Financial Statement Analysis

- This is a process of identifying the financial strengths and weaknesses of the firm by properly establishing relationships between items of the BS and IS
- Internal and external users analyze financial statements
- Methods of Financial Statement analysis
    - Horizontal Analysis
    - Common size Statements / Vertical Analysis
    - Trend Percentages
    - Ratio Analysis

Horizontal Analysis

Using comparative financial statements to calculate rupee or percentage changes in a financial statement item from one period to the next

Ex: Calculating change in Dollar Amounts

Dollar Change = Current year figure – Base year figure

Horizontal Analysis

Melcher Company
Income Statement
For the Years Ended December 31

	2005	2004	2003	2005	2004	2003
Sales revenue	$ 100,000	$ 95,000	$ 91,000	109.9%	104.4%	100.0%
Cost of goods sold	65,000	60,800	56,420	115.2%	107.8%	100.0%
Gross profit	35,000	34,200	34,580	101.2%	98.9%	100.0%
Operating expenses:						
Selling expense	14,000	11,400	10,000	140.0%	114.0%	100.0%
General expense	16,000	15,200	13,650	117.2%	111.4%	100.0%
Total operating expense	30,000	26,600	23,650	126.8%	112.5%	100.0%
Operating Income before taxes	5,000	7,600	10,930	45.7%	69.5%	100.0%
Taxes related to operations	1,500	2,280	3,279	45.7%	69.5%	100.0%
Net Income	$ 3,500	$ 5,320	$ 7,651	45.7%	69.5%	100.0%

Each financial statement element is presented as a percentage of a base amount from a selected year.

Common size Statements / Vertical Analysis

For a single financial statement, each item is expressed as a percentage of a significant total

Ex: All income statement items are expressed as a percentage of sales

Particulars	Totals	Percentage
Sales	1000000	100%
Cost of goods sold	400000	40%
Gross	600000	60%
Salary	300000	30%
Rent	30000	3%
Utilities	40000	4%
Other expenses	60000	6%
Total expenses	430000	43%
Net Profit	**170000**	**17%**

Trend Percentages

Show changes over time in given financial statement items (can help to evaluate financial information of several years)

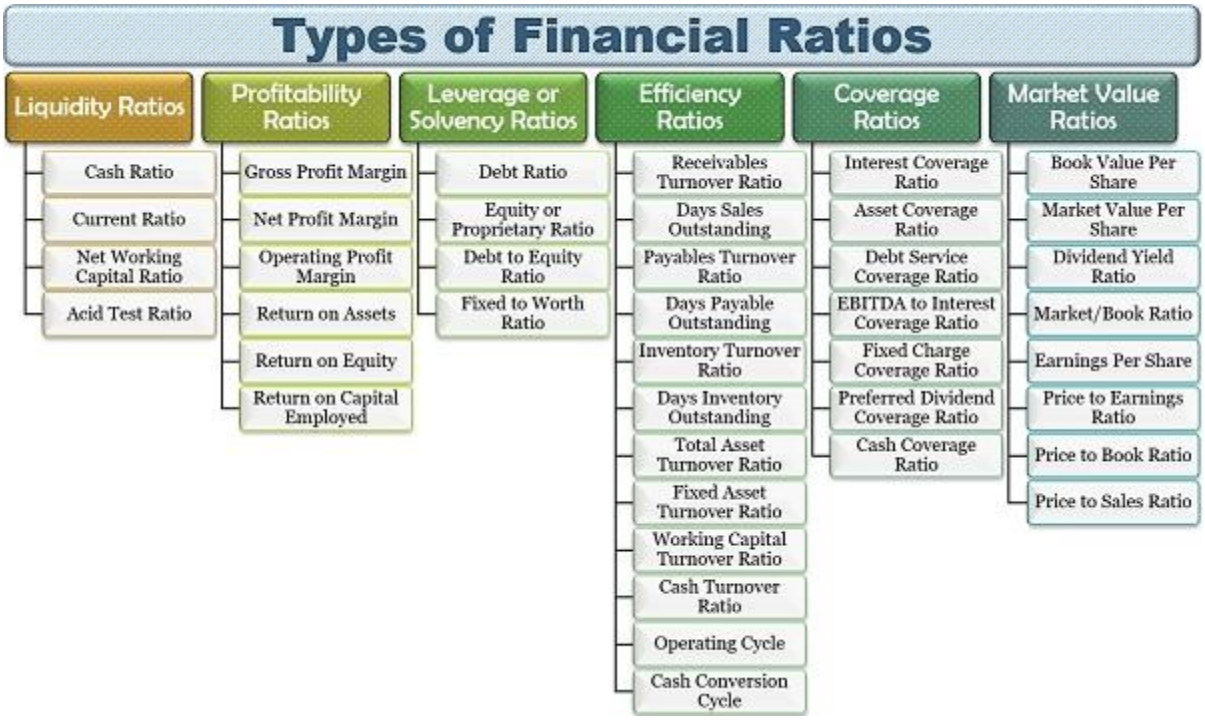
Ex:

Coca-Cola Company
Percentage Trend Analysis
(dollar amounts are in millions)

	2010	2009	2008	2007	2006
Net sales	$35,119	$30,990	$31,944	$28,857	$24,088
Trend percentage	146%	129%	133%	120%	100%
Operating income	$ 8,449	$ 8,231	$ 8,446	$ 7,252	$ 6,308
Trend percentage	134%	130%	134%	115%	100%

Ratio Analysis

Expression of logical relationships between items in a financial statement of a single period



Generally financial ratios can be categorizing in to following areas

- **Short term solvency or liquidity ratios:-** Working capital management is important as it signals the firm's ability to meet short term debt obligations

  A good current ratio is between 2:1 , which means that the business has 2 times more current assets than liabilities to covers its debts. A current ratio below 1 means that the company doesn't have enough liquid assets to cover its short-term liabilities.

The acid-test, or quick ratio, compares a company's most short-term assets to its most short-term liabilities to see if a company has enough cash to pay its immediate liabilities, such as short-term debt. The acid-test ratio disregards current assets that are difficult to liquidate quickly such as inventory.

Ratios:
Working Capital = Current assets – Current Liabilities
Current Ratio = Current Assets / Current Liabilities
Quick ratio (Acid test ratio)= $\frac{\text{(Current assets – Inventory)}}{\text{Current liabilities}}$

- **Asset management or Activity :-** Efficiency of asset usage reflect from this ratio. Means how well assets are used to generate revenues will impact on the overall profitability of the business

  Ratio:

  Inventory Turnover = Cost of goods sold/ Average ending stock

  Days Inventory in stock = 365/ Inventory turnover ratio

  Debt Turnover = Credit sales/Average debtors

  Average collection period = $\frac{\text{Average accounts receivables}}{\text{Average daily net credit sales}}$
  Average daily net credit sales = Net credit sales / 365

  Fixed Asset turnover = Sales / Net fixed assets

  Total Assets Turnover = Sales / Total Assets

- Long term solvency or financial leverage ratios:- Measures the riskiness of business in terms of debt gearing

Ex: Debt/ Equity

This ratio measures the relationship between debt and equity. A ratio of 1 indicates that debt and equity funding are equal. (i.e. there is $1 of debt to $1 of equity) whereas a ratio of 1.5 indicates that there is higher debt gearing in the business (i.e. there is $1.5 of debt to $1 equity). This higher debt gearing is usually interpret as bringing in more financial risk for the business particularly if the business has profitability or cash flow problems.

Ratios:

Debt/ Equity ratio= LT Debt/ Equity

= Total Debt / Total Equity

Debt to total Capital = $\frac{\text{Total Debt}}{\text{Total Capital}} * 100$

Interest Coverage = $\frac{\text{Earnings before Interest and Tax}}{\text{Interest}}$

- Profitability ratios: Three elements of the profitability analysis
    - Analyzing on sales and trading margin – Focus on gross profit
    - Analyzing on the control of expenses- Focus on net profit
    - Assessing the return on assets and return on equity

Ratios:

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

$$\text{Net Profit} = \frac{\text{Net Profit}}{\text{Net Sales}} * 100$$

$$\text{Return on assets} = \frac{\text{Net profit + Interest Exp}}{\text{Average total Assets}} * 100$$

$$\text{Return on Equity} = \frac{\text{Net Profit}}{\text{Average Total Equity}} * 100$$

- Market value ratios: Based on the share market's perception of the company.

  Ex: Earning ratio to Price

  The higher the ratio, the higher the perceived quality of the earnings by the share market

  Ratios:

  $$\text{EPS} = \frac{\text{Net Profit after tax}}{\text{Number of issued ordinary shares}}$$

  $$\text{Dividend per share} = \frac{\text{Dividends}}{\text{Number of issued ordinary shares}}$$

  $$\text{Dividend payout ratio} = \frac{\text{Dividend per share}}{\text{Earnings per share}} * 100$$

Earning Yield = $\frac{\text{Earnings per share}}{\text{Market price per share}}$

Book value per share = $\frac{\text{Common Equity}}{\text{Number of issued ordinary shares}}$

Earnings to price ratio = $\frac{\text{Earnings per share}}{\text{Market Price per share}}$

BV TO MV ratio = Book value per share / MV per share

Relatively low values of the earnings to price ratio & BV to MV ratio characterize growth stocks and relatively high values characterize decline stocks