Introduction to the Analysis & Interpretation of Accounting Statements

Financial Ratios

- Ratios are meaningful relationships between 2 numbers (or among several numbers).
- Ratio analysis is the most widely used technique to evaluate a firm's profitability, liquidity and solvency.
- Profitability Ratios - measures the income or operating success of a company for a given period of time.
- Liquidity Ratios – measures of short term ability of the company to pay its maturing obligations and to meet unexpected needs for cash
- Solvency Ratios – measures of the ability of a company to survive over a long period of time

Profitability Ratios

- **How profitable is the company?**
- **What kind of return is company generating on sales for stockholders?**
- **The higher the ratio, the better the profitability.**
- **Useful for internal management, owners, long term creditors and potential investors**

1. Profit Margin Ratio (Return on Sales)

$$\text{Return on Sales} = \frac{\text{Net Profit (after tax)}}{\text{Net Sales}}$$

The PM is always expressed as a percentage.
It tells us how much money from every rupee ends up in net income.

Commonly used as a measure of performance when studying similar firms in the same industry or when comparing different periods for the same firm.

Profitability Ratios

2. Return on Ordinary Shareholders Equity

= Return generated on stockholders' investment in the company

$$\textbf{ROE} = \frac{\text{Net profit (after tax)} - \text{Preference Dividends}}{\text{Average Ordinary Shareholders' Equity}}$$

Profitability Ratios

3. Return on Assets/ Return on Investment (ROI)

Measures the rate of return a firm realizes on its investment in assets. Most useful measures of profitability

$$\textbf{ROI} = \frac{\text{Net profit (before tax)} + \text{Interest}}{\text{Average Total Assets}}$$

$$\text{Return on Capital Employed} = \frac{\text{Net Profit (before tax)} + \text{Interest}}{\text{Total Assets} - \text{Current Liabilities}}$$

ROCE indicates how well long-term finance is being used to generate operating profits

Liquidity Ratios

The availability of cash or the ability of the business to convert its other assets quickly into cash is referred to as its liquidity.

- **The higher the Liquidity ratio, the better the company's ability to pay current obligations with current assets.**
- **The higher the Liquidity ratio, the more liquid the company is.**

1. Current Ratio: $\frac{CurrentAssets}{CurrentLiabilities}$

Measures a firm's ability to pay its current liabilities from its current assets.

2. Quick Ratio/ Acid Ratio:

$$\frac{\textit{Cash + Accounts Receivable ..}}{\textit{Current Liabilities}}$$

Measures a firm's ability to pay its current liabilities without relying on the sale of its inventory.

3. Working Capital = Current Assets – Current Liabilities

Current Ratio

- Shows the ability to meet short-term obligations in an emergency
- Higher the better. However, may indicate excessive investment in working capital items that may not produce profits
- Financial analyst prefer at least a ratio of 2.1: 1
- Limitation
  - Does not take into account the composition of current assets and current liabilities

Quick Ratio

- Shows composition of current assets
- Inventory and prepaid expenses taken off (left with quick assets)
- Quick assets – cash, short-term investments, trade debtors
- Trade debtors considered
  - May be difficult to get money
- Higher the ratio the better. As a general rule 1:1 is expected

Liquidity:
Trends and What If ???

	2004	2005
Current Ratio	18.5 X	6.1 X
Quick Ratio	14.3 X	4.7 X
What If … ??		
• Current Ratio		6.1 X
• Quick Ratio		.6 X

Financial Stability Ratios

- **Degree of Financial risk**
- **Ability to repay money borrowed**
- **The higher the ratio, the greater the financial risk**

1. Debt Ratio

Measures the proportion of total assets financed by the firm's creditors

$$\text{Debt Ratio} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

Financial Stability Ratios

2. Equity Ratio

Another ratio which attempts to measure the relationship between creditors' funds and owners' funds.

$$\text{Equity Ratio} = \frac{\text{Total Shareholders' Equity}}{\text{Total Assets}}$$

Some Limitations of Financial Statement Analysis

- Limitations associated with accounting data
  - Recorded and reported on the basis of historical cost
- Non-comparability of firms due to factors such as size, diversity of products etc.
  - Comparison between similar firms in the same industry is important for meaningful interpretation of ratios
- Use of different accounting methods
  - E.g. Calculation of depreciation