
1. Current Ratio	= Current Assets / Current Liability	2 : 1
2. Quick Ratio	= Quick Assets / Quick (Current) Liability	1 : 1
3. Cash Ratio	= (Cash + Marketable securities) / Current liability	
4. Interval measure	= (Current assets – Inventories) / Average daily operating expenses	
5. Net working capital ratio	= Net working capital / Net Assets	

Activity Ratio

It is also called as turnover ratio. This ratio measures the efficiency of the current assets and liabilities in the business concern during a particular period. This ratio is helpful to understand the performance of the business concern. Some of the activity ratios are:

S. No.	Ratio	Ratio Formula
1.	Inventory turnover ratio	$= \text{Cost of goods sold} / \text{Average Inventory}$.
2.	Inventory turnover ratio	$= \text{Sales} / \text{Average Inventory}$.
3.	Days of inventory hold	$= (\text{Average inventory} / \text{Cost of goods sold}) \times 360$
4.	Stock Turnover Ratio	$= \text{Cost of Sales} / \text{Average Inventory}$
5.	Debtors Turnover Ratio	$= \text{Credit Sales} / \text{Average Debtors}$
6.	Average Collection period	$= 360 / \text{Debt turnover}$
7.	Creditors Turnover Ratio	$= \text{Credit Purchase} / \text{Average Credit}$
8.	Working Capital Turnover Ratio	$= \text{Sales} / \text{Net Working Capital}$

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Asset turnover ratios

1. Net assets turnover = Sales / Net assets
2. Total assets turnover = Sales / Total assets
3. Fixed and Current assets turnover = Sales / Net fixed assets
4. Current assets turnover = Sales / Current assets
5. Net Working capital turnover = Sales / Net current assets

Leverage / Solvency Ratio

It is also called as leverage ratio, which measures the long-term obligation of the business concern. This ratio helps to understand, how the long-term funds are used in the business concern. Some of the solvency ratios are given below:

Ratio	Ratio Formula
● Debt Ratio	= Total Debt / (Total Debt + Net Worth)
● Debt-Equity Ratio	= External Equity / Internal Equity
● Capital Employed to Net Worth Ratio	= Capital Employed / Net Worth
● Others debt ration	= TL to TA ratio = Total Liability / Total Assets
● Proprietary Ratio	= Shareholder 's Fund / Total Assets
● Interest Coverage Ratio	= EBIT / Fixed Interest Charges

Profitability Ratio

Profitability ratio helps to measure the profitability position of the business concern. Some of the major profitability ratios are given below,

Ratio	Ratio Formula
● Gross Profit Ratio	= $\text{Gross Profit} \times 100 / \text{Net Sales}$
● Net Profit Ratio	= $\text{Net Profit after tax} \times 100 / \text{Net Sales}$
● Operating Profit Ratio	= $\text{Operating Net Profit} \times 100 / \text{Sales}$
● Return on Investment	= $\text{Net Profit after tax} \times 100 / \text{Share holders fund}$
● Earning per Share (EPS)	= $\text{Profit after tax} / \text{Number of Common Shares}$
● Dividend per share (DPS)	= $\text{Earning paid to share holders} / \text{Number of ordinary share outstanding.}$
● Dividend payout ratio	= DPS / EPS
● Dividend yield	= $\text{DPS} / \text{Market value}$
● Earning Yield	= $\text{EPS} / \text{Market value}$
● Price earning ratio	= $\text{Market value} / \text{EPS}$
● Market value to book value	= $\text{Market value per share} / \text{Book value per share}$
● Tobins "q"	= $\text{Market value of firms assets} / \text{Replacement cost of assets}$

Evaluation of a Firms Earning Power

- Return on Net Assets (RONA) or Return on Capital Employed (ROCE) is a measure of the firms operating performance.
- It indicates the firms earning power
- It is the product of Gross Profit Margin, Asset Turnover and Operating Leverage.
- $RONA = EBIT / NA = (Sales / NA) \times (GP / Sales) \times (EBIT / GP)$
- All the firm would like to improve their RONA, however competition puts a limit on RONA
- A firm may have to trade off between asset turnover and gross profit margin
- To improve profit margin some of firm resort to vertical integration for cost reduction and synergetic benefits.

*EBIT=Earning Before Interest and Taxes, GP= Gross Profit, NA= Net Assets

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- A firm can convert Return on Net Assets into an impressive Return on Equity (ROE) through financial efficiency.
- Financial leverage ratio and debt equity ratio affect ROE and Reflect efficiency.
- $ROE = \text{Operating Performance} \times \text{Leverage factor}$
- $PAT / NW = (EBIT / NA) \times (PAT/EBIT) \times (NA/NW)$
- A firm can convert its ROE into a growth in equity through retention.
- $\text{Equity growth} = ROE \times \text{Retention ratio}$
- Combined effect of Operating efficiency , financial efficiency and retention is
- $ROE = (Sales / NA) \times (GP / Sales) \times (EBIT / GP) \times (PAT / EBIT) \times (NA / NW)$

**NW=Net Worth, PAT=Profit After Tax*

Comparative Statement Analysis

- To trace periodic changes in the financial performance of a company is to prepare a comparative statement.
- Comparative statement contain items at least for two periods, Changes-Increase / Decrease- In income statement and balance sheet over period can be shown in two ways
- **Aggregate Changes**: Aggregate Changes can be indicated by drawing a special column for aggregate amount or percentage or both of increases and decreases, relative or proportional changes on the other hand are shown by recording percentage calculated in relation to a common base in special columns. Example: in case of profit/loss account, sales figure in the common base (Assume equal to 100) and all other items are expressed percentage of sales. Similarly the balance sheet items are expressed as percentage of total assets or total funds.

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- **Proportional Changes:** The financial statements prepared in terms of common base percentages are called “COMMON SIZE STATEMENTS”. This kind of analysis is called “Vertical Analysis” and it indicates static relationship since relative changes are studied at a specific date.
- An investigation of the comparative financial statements helps to highlight the significant facts and points out the items which need further analysis.
- The published balance sheet and profit and loss accounts of joint stock companies in India are presented in two year comparative form.

Limitation of Ratio Analysis

- Statement for Comparison: Difficult to decide on the proper basis of comparison.
- Company differences: Situation of two companies are never same. Factor affecting performance of a company in one year may change in another year, -Comparison is difficult.
- Price Level Changes: Make interpretation of ratio invalid.
- Different Definition of Variables of items in balance sheet and Profit and loss statement make the interpretation of difficult. (Ex: Preference share capital and current liabilities should be included in debt for calculating the debt-equity ratio should the intangible assets to be excluded to calculate the rate of return on investment. If the intangible are included, how will they be valued?)
- The ratios calculated at a point of time are less informative and defective as they suffer from short term changes.
- The ratios are generally calculated from past financial statement and thus no indications of future.