2.1 FINANCIAL ANALYSIS

Financial statements are formal records of the financial activities of a business, person or other entity and provide an overview of a business or person’s financial condition in both short & long terms. They give an accurate picture of a company’s condition & operating results in a condensed form. Financial statements are used as a management tool primarily by co. executives & investors in assessing the overall position & operating results of a company. Analysis & interpretation of financial statements help in determining the liquidity position, long term solvency, financial viability and profitability of a firm. Ratio analysis show whether the company is improving or deteriorating in past years. Moreover comparison of different aspect of all the firms can be done effectively with this. It helps the client to decide in which firm the risk is less or in which one they should invest so that maximum benefit can be earned.

2.2 FINANCIAL STATEMENT ANALYSIS

Business is mainly concerned with the financial activities. In order to ascertain the financial status of the business every enterprise prepares certain statements, known as financial statements. Financial statements are mainly prepared for decision making purposes. But the information as is provided in the financial statements is not adequately helpful in drawing a meaningful conclusion. Thus, an effective analysis and interpretation of financial statements is required.

Analysis means establishing a meaningful relationship between various items of the two financial statements with each other in such a way that a conclusion is drawn. By financial statements we mean two statements:

(i) Profit and loss Account or Income Statement

(ii) Balance Sheet or Position Statement
These are prepared at the end of a given period of time. They are the indicators of profitability and financial soundness of the business concern. The term financial analysis is also known as analysis and interpretation of financial statements. It refers to the establishing meaningful relationship between various items of the two financial statements i.e. Income statement and position statement. It determines financial strength and weaknesses of the firm.

Analysis of financial statements is an attempt to assess the efficiency and performance of an enterprise. Thus, the analysis and interpretation of financial statements is very essential to measure the efficiency, profitability, financial soundness and future prospects of the business units. Financial analysis serves the following purposes:

a) Measuring the profitability

The main objective of a business is to earn a satisfactory return on the funds invested in it. Financial analysis helps in ascertaining whether adequate profits are being earned on the capital invested in the business or not. It also helps in knowing the capacity to pay the interest and dividend.

b) Indicating the trend of Achievements

Financial statements of the previous years can be compared and the trend regarding various expenses, purchases, sales, gross profits and net profit etc. can be ascertained. Value of assets and liabilities can be compared and the future prospects of the business can be envisaged.

c) Assessing the growth potential of the business

The trend and other analysis of the business provide sufficient information indicating the growth potential of the business.

d) Comparative position in relation to other firms
The purpose of financial statements analysis is to help the management to make a comparative study of the profitability of various firms engaged in similar businesses. Such comparison also helps the management to study the position of their firm in respect of sales, expenses, profitability and utilizing capital, etc.

e) Assess overall financial strength

The purpose of financial analysis is to assess the financial strength of the business. Analysis also helps in taking decisions, whether funds required for the purchase of new machines and equipments are provided from internal sources of the business or not if yes, how much? and also to assess how much funds have been received from external sources.

f) Assess solvency of the firm

The different tools of an analysis tell us whether the firm has sufficient funds to meet its short term and long term liabilities or not.

2.3 PARTIES INTERESTED

Analysis of financial statements has become very significant due to widespread interest of various parties in the financial results of a business unit. The various parties interested in the analysis of financial statements are:

(i) Investors: Shareholders or proprietors of the business are interested in the well-being of the business. They like to know the earning capacity of the business and its prospects of future growth.

(ii) Management: The management is interested in the financial position and performance of the enterprise as a whole and of its various divisions. It helps them in preparing budgets and assessing the performance of various departmental heads.

(iii) Trade unions: They are interested in financial statements for negotiating the wages or salaries or bonus agreement with the management.
(iv) Lenders: Lenders to the business like debenture holders, suppliers of loans and lease are interested to know short term as well as long term solvency position of the entity.

(v) Suppliers and trade creditors: The suppliers and other creditors are interested to know about the solvency of the business i.e. the ability of the company to meet the debts as and when they fall due.

(vi) Tax authorities: Tax authorities are interested in financial statements for determining the tax liability.

(vii) Researchers: They are interested in financial statements in undertaking research work in business affairs and practices.

(viii) Employees: They are interested to know the growth of profit. As a result of which they can demand better remuneration and congenial working environment.

(ix) Government and their agencies: Government and their agencies need financial information to regulate the activities of the enterprises/industries and determine taxation policy. They suggest measures to formulate policies and regulations.

(x) Stock exchange: The stock exchange members take interest in financial statements for the purpose of analysis because they provide useful financial information about companies. Thus, we find that different parties have interest in financial statements for different reasons.

2.4 TECHNIQUES AND TOOLS OF FINANCIAL STATEMENT ANALYSIS

Financial statements give complete information about assets, liabilities, equity, reserves, expenses and profit and loss of an enterprise. They are not readily understandable to interested parties like creditors, shareholders, investors etc. Thus, various techniques are employed for analyzing and interpreting the financial
statements. Techniques of analysis of financial statements are mainly classified into three categories:

(i) Cross-sectional analysis

It is also known as inter firm comparison. This analysis helps in analyzing financial characteristics of an enterprise with financial characteristics of another similar enterprise in that accounting period. For example, if company A has earned 15% profit on capital invested. This does not say whether it is adequate or not. If we analyze further and find that a similar company has earned 16% during the same period, then only we can make a conclusion that company B is better. Thus, it turns into a meaningful analysis.

(ii) Time series analysis

It is also called as intra-firm comparison. According to this method, the relationship between different items of financial statement is established, comparisons are made and results obtained. The basis of comparison may be: – Comparison of the financial statements of different years of the same business unit.
– Comparison of financial statement of a particular year of different business units.

(iii) Cross-sectional cum time series analysis

This analysis is intended to compare the financial characteristics of two or more enterprises for a defined accounting period. It is possible to extend such a comparison over the year. This approach is most effective in analyzing of financial statements.

The analysis and interpretation of financial statements is used to determine the financial position. A number of tools or methods or devices are used to study the relationship between financial statements. However, the following are the important tools which are commonly used for analyzing and interpreting financial statements:
Comparative financial statements
Common size statements
Trend analysis
Ratio analysis
Funds flow analysis
Cash flow analysis
Comparative financial statements

In brief, comparative study of financial statements is the comparison of the financial statements of the business with the previous year’s financial statements. It enables identification of weak points and applying corrective measures. Practically, two financial statements (balance sheet and income statement) are prepared in comparative form for analysis purposes.

2.4.1 Comparative Balance Sheet

The comparative balance sheet shows the different assets and liabilities of the firm on different dates to make comparison of balances from one date to another. The comparative balance sheet has two columns for the data of original balance sheets. A third column is used to show change (increase/decrease) in figures. The fourth column may be added for giving percentages of increase or decrease. While interpreting comparative Balance sheet the interpreter is expected to study the following aspects:
(i) Current financial position and
Liquidity position
(ii) Long-term financial position
(iii) Profitability of the concern
(i) For studying current financial position or liquidity position of a concern one should examine the working capital in both the years.

Working capital is the excess of current assets over current liabilities.

(ii) For studying the long-term financial position of the concern, one should examine the changes in fixed assets, long-term liabilities and Capital.

(iii) The next aspect to be studied in a comparative balance sheet is the profitability of the concern. The study of increase or decrease in profit will help the interpreter to observe whether the profitability has improved or not.

After studying various assets and liabilities, an opinion should be formed about the financial position of the concern.

2.4.2 Comparative Income Statement

The income statement provides the results of the operations of a business. This statement traditionally is known as trading and profit and loss A/c. Important components of income statement are net sales, cost of goods sold, selling expenses, office expenses etc. The figures of the above components are matched with their corresponding figures of previous years individually and changes are noted. The comparative income statement gives an idea of the progress of a business over a period of time. The changes in money value and percentage can be determined to analyze the profitability of the business. Like comparative balance sheet, income statement also has four columns. The first two columns are shown figures of various items for two years. Third and fourth columns are used to show increase or decrease in figures in absolute amount and percentages respectively.

The analysis and interpretation of income statement will involve the following:
– The increase or decrease in sales should be compared with the increase or decrease in cost of goods sold.
– To study the operating profits
– The increase or decrease in net profit is calculated that will give an idea about the overall profitability of the concern.

2.4.3 Common Size Statements and Trend Analysis

The common size statements (Balance Sheet and Income Statement) are shown in analytical percentages. The figures of these statements are shown as percentages of total assets, total liabilities and total sales respectively.

Take the example of Balance Sheet. The total assets are taken as 100 and different assets are expressed as a percentage of the total. Similarly, various liabilities are taken as a part of total liabilities.

**Common size balance sheet**

A statement where balance sheet items are expressed in the ratio of each asset to total assets and the ratio of each liability is expressed in the ratio of total liabilities is called common size balance sheet. Thus the common size statement may be prepared in the following way.

– The total assets or liabilities are taken as 100
– The individual assets are expressed as a percentage of total assets i.e. 100 and different liabilities are calculated in relation to total liabilities.

**Common size income statement**

The items in income statement can be shown as percentages of sales to show the relations of each item to sales.
Trend percentage analysis (TPA)

The trend analysis is a technique of studying several financial statements over a series of years. In this analysis the trend percentages are calculated for each item by taking the figure of that item for the base year taken as 100. Generally the first year is taken as a base year. The analyst is able to see the trend of figures, whether moving upward or downward.

In brief, the procedure for calculating trends is as:
– One year is taken as a base year which is generally is the first year or last year.
– Trend percentages are calculated in relation to base year.

2.4.4 Ratio Analysis

A ratio is a quotient of two mathematical figures. When it is conducted between two accounting figures, it is called as Accounting ratio or Financial Ratio. Broadly the financial ratios are classified into four types. They are:

A. Liquidity Ratio
B. Turnover Ratio
C. Solvency or Leverage ratios
D. Profitability ratios

A. LIQUIDITY RATIO

It measures the ability of the firm to meet its short-term obligations that is capacity of the firm to pay its current liabilities as and when they fall due. Thus these ratios reflect the short-term financial solvency of a firm. A firm should ensure that it does not suffer from lack of liquidity. The failure to meet obligations on due time may result in bad credit image, loss of creditors confidence, and even in legal
proceedings against the firm on the other hand very high degree of liquidity is also not
desirable since it would imply that funds are idle and earn nothing. So therefore it is
necessary to strike a proper balance between liquidity and lack of liquidity.

The various ratios that explains about the liquidity of the firm are

1. Current Ratio
2. Acid Test Ratio / quick ratio
3. Absolute liquid ration / cash ratio

1. CURRENT RATIO

The current ratio measures the short-term solvency of the firm. It establishes
the relationship between current assets and current liabilities. It is calculated by
dividing current assets by current liabilities.

Current Ratio = Current Asset / Current Liabilities

Current assets include cash and bank balances, marketable securities, inventory, and
debtors, excluding provisions for bad debts and doubtful debtors, bills receivables and
prepaid expenses. Current liabilities includes sundry creditors, bills payable, short-
term loans, income-tax liability, accrued expenses and dividends payable.

2. ACID TEST RATIO / QUICK RATIO

It has been an important indicator of the firm’s liquidity position and is used as
a complementary ratio to the current ratio. It establishes the relationship between
quick assets and current liabilities. It is calculated by dividing quick assets by the
current liabilities.

Acid Test Ratio = Quick Assets / Current Liabilities
Quick assets are those current assets, which can be converted into cash immediately or within reasonable short time without a loss of value. These include cash and bank balances, sundry debtors, bill’s receivables and short-term marketable securities.

3. ABSOLUTE LIQUID RATIO / CASH RATIO

It shows the relationship between absolute liquid or super quick current assets and liabilities. Absolute liquid assets include cash, bank balances, and marketable securities.

Absolute liquid ratio = Absolute liquid assets / Current Liabilities

B. TURNOVER RATIO

Turnover ratios are also known as activity ratios or efficiency ratios with which a firm manages its current assets. The following turnover ratios can be calculated to judge the effectiveness of asset use.

1. Inventory Turnover Ratio
2. Debtor Turnover Ratio
3. Creditor Turnover Ratio
4. Assets Turnover Ratio

1. INVENTORY TURNOVER RATIO

This ratio indicates the number of times the inventory has been converted into sales during the period. Thus it evaluates the efficiency of the firm in managing its inventory. It is calculated by dividing the cost of goods sold by average inventory.

Inventory Turnover Ratio = Cost of goods sold / Average Inventory

The average inventory is simple average of the opening and closing balances of inventory. (Opening + Closing balances / 2). In certain circumstances opening balance of the inventory may not be known then closing balance of inventory may be considered as average inventory
2. DEBTOR TURNOVER RATIO

This indicates the number of times average debtors have been converted into cash during a year. It is determined by dividing the net credit sales by average debtors.

Debtor Turnover Ratio = Net Credit Sales / Average Trade Debtors

Net credit sales consist of gross credit sales minus sales return. Trade debtor includes sundry debtors and bill’s receivables. Average trade debtors (Opening + Closing balances / 2)

When the information about credit sales, opening and closing balances of trade debtors is not available then the ratio can be calculated by dividing total sales by closing balances of trade debtor

Debtor Turnover Ratio = Total Sales / Trade Debtors

3. CREDITOR TURNOVER RATIO

It indicates the number of times sundry creditors have been paid during a year. It is calculated to judge the requirements of cash for paying sundry creditors. It is calculated by dividing the net credit purchases by average creditors.

Creditor Turnover Ratio = Net Credit Purchases / Average Trade Creditors

When the information about credit purchases, opening and closing balances of trade creditors is not available then the ratio is calculated by dividing total purchases by the closing balance of trade creditors.

Creditor Turnover Ratio = Total purchases / Total Trade Creditors

4. ASSETS TURNOVER RATIO

The relationship between assets and sales is known as assets turnover ratio. Several assets turnover ratios can be calculated depending upon the groups of assets, which are related to sales.
a) Total asset turnover.

b) Net asset turnover

c) Fixed asset turnover

d) Current asset turnover

e) Net working capital turnover ratio

**a. Total Asset Turnover**

This ratio shows the firm’s ability to generate sales from all financial resources committed to total assets. It is calculated by dividing sales by total assets.

Total asset turnover = Total Sales / Total Assets

**b. Net Asset Turnover**

This is calculated by dividing sales by net assets.

Net asset turnover = Total Sales / Net Assets

Net assets represent total assets minus current liabilities. Intangible and fictitious assets like goodwill, patents, accumulated losses, deferred expenditure may be excluded for calculating the net asset turnover.

**c. Fixed Asset Turnover**

This ratio is calculated by dividing sales by net fixed assets.

Fixed asset turnover = Total Sales / Net Fixed Assets

Net fixed assets represent the cost of fixed assets minus depreciation.

**d. Current Asset Turnover**

It is divided by calculating sales by current assets

Current asset turnover = Total Sales / Current Assets
e. Net Working Capital Turnover Ratio

A higher ratio is an indicator of better utilization of current assets and working capital and vice-versa (a lower ratio is an indicator of poor utilization of current assets and working capital). It is calculated by dividing sales by working capital.

Net working capital turnover ratio = Total Sales / Working Capital

Working capital is represented by the difference between current assets and current liabilities.

C. SOLVENCY OR LEVERAGE RATIOS

The solvency or leverage ratios throws light on the long term solvency of a firm reflecting its ability to assure the long term creditors with regard to periodic payment of interest during the period and loan repayment of principal on maturity or in predetermined installments at due dates. There are thus two aspects of the long-term solvency of a firm.

a. Ability to repay the principal amount when due

b. Regular payment of the interest.

The ratio is based on the relationship between borrowed funds and owner’s capital it is computed from the balance sheet, the second type are calculated from the profit and loss a/c. The various solvency ratios are

1. Debt equity ratio
2. Debt to total capital ratio
3. Proprietary (Equity) ratio
4. Fixed assets to net worth ratio
5. Fixed assets to long term funds ratio
6. Debt service (Interest coverage) ratio
1. Debt Equity Ratio

Debt equity ratio shows the relative claims of creditors (Outsiders) and owners (Interest) against the assets of the firm. Thus this ratio indicates the relative proportions of debt and equity in financing the firm’s assets. It can be calculated by dividing outsider funds (Debt) by shareholder funds (Equity).

Debt equity ratio = Outsider Funds (Total Debts) / Shareholder Funds

The outsider fund includes long-term debts as well as current liabilities. The shareholder funds include equity share capital, preference share capital, reserves and surplus including accumulated profits. However fictitious assets like accumulated deferred expenses etc should be deducted from the total of these items to shareholder funds. The shareholder funds so calculated are known as net worth of the business.

2. Debt to Total Capital Ratio

Debt to total capital ratio = Total Debts / Total Assets

3. Proprietary (Equity) Ratio

This ratio indicates the proportion of total assets financed by owners. It is calculated by dividing proprietor (Shareholder) funds by total assets.

Proprietary (equity) ratio = Shareholder funds / Total Assets

4. Fixed Assets to Net worth Ratio

This ratio establishes the relationship between fixed assets and shareholder funds. It is calculated by dividing fixed assets by shareholder funds.

Fixed assets to net worth ratio = (Fixed Assets /Net Worth) X 100

The shareholder funds include equity share capital, preference share capital, reserves and surplus including accumulated profits. However fictitious assets like accumulated deferred expenses etc should be deducted from the total of these items to
shareholder funds. The shareholder funds so calculated are known as net worth of the business.

5. Fixed Assets to Long Term Funds Ratio

Fixed assets to long term funds ratio establishes the relationship between fixed assets and long-term funds and is calculated by dividing fixed assets by long term funds.

\[
\text{Fixed assets to long term funds ratio} = \frac{\text{Fixed Assets}}{\text{Long – term Funds}} \times 100
\]

6. Debt Service (Interest Coverage) Ratio

This shows the number of times the earnings of the firms are able to cover the fixed interest liability of the firm. This ratio therefore is also known as Interest coverage or time interest earned ratio. It is calculated by dividing the earnings before interest and tax (EBIT) by interest charges on loans.

\[
\text{Debt Service Ratio} = \frac{\text{Earnings before interest and tax (EBIT)}}{\text{Interest Charges}}
\]

PROFITABILITY RATIOS

The profitability ratio of the firm can be measured by calculating various profitability ratios. General two groups of profitability ratios are calculated.

a. Profitability in relation to sales.

b. Profitability in relation to investments.

Profitability in relation to sales

1. Gross profit margin or ratio
2. Net profit margin or ratio
3. Operating profit margin or ratio
4. Operating Ratio
5. Expenses Ratio
1. **Gross Profit Margin or Ratio**

It measures the relationship between gross profit and sales. It is calculated by dividing gross profit by sales.

Gross profit margin or ratio = \((\text{Gross profit} / \text{Net Sales}) \times 100\)

Gross profit is the difference between sales and cost of goods sold.

2. **Net Profit Margin or Ratio**

It measures the relationship between net profit and sales of a firm. It indicates management’s efficiency in manufacturing, administrating, and selling the products.

It is calculated by dividing net profit after tax by sales.

Net profit margin or ratio = \((\text{Earning after tax} / \text{Net Sales}) \times 100\)

3. **Operating Profit Margin or Ratio**

It establishes the relationship between total operating expenses and net sales.

It is calculated by dividing operating expenses by the net sales.

Operating profit margin or ratio = \((\text{Operating expenses} / \text{Net Sales}) \times 100\)

Operating expenses includes cost of goods produced/sold, general and administrative expenses, selling and distributive expenses.

4. **Expenses Ratio**

While some of the expenses may be increasing and other may be declining to know the behavior of specific items of expenses the ratio of each individual operating expenses to net sales should be calculated. The various variants of expenses are

Cost of goods sold = \((\text{Cost of goods sold} / \text{Net Sales}) \times 100\)

Administrative Expenses Ratio = \((\text{Administrative Expenses} / \text{Net Sales}) \times 100\)

Selling and distribution expenses ratio = \((\text{Selling and distribution expenses} / \text{Net Sales}) \times 100\)
5. Operating Profit Margin or Ratio

Operating profit margin or ratio establishes the relationship between operating profit and net sales. It is calculated by dividing operating profit by sales.

Operating profit margin or ratio = (Operating Profit / Net Sales) \times 100

Operating profit is the difference between net sales and total operating expenses.

(Operating profit = Net sales – cost of goods sold – administrative expenses – selling and distribution expense)
PROFITABILITY IN RELATION TO INVESTMENTS

1. Return on gross investment or gross capital employed
2. Return on net investment or net capital employed
3. Return on shareholder’s investment or shareholder’s capital employed.
4. Return on equity shareholder investment or equity shareholder capital employed.

1. Return on Gross Capital Employed

This ratio establishes the relationship between net profit and the gross capital employed. The term gross capital employed refers to the total investment made in business. The conventional approach is to divide Earnings after Tax (EAT) by gross capital employed.

Return on gross capital employed = \( \frac{\text{Earnings after Tax}}{\text{Gross Capital Employed}} \times 100 \)

2. Return on Net Capital Employed

It is calculated by dividing Earnings before Interest & Tax (EBIT) by the net capital employed. The term net capital employed is the gross capital in the business minus current liabilities. Thus it represents the long-term funds supplied by creditors and owners of the firm.

Return on net capital employed = \( \frac{\text{Earnings Before Interest & Tax}}{\text{Net Capital Employed}} \times 100 \)

3. Return on Share Capital Employed

This ratio establishes the relationship between earnings after taxes and the shareholder investment in the business. This ratio reveals how profitability the owners’ funds have been utilized by the firm. It is calculated by dividing Earnings after tax (EAT) by shareholder capital employed.

Return on share capital employed = \( \frac{\text{Earnings after tax}}{\text{Shareholder Capital employed}} \times 100 \)
4. Return on Equity Share Capital Employed

Equity shareholders are entitled to all the profits remaining after the all outside claims including dividends on preference share capital are paid in full. The earnings may be distributed to them or retained in the business. Return on equity share capital investments or capital employed establishes the relationship between earnings after tax and preference dividend and equity shareholder investment or capital employed or net worth. It is calculated by dividing earnings after tax and preference dividend by equity shareholder’s capital employed.

Return on equity share capital employed = Earnings after tax, preference dividends X 100/ Equity share capital employed

Earnings per Share

It measures the profit available to the equity shareholders on a per share basis. It is computed by dividing earnings available to the equity shareholders by the total number of equity share outstanding

Earnings per share = Earnings after tax – Preferred dividends (if any)/ Equity shares outstanding

Dividend per Share

The dividends paid to the shareholders on a per share basis in dividend per share. Thus dividend per share is the earnings distributed to the ordinary shareholders divided by the number of ordinary shares outstanding.

Dividend per share = Earnings paid to the ordinary shareholders/Number of ordinary shares outstanding
Dividends Pay-out Ratio (Pay-out Ratio)

It measures the relationship between the earnings belonging to the equity shareholders and the dividends paid to them. It shows what percentage shares of the earnings are available for the ordinary shareholders are paid out as dividend to the ordinary shareholders. It can be calculated by dividing the total dividend paid to the equity shareholders by the total earnings available to them or alternatively by dividing dividend per share by earnings per share.

Dividend pay-out ratio (Pay our ratio) = Total dividend paid to equity shareholders/Total earnings available to equity shareholders

Or Dividend per share / Earnings per share

Dividend and Earnings Yield

While the earnings per share and dividend per share are based on the book value per share, the yield is expressed in terms of market value per share. The dividend yield may be defined as the relation of dividend per share to the market value per ordinary share and the earnings ratio as the ratio of earnings per share to the market value of ordinary share.

Dividend Yield = Dividend Per share/ Market value of ordinary shares

Earnings yield = Earnings per share/ Market value of ordinary shares

Price - Earnings Ratio

The reciprocal of the earnings yield is called price earnings ratio. It is calculated by dividing the market price of the share by the earnings per share.

Price earnings (P/E) ratio = Market price of share/Earnings per share

Ratios are useful to interpret the financial statements in terms of the operating performance and financial position of a firm. It involves comparison for a meaningful interpretation of the financial statements based on which one can take a better
decision. In the case of banks, the ratios that they use are quite distinguishable caused by the nature of their business. However, in the following line a brief description of bank ratios is made in a comprehensive manner.

- **Capital Adequacy Ratio** (CAR), also known as Capital to Risk Weighted Assets Ratio (CRAR), is the measure of a bank's capital and is expressed as a percentage of a bank's risk weighted credit exposures.

\[
\text{CAR} = \frac{\text{Tier 1 capital} + \text{Tier 2 capital}}{\text{Risk weighted assets}}
\]

TIER 1 CAPITAL = (paid up capital + statutory reserves + disclosed free reserves) - (equity investments in subsidiary + intangible assets + current & b/f losses)

TIER 2 CAPITAL = A) Undisclosed Reserves + B) General Loss reserves + C) hybrid debt capital instruments and subordinated debts where risk can either be weighted assets \((\alpha)\) or the respective national regulator's minimum total capital requirement.

- **Compound Annual Growth Rate Calculator** is an online finance risk measurement tool to calculate what an investment yields on an annually compounded basis. The start value, final value and number of years are the key components to figure out CAGR in percentage. Compound Annual Growth Rate abbreviated as CAGR, is a method of estimation of average annual percentage growth of an investment or some part of the business over a specified time period. The CAGR is an important area of financial management. In order to calculate annual percentage growth, this annual growth rate calculator can assist you to analyze investment alternatives by comparing their CAGRs from identical time periods
CAGR = \[\left(\frac{\text{Ending Value}}{\text{Beginning Value}}\right)^{1/n} - 1\]

- **Non – Performing Asset** (NPA) is a classification used by financial institutions that refer to loans that are in jeopardy of default. Once the borrower has failed to make interest or principal payments for 90 days the loan is considered to be a non-performing asset. Non-performing assets are problematic for financial institutions since they depend on interest payments for income. Troublesome pressure from the economy can lead to a sharp increase in non-performing loans and often results in massive write-downs.

With a view to moving towards international best practices and to ensure greater transparency, it has been decided to adopt the ‘90 days’ overdue’ norm for identification of NPA, from the year ending March 31, 2004. Accordingly, with effect from March 31, 2004, a non-performing asset (NPA) shall be a loan or an advance where:

- Interest and/or installment of principal remain overdue for a period of more than 90 days in respect of a term loan,
- The account remains ‘out of order’ for a period of more than 90 days, in respect of an Overdraft/Cash Credit (OD/CC),
- The bill remains overdue for a period of more than 90 days in the case of bills purchased and discounted,
- Interest and/or installment of principal remains overdue for two harvest seasons but for a period not exceeding two half years in the case of an advance granted for agricultural purposes, and
- Any amount to be received remains overdue for a period of more than 90 days in respect of other accounts.
NPAs have been classified into following four types:-

1. Standard Assets: A standard asset is a performing asset. Standard assets generate continuous income and repayments as and when they fall due. Such assets carry a normal risk and are not NPA in the real sense.

2. Sub-Standard Assets: All those assets (loans and advances) which are considered as non – performing for a period of 12 months.

3. Doubtful Assets: All those assets which are considered as non-performing for period more than 12 months.

4. Loss Assets: All those assets which cannot be recovered

INVESTMENT VALUATION RATIOS

A valuation ratio is a measure of how cheap or expensive a security (or business) is, compared to some measure of profit or value. This ratio is calculated by dividing a measure of price by a measure of value.

1. **Dividend per Share (DPS)**

   It is the sum of declared dividends for every ordinary share issued. Dividend per share (DPS) is the total dividends paid out over an entire year (including interim dividends but not including special dividends) divided by the number of outstanding ordinary shares issued.

   DPS can be calculated by using the following formula:

   \[
   \text{DPS} = \frac{D - SD}{S}
   \]

   D - Sum of dividends over a period (usually 1 year)

   SD - Special, one time dividends

   S - Shares outstanding for the period
2. Net Operating Profit

Net operating profit represents the profitability of a company after accounting for cost of goods sold and operating expenses. Operating profit is an important measurement because it allows investors to determine how good a job management is doing at growing a company's profitability. Operating profit does not account for expenses such as interest and taxes, so it is a true measure of the profits of a company's underlying operations, and does not depend on capital structure or one-time expenses. For this reason, operating profit is one of the key metrics that investors use in evaluating a business.

Earnings reported by a bank or bank holding company, after deducting normal operating expenses, but before taking gains or losses from sale of securities, other losses and charge-offs, and additions to the reserve account for possible loan losses. Normally, NOI refers to earnings before federal income taxes are paid.

3. Free Reserves per Share

A measurement of a bank's reserves that is equal to the difference between borrowed reserves and excess reserves. This is the amount which the bank has available to lend to clients. A bank is required by federal law to hold a specific amount of reserves at any given time. The excess reserves are calculated by subtracting the required reserves from the total reserves it holds.

4. Operating Profit per Share

Profit earned after subtracting from revenues those expenses that are directly associated with operating the business, such as cost of goods sold, administration and marketing, depreciation and other general operating costs. Operating earnings are an important measure of profitability, and since this metric excludes non-operating
expenses such as interest and taxes, it enables an assessment of the company's core business profitability to be made.

**PROFITABILITY RATIOS**

Every firm is most concerned with its profitability. One of the most frequently used tools of financial ratio analysis is profitability ratios which are used to determine the company's bottom line and its return to its investors. Profitability measures are important to company managers and owners alike. If a small business has outside investors who have put their own money into the company, the primary owner certainly has to show profitability to those equity investors.

1. **Adjusted Cash Margin**

The Cash Flow Margin is a measure of how efficiently a company converts its sales dollars to cash. Since expenses and purchases of assets are paid from cash, this is an extremely useful and important profitability ratio. It is also a margin ratio.

The Cash Flow Margin is calculated as:

\[
\text{Cash Flow Margin} = \frac{\text{Cash Flows from Operating Activities}}{\text{Net Sales}}
\]

2. **Net Profit Margin**

When doing a simple profitability ratio analysis, net profit margin is the most often margin ratio used. The net profit margin shows how much of each sales dollar shows up as net income after all expenses are paid. For example, if the net profit margin is 5%, that means that 5 cents of every dollar is profit. The net profit margin measures profitability after consideration of all expenses including taxes, interest, and depreciation. The calculation is: \( \frac{\text{Net Income}}{\text{Net Sales}} \). Both terms of the equation come from the income statement.
3. Return on Net Worth

The return on equity ratio (also known as the return on net worth) reveals the amount of return earned by investors on their investments in a business. This return can be improved when a business buys back its own stock from investors, or by using more debt and less equity to fund its operations. The use of debt to buy back stock and thereby increase the return on equity can backfire. The new debt brings with it a new fixed expense in the form of interest payments. If sales decline, this added cost of debt could trigger a steep decline in profits that could end in bankruptcy. Thus, a business that relies too much on debt to enhance its shareholder returns may find itself in significant financial trouble. To calculate the return on equity, simply divide net income by the total amount of equity. The formula is: Net income/Equity.

DEBT COVERAGE RATIOS

1) Credit Deposit Ratio: It is the proportion of loans generated by banks from the deposits received. Credit Deposit Ratio = Total Advances/Total Deposits * 100

2) Cash Deposit Ratio: It is the amount of money a bank should have available as a percentage of the total amount of money its customers have paid into the bank. This amount is calculated so that customers can be sure that they will be able to take their money out of the bank if they want to. Cash – Deposit Ratio = [Cash in hand + Balances with RBI]/Total Deposits.

3) Investment Deposit Ratio: It represents total investments including investments in non approved securities. Investment - Deposit Ratio (%) = Total Investments/Total Deposits