

FINANCIAL STATEMENT ANALYSIS

UNIT IV

FINANCIAL MANAGEMENT

BBA 4 Semester

Financial Statements

- Financial statements provide information about the financial activities and position of a firm.
- Important financial statements are:
 - Balance sheet
 - Profit & Loss statement
 - Cash flow statement

Balance Sheet

- Balance sheet indicates the financial condition of a firm at a specific point of time. It contains information about the firm's: assets, liabilities and equity.
- Assets are always equal to equity and liabilities:

$$\text{Assets} = \text{Equity} + \text{Liabilities}$$

Assets

- **Assets** are economic resources or properties owned by the firm.
- There are two types of assets:
 - **Fixed assets**
 - **Current assets**

Current Assets

- **Current assets (liquid assets)** are those which can be converted into cash within a year in the normal course of business. Current assets include:
 - Cash
 - Tradable (marketable) securities
 - Debtors (account receivables)
 - Stock of raw material
 - Work-in-process
 - Finished goods

Fixed Assets

- **Fixed assets** are long-term assets.
 - **Tangible fixed assets** are physical assets like land, machinery, building, equipment.
 - **Intangible fixed assets** are the firm's rights and claims, such as patents, copyrights, goodwill etc.
 - **Gross block** represent all tangible assets at acquisition costs.
 - **Net block** is gross block net of depreciation.

Liabilities

- **Liability** is a firm's obligation to pay cash or provide goods or services in the future.
- Two types of liabilities are:
 - Current liabilities
 - Long-term liabilities

Current Liabilities

- **Current liabilities** are payable within a year in the normal course of business.
- They include:
 - Accounts payable (creditors)
 - Outstanding expenses
 - Advances from customers
 - Provision for tax
 - Provision for dividend

Long-term Liabilities

- **Long-term liabilities** are the obligations or debts payable in a period of time greater than the accounting period.
- They include - Debentures, bonds, and secured long-term loans from financial institutions.

Shareholders' Funds or Equity

- **Share capital** is owners' contribution divided into shares.
- A **share** is a certificate acknowledging the amount of capital contributed by the shareholder.
- Shareholders' equity has two parts:
 - (i) *paid-up share capital, and*
 - (ii) *reserves and surplus (retained earnings)—* representing undistributed profits.
- Paid-up share capital and reserve and surplus together are called **net worth**.

Balance Sheet Relationship

- **Total assets** (TA) equal net fixed assets (NFA) plus current assets (CA):

$$TA = NFA + CA$$

- **Net current assets** (NCA) is the difference between current assets (CA) and current liabilities (CL):

$$NCA = CA - CL$$

Balance Sheet Relationship

- **Net assets (NA)** equal net fixed assets (NFA) plus net current assets (NCA):

$$NA = NFA + NCA$$

- **Capital employed (CE)** is the sum of net worth or equity (E) and borrowing/debt (D) and it is equivalent of net assets:

$$CE = \text{Net Worth} + \text{Borrowing} = E + D$$

$$\text{Capital Employed} = \text{Net Assets}$$

Profit & Loss Statement

- Profit & Loss statement provides information about a firm's:
 - revenues,
 - expenses, and
 - profit or loss.

Nature of Revenues

- **Revenue** is the amount received or receivable within the accounting period from the sale of the firm's goods or services.
- **Operating revenue** is the one that arises from main operations of the firm, and the revenue arising from other activities is called **non-operating revenue**.

Nature of Expenses

- **Expense** is the amount paid or payable within the accounting period for generating revenue.

Examples: raw material consumed, salary and wages, power and fuel, repairs and maintenance, rent, selling and marketing expenses, administrative expenses.

- Expenses are **expired costs** and capital expenditures represent **un-expired costs** and appear as assets in balance sheet.

Concepts of Profit

- **Gross profit** = sales – cost of goods sold (CGS)
 - CGS = raw material consumed + manufacturing expenses of goods that have been sold
- **PBDIT** = Profit before dep., interest and tax = sales – expenses, except dep., interest and tax
- **Operating profit (OP)**, $OP = GP - OEXP - DEP$
- **PBIT** = Profit before interest and tax = $PBDIT - DEP$
- **PBT** = Profit before tax = $PBIT - Interest$
- **PAT** = Profit after tax = $PBT - Tax$
- **Net operating profit after tax (NOPAT)** = $PBIT \times (1 - Tax\ rate)$

Economic Vs. Accounting Profit

Accounting profit is a result of the arbitrary allocation of expenditures between expenses (revenue expenditure) and assets (capital expenditure).

Economic profit is the net increase in the wealth of the firm, and it is measured in cash flow.

Financial Analysis

Financial analysis is the process of identifying the financial strengths and weaknesses of the firm by property establishing relationships between the item of the balance sheet and the profit and loss account.

USERS OF FINANCIAL ANALYSIS

- Trade creditors
- Suppliers of long-term debt
- Investors
- Management

TYPES OF FINANCIAL STATEMENT ANALYSIS

- **Short term analysis** include
 - Working capital position analysis,
 - Liquidity analysis,
 - Return analysis,
 - Profitability analysis,
 - Activity analysis.
- **Long term analysis** include
 - Profitability analysis,
 - Capital structure analysis,
 - Financial position,
 - Future prospects.

- **1. Internal Analysis**

- Internal analysis is made by the top management executives with the help of Management Accountant. The finance and accounting department of the business concern have direct approach to all the relevant financial records

- **2. External Analysis**

- Shareholders as investors, banks, financial institutions, material suppliers, government department and tax authorities and the like are doing the external analysis. They are fully depending upon the published financial statements.

- **3. Horizontal Analysis**

- It is otherwise called as dynamic analysis. When financial statements for a number of years are viewed and analyzed, the analysis is called horizontal analysis

- **4 Vertical Analysis**

- It is otherwise called as static analysis. Under this type of analysis, the ratios are calculated from the balance sheet of one year and/or from the profit and loss account of one year.

TOOLS OF FINANCIAL STATEMENT ANALYSIS

- Common Size Statements
- Comparative Financial Statements
- Trend Analysis
- Ratio Analysis
- Cash flow Statements

NATURE OF RATIO ANALYSIS

- A financial ratio is a relationship between two accounting numbers.
- Ratios help to make a qualitative judgement about the firm's financial performance.

Standards of Comparison

- Time series analysis
- Inter-firm analysis
- Industry analysis
- Proforma financial statement analysis

Types of Financial Ratios

- Liquidity ratios
- Leverage ratios
- Activity ratios
- Profitability ratios

LIQUIDITY RATIOS

- **Liquidity ratios** measure a firm's ability to meet its current obligations.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

$$\text{Quick ratio} = \frac{\text{Current assets} - \text{Inventories}}{\text{Current liabilities}}$$

$$\text{Cash ratio} = \frac{\text{Cash} + \text{Marketable securities}}{\text{Current liabilities}}$$

Cont...

$$\text{Interval measure} = \frac{\text{Current assets} - \text{Inventory}}{\text{Average daily operating expenses}}$$

$$\text{NWC ratio} = \frac{\text{Net working capital (NWC)}}{\text{Net assets (NA)}}$$

LEVERAGE RATIOS

- To judge the long-term financial position of the firm, financial leverage, or capital structure ratios are calculated.
- These ratios indicate mix of funds provided by owners and lenders.

$$\begin{aligned}\text{Debt ratio} &= \frac{\text{Total debt (TD)}}{\text{Total debt (TD) + Net worth (NW)}} \\ &= \frac{\text{Total debt (TD)}}{\text{Capital employed (CE)}}\end{aligned}$$

$$\text{Debt-Equity ratio} = \frac{\text{Total debt (TD)}}{\text{Net worth (NW)}}$$

Cont...

$$\text{CE-to-NW ratio} = \frac{\text{Capital employed (CE)}}{\text{Net worth (NW)}}$$

$$\text{NA-to-NW ratio} = \frac{\text{Net assets (NA)}}{\text{Net worth (NW)}}$$

$$\text{TL-to-LF ratio} = \frac{\text{Total + liabilities (TL)}}{\text{Total assets (TA)}}$$

$$\text{LT-to-LF ratio} = \frac{\text{Long-term debt (LD)}}{\text{Long-term debt (LD) + Net worth (NW)}}$$

Cont...

$$\text{LT-to-NW ratio} = \frac{\text{Long-term debt (LD)}}{\text{Net worth (NW)}}$$

$$\text{Debt ratio} = \frac{\text{Total debt} + \text{Value of lease}}{\text{Total debt} + \text{Value of lease} + \text{Net worth}}$$

$$\text{Debt-Equity ratio} = \frac{\text{Total debt} + \text{Value of lease}}{\text{Net worth}}$$

ACTIVITY RATIOS

- **Activity ratios** are employed to evaluate the efficiency with which the firm manages and utilizes its assets.
- These ratios are also called **turnover ratios** because they indicate the speed with which assets are being converted or turned over into sales.
- Activity ratios, thus, involve a relationship between sales and assets.

Inventory Turnover and Debtors Turnover

$$\text{Inventory turnover} = \frac{\text{Cost of goods sold}}{\text{Average inventory}}$$

$$\text{Debtors turnover} = \frac{\text{Credit sales}}{\text{Average debtors}}$$

Assets Turnover Ratios

$$\text{Net assets turnover} = \frac{\text{Sales}}{\text{Net assets}}$$

PROFITABILITY RATIOS

- The profitability ratios are calculated to measure the operating efficiency of the company.
- Generally, two major types of profitability ratios are calculated:
 1. profitability in relation to sales
 2. profitability in relation to investment.

Cont...

$$\begin{aligned}\text{Gross profit margin} &= \frac{\text{Sales} - \text{Cost of goods sold}}{\text{Sales}} \\ &= \frac{\text{Gross profit}}{\text{Sales}}\end{aligned}$$

$$\text{Net profit margin} = \frac{\text{Profit after tax}}{\text{Sales}}$$

$$\text{Net profit margin} = \frac{\text{EBIT}(1 - T)}{\text{Sales}} = \frac{\text{NOPAT}}{\text{Sales}}$$

Cont...

$$\text{Operating expenses ratio} = \frac{\text{Operating expenses}}{\text{Sales}}$$

$$\text{ROI} = \text{ROTA} = \frac{\text{EBIT}(1-T)}{\text{Total assets}} = \frac{\text{EBIT}(1-T)}{\text{TA}}$$

$$\text{ROI} = \text{RONA} = \frac{\text{EBIT}(1-T)}{\text{Net assets}} = \frac{\text{EBIT}(1-T)}{\text{NA}}$$

$$\text{ROE} = \frac{\text{Profit after taxes}}{\text{Net worth (Equity)}} = \frac{\text{PAT}}{\text{NW}}$$

Cont...

$$\text{EPS} = \frac{\text{Profit after tax}}{\text{Number of shares outstanding}}$$

$$\text{DPS} = \frac{\text{Earnings paid to shareholders (dividend)}}{\text{Number of ordinary shares outstanding}}$$

$$\begin{aligned} \text{Payout ratio} &= \frac{\text{Equity dividends}}{\text{Profit after tax}} \\ &= \frac{\text{Dividends per share}}{\text{Earnings per share}} = \frac{\text{DPS}}{\text{EPS}} \end{aligned}$$

Cont...

$$\text{Dividend yield} = \frac{\text{Dividend per share}}{\text{Market value per share}} = \frac{\text{DPS}}{\text{MV}}$$

$$\text{Earnings yield} = \frac{\text{Earnings per share}}{\text{Market value per share}} = \frac{\text{EPS}}{\text{MV}}$$

$$\text{Price-earnings ratio} = \frac{\text{Market value per share}}{\text{Earnings per share}} = \frac{\text{MV}}{\text{EPS}}$$

Cont...

$$\text{M/B ratio} = \frac{\text{Market value per share}}{\text{Book value per share}}$$

$$\text{Tobin's } q = \frac{\text{Market value of assets}}{\text{Replacement cost of assets}}$$

COMPARATIVE STATEMENTS ANALYSIS

- A simple method of tracing periodic changes in the financial performance of a company is to prepare comparative statements.
- Comparative financial statements will contain items at least for two periods.
- Changes—increases and decreases—in income statement and balance sheet over a period can be shown in two ways:
 - (1) aggregate changes and
 - (2) proportional changes.

TREND ANALYSIS

- In financial analysis the direction of changes over a period of years is of crucial importance.
- **Time series** or **trend analysis** of ratios indicates the direction of change.
- This kind of analysis is particularly applicable to the items of profit and loss account.

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- For trend analysis, the use of index numbers is generally advocated.
- The procedure followed is to assign the number 100 to items of the base year and to calculate percentage changes in each items of other years in relation to the base year. This procedure may be called as **“trend-percentage method.”**

Example: Hindustan Manufacturing Company

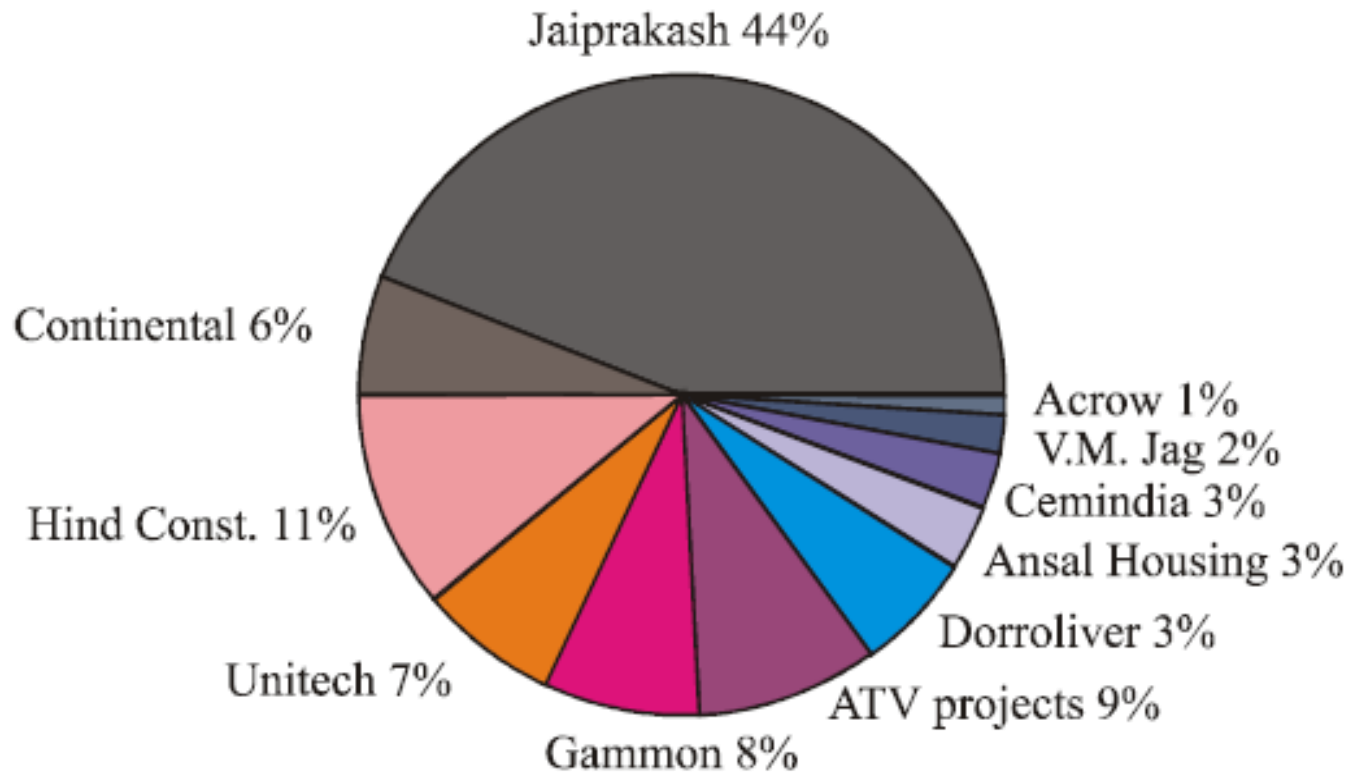
Trend Analysis

	<i>20X1</i>	<i>20X2</i>	<i>20X3</i>
Sales	100	120.8	158.9
EBIT	100	143.6	184.8
PAT	100	132.8	161.0
Current assets	100	162.2	216.0
Current liabilities	100	160.1	221.7
Gross fixed assets	100	128.8	141.0
Net assets	100	137.5	164.8
Total assets	100	146.4	185.3
Net worth	100	114.0	131.6
Dividend	100	116.7	133.3

INTER-FIRM ANALYSIS

- The analysis of the financial performance of all firms in an industry and their comparison at a given point of time is referred to the **cross-section analysis** or the **inter-firm analysis**.
- To ascertain the relative financial standing of a firm, its financial ratios are compared either with its immediate competitors or with the industry average.

Example: Construction industry: Inter-firm Comparison Market Share



UTILITY AND LIMITATIONS OF RATIO ANALYSIS

UTILITY OF RATIO ANALYSIS

- the ability of the firm to meet its current obligations;
- the extent to which the firm has used its long-term solvency by borrowing funds;
- the efficiency with which the firm is utilizing its assets in generating sales revenue
- the overall operating efficiency and performance of the firm.

Diagnostic Role of Ratios

- Profitability analysis
- Assets utilization
- Liquidity analysis
- Strategic Analysis

CAUTIONS IN USING RATIO ANALYSIS

- Standards for comparison
- Company differences
- Price level changes
- Different definitions of variables
- Changing situations
- Historical data