## I Methodology

Ratio analysis is a powerful tool to analyze the financial statements of a company. It measures inter relationship between different sections of the financial statements. Ratios are taken as guides that are useful in evaluating a company's financial position in operation and making comparison with results in previous years or with others in the same industry. The primary purpose of ratio analysis is to point out areas which need further investigation. All the ratios are calculated from the following financial statement and relevant notes to accounts:

- Balance Sheet
- Profit and Loss accounts
- Statement of Changes in Equity
- Cash Flow Statement

Given below are the concepts and definitions used for the financial statement analysis of the non-financial sector:

## II Concepts and Definition

### A. Non-Current Assets

### 1. Capital work in progress:

Work in progress consists of the unfinished products in a production process. These are not yet complete but either being fabricated or waiting in a queue for storage. They must be accounted for as funds (capital) that have been invested for future enhancement in production.

### 2. Operating fixed assets:

These are owned by an enterprise engaged in production of items (directly or indirectly); which will be available for sale. These are not readily convertible into cash during the course of normal operations of an enterprise. These assets are not subject to periodical exchange through sales and purchases. Fixed assets are of permanent nature and are not normally liquidated or intended to turn into cash except in the form of depreciation, which is added to the cost of goods sold. The following balance sheet items are included in the category of fixed assets: -

**(a) Real Estate**

i. Freehold and leasehold land
ii. Factory and office buildings
iii. Residential buildings
iv. Capital projects in progress at cost

**(b) Plant, Machinery and Rolling Stock**

i. All types of plant and machinery used for production and not for sale
ii. Crockery, cutlery, silverware and enamelware in hotels
iii. Construction tools
iv. Livestock in farming company
v. Cars, Lorries, trucks, ships, launches etc.
vi. Railway siding and trolley lines
vii. Computers and other electronic equipment

### (c) Furniture, Fixtures, Fittings and Allied Equipment

i. Electric fans, refrigerators, air conditioners, electric heating, sanitary and other fittings
ii. Laboratory equipment
iii. All types of office furniture and equipment
iv. Advertising, fixtures and fittings

## 3. Operating fixed assets after deducting accumulated depreciation

Deducting the accumulated depreciation from the operating fixed assets of the company gives this item.

## 4. Intangible Assets

Intangible assets are defined as identifiable assets that cannot be seen, touched or physically measured. These are created through time and/or efforts and that are identifiable as a separate asset. The possible items are:

i. Copyrights
ii. Patents
iii. Trademarks
iv. Goodwill
v. Exploration accounts
vi. Knowledge accounts
vii. Computer software accounts

## 5. Long-term Investment

Investment is acquisition of financial, physical or technology based assets by an investor for their potential future income, return, yield, profits, or capital gains. The long-term investments account differs largely from the short-term investments account in that the short-term investments will most likely be sold within the year, whereas the long-term investments may never be sold in the short run. They may include:

i. Long-term stocks
ii. Long-term bonds
iii. Long-term investment in real estate
iv. Long-term Government and corporate securities
v. Long-term Savings and Unit Trust Certificates
vi. Long-term Debentures stock of local or foreign companies

Long term investments are further categorized in investments in subsidiaries and associated.

### i) Investment in Subsidiaries:

A subsidiary is a company with voting stock that is more than 50% controlled by another company, usually referred to as the parent company or the holding company. A subsidiary is partly or completely owned by the parent company, which holds a controlling interest in the subsidiary company.

### ii) Investment in Associates:

An associate company is a corporation whose parent company possesses only a minority stake in the ownership of the corporation. An associate company is partly owned by another company or group of companies. The parent company or companies do not consolidate the associate company's financial statements.

### 6. Other Non- current Assets

These include all residual non-current assets items left from the above coverage, but remain in the balance sheet. It may consist of:

i. Deferred costs
ii. Long-term deposits
iii. Long- term loans and advances
iv. Security deposits

## B. Current Assets

### 1. Cash & bank balances

Cash & bank balances is an integral part of a company's overall operations. It consists of:

i. Cash in hand
ii. Cash in transit
iii. Current deposits
iv. Saving deposits
v. Saving deposits and call deposits
vi. Deposits held abroad

### 2. Inventories

Inventory or stock refers to the goods and materials that a business holds for the ultimate purpose of sale after processing, which consists of:

#### i) Raw materials

It is basic substance in its natural, modified, or semi-processed state, used as an input to a production process for subsequent modification

#### ii) Work in process

The work in process, is the sum of all costs put into the production process to manufacture products that are partially completed.

#### iii) Finished Goods

Finished goods are goods that have been completed by the manufacturing process, or purchased in a completed form, but which have not yet been sold.

### 3. Trade debt /Account receivable

This refers to an entity from which amounts are due for goods sold or services rendered or in respect of contractual obligations and also termed: debtor, trade debtor, and account receivable.

### 4. Short term loans and advances

In general, when a company gives any loan to its employee or its sister concerns or to its director which are recoverable in future as per term and conditions mentioned therein, this loan is considered as company's asset and is recorded as short term loan if time of recovery of loan is matured within one year. Advances on the other hand are given by a company to its employee or its sister concerns or to its director for particular purposes against either goods are to be received by company or services are to be received in near future but within the year.

### 5. Short term investments

Unlike long term investments, short term investments have to be matured within the same accounting cycle. The basic motive of such an investment is to earn profits or capital gains for short term period. They may

include:

i. Short-term stocks
ii. Short -term bonds
iii. Short -term investment in real estate
iv. Short-term Government and corporate securities
v. Short-term Savings and Unit Trust Certificates
vi. Short-term Debentures stock of local or foreign companies

### 6. Other current assets

These are all remaining items of current assets left from the above coverage, but remained in the balance sheet. These include:

i. Book debts including bad and doubtful debts
ii. Stores, spare parts and loose tools
iii. Work in progress(current)
iv. Trade deposit and prepayments
v. Balances due to tax department
vi. Tax refundable
vii. other receivables

Following items are separately mentioned in the analysis format against other current assets:

#### i) Stores, spare parts and loose tools

Spare parts and loose tools are not part of any fixed assets but facilitate the process of production.

#### ii) Trade deposits & prepayments

Trade Deposits are used to cover any potential losses in the event that the market moves against a given trade position whereas *prepayments* are settlement of debts or installment payments before its official due date.

## C. Shareholder's equity:

This item purports to represent the total stake of the shareholders' in the business and is obtained by adding the ordinary share capital to the reserves and also surplus on revaluation of fixed assets.

### 1. Issued, subscribed & paid up capital

This represents the total subscribed and paid-up capital against issue of ordinary shares. These are amounts of capital actually paid by the shareholders to the institution for acquiring its shares. It includes shares paid in cash (subscribed/right issued), issued as bonus shares and shares issued for considerations other than cash (e.g. for settlement of receivables/debts or debts redeemable into stock etc).

#### a) Ordinary Shares

Ordinary shareholders represent equity ownership in a company and entitled to vote into matters of the company in proportion to their percentage ownership in the company. Ordinary shareholders are entitled to receive dividends if any are available after dividends paid to the preferred shareholders (if any). They are also entitled to share as residual economic value of the company and stood last in line after bondholders and preferred shareholders for receiving business proceeds in case of company default to pay its obligations. At the end it may be expressed as that ordinary shareholders are considered unsecured creditors.

### b) Preference Shares

Preferred Shares generally have dividends that must be paid out before dividends to common stockholders. These shares usually do not have voting rights. The precise details as to the structure of preferred stock are specific to each corporation. However, the best way to think of preferred stock is as a financial instrument that has characteristics of both debt (fixed dividends) and equity (potential appreciation).
The difference between ordinary shares and preference shares is as follows:

- Ordinary shareholder receive dividend, which varies according to the prosperity of the company but preference shareholder will receive a fixed amount dividend every year.
- Ordinary shareholder has a right of voting in the company's annual general meeting while the preference shareholder has no voting right.
- Ordinary shareholders have a residual claim on the net assets of the company in case of liquidation, while the claim of the preference shareholders is paid earlier.

## 2. Reserves

It is calculated by aggregating all kinds of reserves except depreciation reserve and reserve for bad and doubtful debts.

### (i) Capital Reserves

These funds are allocated only to be spent on the capital expenditure projects/future expansionary projects for which they were initially intended, excluding any unforeseen circumstances. These include:

i. Share premium reserves
ii. Merger reserves
iii. Development reserves
iv. Reserve for issue of bonus shares
v. Reserve for re-issue of forfeited shares
vi. Capital gain on sale of fixed assets
vii. Dividend equalization reserves
viii. Non-controlling interest (minority interest)
ix. Fair value Reserve
x. Subordinated Loans
xi. Interest rate swap revaluation reserve
xii. Hedge reserve
xiii. Advance against subscription for right shares
xiv. Undistributed percentage return reserve
xv. Exploration and evaluation reserve
xvi. Investment revaluation reserve
xvii. Share deposit money
xviii. Exchange difference on translation of foreign subsidiaries
xix. Statutory Reserve
xx. Gain on re-measurement of forward foreign exchange contracts- cash flow hedge

### (ii) Revenue Reserves

This is such part of the profit that has not been given to the shareholders but retained in the business for future growth. These include:

i. General reserves
ii. Un-appropriated reserves
iii. Retained reserves
iv. Reserves on profit & loss account

v. Deferred income
vi. Retained Earnings

### Un-appropriated profit (loss)/retained earnings

Un-appropriated retained earnings consist of any part of company's profit (loss) account that are not classified as appropriated retained earnings. Un-appropriated retained earnings cannot be allocated for a specific purpose, such as factory construction or marketing. They are generally passed on to shareholders in the form of dividends.

### 3. Surplus on revaluation of fixed assets

Revaluation of fixed assets is a technique that may be required to accurately describe the true value of the capital goods that a business owns. The revaluation surplus has been included in equity because capital goods like property, plant and equipment participate directly in the revenue generation and transferred directly to retained earnings.

## D. Non-Current Liabilities

### 1. Long term borrowings

Long-term borrowings form part of a section of the balance sheet that lists liabilities not due within the next 12 months including loans and finance lease etc.

#### a) Long-term secured loan

These are liabilities which are required to be discharged after a period of more than a year from the date of balance sheet and are obtained on the basis of secured collaterals. These include:

i. Loans from financial institutions
ii. Loans from non-bank financial institutions
iii. Loans from specialized financial institutions
iv. Redeemable capital finance
v. Foreign loans
vi. Vendors account

#### b) Long-term unsecured loan

These are liabilities which are required to be discharged after a period of more than a year from the date of balance sheet and are obtained without any secured collaterals. These include:

i. Loan to various organizations by governments
ii. Loan to a company by directors
iii. Long term loan by creditors
iv. Long term loan by suppliers

#### c) Long-term lease finance

These are liabilities for assets being acquired through lease financing from a financial institution for period more than one year depending on the specification of asset being leased. For example, commercial property usually has long- term leased for five of more years, while residential property often carries long-term leases for more than one year. A long term lease locks in the price one pays for the assets, which is usually advantageous because prices often trend upward. These include:

i. Assets under lease finance
ii. Lease finance obligation

### 2. Subordinated loan/Sponsor's loan

Subordinated loan is a security loan that ranks below than other loans with regard to claims on a company's assets or earnings. Subordinated loan is also known as a junior security. In the case of borrower default, creditors who own subordinated loan won't be paid out until after senior debt holders are paid in full. A sponsor's loan allows a parent to borrow on behalf of a subordinated company and take full responsibility for the loan. The sponsor loan is under the name of the sponsor borrower only.

### 3. Debentures/TFC's

These are bonds/certificates issued by a company to raise funds for long-term period (generally more than one year) for a specific purpose (usually for capital expenditures), sometimes convertible into stock. At present, debentures have been replaced by TFCs (Term Finance Certificates)/Sukuk bonds.

### 4. Employees benefit obligations

These include benefits provided either to employees or their dependents, and may be settled by payments (or the provision of goods or services) made either directly to the employees, their spouses, children, other dependents. Its constituents are:

i. Employees' salaries
ii. Employees gratuity fund
iii. Pension fund.
iv. Staff compensated absences
v. Staff retirement benefits

### 5. Other non-current liabilities

These are residuals of non-current liabilities left from the above coverage, but remained in the balance sheet of the company. These include:

i. Deferred liabilities
ii. Deferred liabilities/ taxation
iii. Long term deposits/key deposits
iv. Retention money payable

## E. Current Liabilities

All liabilities, which are required to be discharged within one year, are termed as current liabilities. Alternatively, these cover those obligations whose liquidation is expected to be made out of current assets. They are usually incurred in the normal course of business and are required to be paid at fairly definite dates.

### 1. Trade credits and other accounts payables

Small businesses generally use accounts payable as their largest source of financing. Accounts payable or trade credit are what businesses owe to their suppliers of inventory, products, and other types of goods that are necessary to operate the business.

#### i) Trade credit

Trade credit is the credit facility extended to a company by supplier who let the company to by now and pay later or a service that has been acquired but not paid so for due to credit facility given by the provider.

## 2. Short term borrowing

Short-term borrowing accounts are shown in the current *liabilities* portion of a company's balance sheet. These accounts are made up of any debt incurred by a company that is due within one year. The debt in this liabilities account is usually made up of *short-term* bank loans taken out by a company, among other types.

### i. Short term secured loans

These are loans which are to be matured within the year and have been obtained against secured collaterals. These consist of:

i. Secured short term running finance
ii. Short term loan from bank

### ii. Short term unsecured loans

These are loans which are to be matured within the year and have been obtained against unsecured collaterals. These consist of:

i. Short term loan from various organizations by governments.
ii. Short term loan from a company by directors
iii. Short term loan by creditors
iv. Short term loan by suppliers

### iii. Short term lease finance

Short term lease finance consists of lease to be matured within the period of one year

## 3. Current portion of non-current liabilities

The current portion of long term liabilities is amount of principal that will be due to pay within one year of the date of the balance sheet. These includes:

i. Current maturities of secured long term loan
ii. Current maturities of redeemable capital finance
iii. Current maturities of lease finance

## 4. Other current liabilities

These are all remaining items of current liabilities left from the above coverage, but remained in the balance sheet. Other current liabilities may include sundry creditors, payment become due but outstanding and loans, deposits and advances.

### (a) Sundry Creditors

i. For expenses
ii. For other finance
iii. Bills payable
iv. Advances from customers against orders

### (b) Payment become due but outstanding

i. Income tax payable
ii. Proposed, unpaid and unclaimed dividends
iii. Estimated liabilities in respect of outstanding claims whether due or intimated
iv. Gratuities becoming payable
v. Provident Fund becoming payable
vi. Current installment and interest payable on fixed liabilities

vii. Provision for taxation estimated on current profits
viii. Workers profit participation fund

### (c) Loans, Deposits and Advances

i. Loans secured by stock or other current assets
ii. Bank overdrafts and other unsecured loans
iii. Short term loans acquired against the security of fixed assets
iv. Unsecured loan from directors, parent company, and subordinate loan
v. Due to managing agents
vi. Advances by directors
vii. Guarantee and security deposits of customers and staff

## F. Profit and Loss Accounts

### 1. Sales (Net)

This item represents the sale proceeds of the company after netting off all components of expenses associated with sales. Sales revenue is classified as local sales and export sales.
i) Local Sales
Local sales is cover net of local revenues after adjusting sales tax, sales discounts, federal excise duties etc.
ii) Export Sales
Export sales covers net of export sales after adjusting export rebates and excise duties etc.

### 2. Cost of sales

Cost of sales includes the direct costs attributable to the production of the goods sold by a company. This amount includes the materials cost used in creating the goods along with the direct labor costs used to produce the good.

#### a) Cost of material

This includes cost of all raw and other processing materials incurred in the production of finished goods, which are available for sale of the company.

#### b) Cost of Labor

This includes the sum of all wages and employee benefits paid to the labor/employee engaged in production/processing of the finished or final goods of the company.

#### c) Cost of Overhead

This include all of the costs that a factory incurs, other than direct costs and allocate the costs of manufacturing overhead to any inventory items that are classified as work-in-process or finished goods. Overhead expenses include:

i. Depreciation of factory equipment
ii. Quality control and inspection
iii. Indirect materials and supplies
iv. Repair expenses
v. Indirect materials and supplies

### 3. Gross Profit

Gross profit is arrived at by subtracting cost of sales from sales revenue.

## 4. General, administrative and other expenses

These expenses consist of the combined payroll costs (salaries, commissions, and travel expenses of executives, sales people and employees), and advertising expenses that a company incurs. This is usually understood as a major portion of non-production related costs.

### (i) Selling & distribution expenses

These are non-production cost, but directly related with the revenue generation of saleable goods, i.e. cost incurred to mobilize goods from factory outlet to the market palace. These include:

i. Distribution expenses
ii. Brokerage expenses
iii. Salary, wages and commission expenses
iv. Discount expenses
v. Selling expenses
vi. Forwarding expenses
vii. Advertisements and promotions

Advertisements and promotion covers amount used by the company for product advertisements for both print and electronic media.

### (ii) General administrative and other expenses

These expenses are also non-production costs and fixed in nature. The company is obliged to pay these expenses which are permanent in nature until the structure of the company is not affected. These include:

i. Postage, telegram and telephone expenses
ii. Conveyance and travelling expenses
iii. Salary, wages and other benefits
iv. Depreciation expenses
v. All other expenses not covered in administrative and distribution expenses

## 5. Other Income/(loss)

It treats these money flows differently depending on the activities that are responsible for them. "Other Income" on an income statement usually refers to money that comes in from activities outside the company's core operations. It also cover share of income received from subsidiaries/associate companies in case where consolidated accounts are used for parent company.

## 6. EBIT (Earnings Before Interest and Taxes)

EBIT measures the profit a company generates from its operations, making it synonymous with "operating profit." By ignoring tax and interest expenses, it focuses solely on a company's ability to generate earnings from operations, ignoring variables such as the tax burden and capital structure. Mathematically it is calculated as:

EBIT= Gross Profit less general administrative & other expenses plus other incomes.

It is to be noted that EBIT may not be comparable with operating profit where a parent company shares the income received from profit/(loss) account of its subsidiaries into its own balance sheet (minority interest).

## 7. Financial expenses

These are expenses incurred due to borrowing of financial assets (short / long term loans) and acquisition of financial services by a company during an accounting period. It consists of interest paid expenses on loan/debts plus:

i. Interest and mark-up on supplier credit
ii. Interest on worker's profit participation fund
iii. Bank charges and commission
iv. Excise duty on long and short-term finance
v. Discounting charges on receivables
vi. Exchange commission expenses

### (i) Interest expenses on loans/debt

These are interest expenses incurred on borrowing of long and short terms loans. These include the following items;

i. Mark-up and interest on long term loan
ii. Mark-up and interest on debentures and redeemable capital
iii. Mark-up and interest on short term loan
iv. Interest on private loan

### 8. Net profit before taxes

It is the profit earned by the company during the year before tax.

### 9. Tax expenses

Tax expenses are almost "ordinary, necessary, and reasonable" expenses that is necessary to declare income of a business entity.

### a) Current Tax

These are amount of tax of current year period

### b) Prior Year/Years Tax

These amount of taxes include the period previous beyond the current year

### c) Deferred Tax

A deferred tax liability is an account on a company's balance sheet that is a result of temporary differences between the company's accounting and tax carrying values.

### 10. Profit after taxes

It is the profit earned by the company during the year *after* all its expenses, charge-offs, depreciation and *taxes* have been subtracted.

### 11. Total amount of dividend

It is the total dividend including interim dividend distributed or proposed to be distributed out of the current year's profit.

### 12. Total value of bonus shares issued

This is the total amount of bonus shares issued to the shareholders as appropriation of net profit after tax of the company during the year.

## G. Statement of Cash Flows

### 1. Cash flows from operations

Cash flow from operating activities (CFO) is an accounting item indicating the money a company brings in from regular business activities, such as manufacturing and selling goods or providing a service. It include earnings before interest and taxes plus depreciation minus taxes.
Cash from Operating Activities = EBIT + Depreciation

Operating activities include the production, sales and delivery of the company's product as well as collecting payment from its customers. This could include purchasing raw materials, building inventory, advertising, and shipping the product, Under IAS 7, operating cash flows include:

- Receipts from the sale of goods or services
- Receipts for the sale of loans, debt or equity instruments in a trading portfolio
- Interest received on loans
- Dividends received on equity securities
- Payments to suppliers for goods and services
- Payments to employees or on behalf of employees

Items which are added back to the net income figure (which is found on the Income Statement) to arrive at cash flows from operations generally include:

- Depreciation (loss of tangible asset value over time)
- Deferred tax
- Amortization (loss of intangible asset value over time)
- Any gains or losses associated with the sale of a non-current asset, because associated cash flows do not belong to the operating section

### 2. Cash From Investing Activities

Cash flow from investing activities is an item on the cash flow statement that reports the aggregate change in a company's cash position resulting from any gains (or losses) from investments in the financial markets or in operating subsidiaries and changes resulting from amounts spent on investments in capital assets such as plant and equipment.

### 3. Cash From Financing Activities

This category in a company’s cash flow statement shows that that accounts for external activities allow a firm to raise its capital or repay its investors through activities such as issuing cash dividends, adding or changing loans or issuing more stock. Cash flow from financing activities shows that investors have confidence on company’s financial strength. A company that frequently turns in to new debt or equity for cash could have problems if the capital markets become less liquid.

## H. Miscellaneous

### i. Total capital employed

The total of shareholders’ equity and total non-current liabilities engaged in the capital formation constitute this item.

$$Total\ Capital\ Employed = Shareholders'equity + Long\ term\ secured\ loan + Long\ term\ unsecured\ loan + Debentures\ or\ TFC's + Employees\ benefit\ obligations$$

### ii. Retention in business

This is the amount that a company retains in business after netting off all possible expenses and is obtained by deducting the provision for the tax and the total dividend distributed or proposed to be distributed from the net profit for the year.

$$Retention\ in\ business = Net\ profit\ before\ taxes - Tax\ provision - Total\ amount\ of\ dividend$$

### iii. Depreciation for the year

It includes all the depreciation charged to the profit and loss account. Owing to absence of uniform accounting standards, depreciation is a subjective item and varies from company to company. It is important for an analyst to know what effect such variation could have on the net profit.

### iv. Salary, wages and employee's benefits

These are salary; wages and employees benefit expenses that a company has borne in all stages to run the business activities. These covers the expenses to all employees (temporary, permanent)

### v. Total fixed liabilities

It is the sum total of the items debentures (TFC's) and other fixed liabilities.

$$Total\ fixed\ liabilities = Long\ term\ secured\ loan + Debentures\ or\ TFC's$$

### vi. Contractual liabilities

This item pertains to all secured debentures, long-term loans, finance lease, short term secured loans and bank overdraft.

$$Contractual\ liabilities = Long\ term\ secured\ loan + Prefernce\ shares + TFC's + Short\ term\ secured\ loans$$

### vii. Purchases

A temporary account used in the periodic inventory system to record the purchases of merchandise for resale. (Purchases of equipment or supplies are not recorded in the purchases account.)

$$Purchases = Cost\ of\ sales(current\ year) + inventories(current\ year) - inventories(previous\ year)$$

## III. Key Performance Indicators:

### A. Profitability Ratios

Profit is the surplus income in raw form it is the total revenue minus total costs. It is mostly concentrated from the information of income statement or profit and loss account. A set of profitability ratios is given below:

### i. Net Profit Margin

Net profit margin reflects that part of profit which is left for the owners from the rupee of sales after all expenses and taxes paid.

$$Net\ profit\ margine = \frac{Net\ profit}{Sales}$$

### ii. Asset Turnover Ratio

Asset turnover ratio measures the company's ability to utilize its total assets in generating sales or revenues.

$$Asset\ turnover\ ratio = \frac{Sales}{Average\ total\ assets}$$

### iii. Return on Assets

Return on Assets measures the percentage of profit of a company in relation to its overall resources i.e. assets. It measures how efficiently company is using its assets to generate earning.

$$Return\ on\ assets = \frac{Net\ income}{Average\ total\ assets}$$

### iv. Financial Leverage

Financial leverage describes the share of the capital injected in an enterprise with reference to the amount of the total assets.

$$Financial\ leverage = \frac{Average\ total\ assets}{Average\ of\ Shareholders'\ equity}$$

### v. Return on Equity

Return on equity appraises the efficiency of a company in terms of utilizing its shareholders' equity for seeking profit.

$$Return\ on\ equity = \frac{Net\ income}{Average\ Shareholders'\ equity}$$

### vi. Gross Profit Margin / Gross Profit to Sales

Gross profit margin is the basic measure to assess a firm's financial health by revealing the proportion of money left over from sales after accounting for the cost of goods sold.

$$Gross\ profit\ margin = \frac{Gross\ profit}{Sales}$$

### vii. Operating Return on Assets

Operating income synonym for earnings before interest and tax (EBIT) is a useful measure to gauge the company's profitability. Operating return on assets determines the operating income generated in comparison to each rupee invested in total assets of the company in percentage.

$$Operating\ ROA = \frac{EBIT}{Average\ total\ assets}$$

### viii. Return on Capital Employed

Return on capital employed (ROCE) measures a company's profitability and the efficiency with reference to the capital employed, where capital employed is non-current liabilities and shareholders' equity.

$$ROCE = \frac{EBIT}{Capital\ employed}$$

## B. Liquidity Ratios

Liquidity position of the company helps to assess the short term financial health of a company. Liquidity is closely related to cash flows and its short term assets.

### i. Current Ratio

The current ratio is a liquidity ratio that measures a company's ability to pay its obligations over the next 12 months.

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

### ii. Quick (Acid Test) Ratio

The quick ratio also known as the acid-test ratio is a strong indicator of whether a firm has sufficient short-term assets to cover its immediate liabilities. This metric is more robust than the current ratio, also known as the working capital ratio, since it ignores less liquid assets such as inventory.

$$Quick\ ratio = \frac{Cash + Account\ receivable + Short\ term\ investments}{Current\ liabilities}$$

### iii. Cash Ratio

Cash ratio is defined to determine how quickly a company can repay its short term debt. It is obtained by dividing the total cash and cash equivalents to its current liabilities.

$$Cash\ ratio = \frac{Cash\ and\ cash\ equivalents}{Current\ liabilities}$$

## C. Activity Ratios

Activity ratios help to assess the level of productivity in business cycle of an enterprise. A set of activity ratios is given below:

### i. Inventory Turnover

Inventory turnover shows how many times a company's inventory is sold and replaced over a period.

$$Inventory\ turnover = \frac{Sales}{Inventory}$$

### ii. No. of days Inventory

Days in inventory also known as days inventory outstanding is an efficiency ratio that measures the average number of days the company holds its inventory before selling it. The ratio measures the number of days’ funds are tied up in inventory.

$$Days\ in\ inventory = \frac{365}{Inventory\ turnover}$$

### iii. Receivables Turnover Ratio

Receivables turnover ratio measures how efficiently a firm use its assets. It helps to quantify firm's effectiveness in extending credit and in collecting debts on that credit.

$$Account\ receivable\ turnover = \frac{Net\ credit\ sales}{Average\ account\ receivables}$$

Normally, the companies do not segregate their sales into credit and cash. So the net sales are taken as a proxy of net credit sales to calculate account receivable turnover.

### iv. No. of days Receivables

A measure of the average number of days that a company takes to collect revenue after a sale has been made.

$$Days\ in\ receivables = \frac{365}{Receivable\ turnover}$$

### v. Payables Turnover Ratio

Payable turnover ratio measures the rate at which a company pays off to its suppliers.

$$Account\ payable\ turnover = \frac{Total\ supplier\ purchaes}{Average\ account\ payable}$$

### vi. No. of days Payable

No. of days' payable is company's average payable period. Days payable outstanding or no. of days in creditors tells how long it takes a company to pay its invoices from trade creditors, such as suppliers.

$$No.of\ days\ payable = \frac{365}{Payable\ turnover\ ratio}$$

### vii. Working Capital Turnover

Working capital turnover assess how effectively a company is using its working capital to generate sales.

$$Capital\ turnover = \frac{Sales}{Working\ capital}$$

where, Working Capital = Current Assets – Current Liabilities

### viii. Cash Conversion Cycle

The cash conversion cycle (CCC) is a metric that expresses the length of time, in days, that it takes for a company to convert resource inputs into cash. The cash conversion cycle attempts to measure the amount of time each net input rupee is tied up in the production and sales process before it is converted into cash

through sales to customers. This metric looks at the amount of time needed to sell inventory, the amount of time needed to collect receivables and the length of time the company is afforded to pay its bills without incurring penalties.
The CCC is also referred to as the "cash cycle" and calculated as:

$$CCO = DIO + DSO = DPO$$

where: DIO: Days Inventory outstanding /No. of Day's inventory
DSO: Days Sales Outstanding /No. of Day's receivables
DPO: Days Payable Outstanding/No. of Day's payable

## D. Cash Flow Ratios

Cash flows ratio is considered one of the important indicator of a company's performance.

### i. Cash Flow from Operating Activities to Sales

This ratio compares the operating cash flows of a company to its sales. Cash flow from operations to sales indicates the ability of a company to generate cash from its sales.

$$Cash\ flow\ from\ operations\ to\ sales = \frac{Net\ Cash\ flow\ from\ operations}{Net\ sales}$$

### ii. Cash Return on Assets

Cash Return on Assets calculates how much cash flow from operation is generated from the total assets of the company.

$$Cash\ return\ on\ assets = \frac{Net\ Cash\ flow\ from\ operations}{Average\ total\ assets}$$

### iii. Cash Return on Equity

Cash return on equity refers to how much cash flow generated in terms of the equity injected in the company.

$$Cash\ return\ on\ equity = \frac{Net\ Operations\ cash\ flow}{Average\ equity}$$

### iv. Cash to Income

Cash to net income is a ratio used to determine the quality of a firm's reported earnings.

$$Cash\ to\ income = \frac{Net\ Operations\ cash\ flow}{Net\ income}$$

### v. Debt coverage ratio

It provides the information on how much company generates from operations that could be used to pay off the total debt. Total debt includes all interest-bearing debt, short and long term.

$$Debt\ coverage\ ratio = \frac{Net\ Cash\ flow\ from\ operations}{Total\ debt}$$

## E. Valuation ratios

Valuation of an enterprise is an attractive feature for the potential and existing investors of an enterprise. There are numerous measures to help the investors understand about the investment horizon of a company.

### i. Paid up value of share Rs per share

Paid up value of a share in actual price of share paid by the shareholders of a company.

### ii. Market value per share

Market value represent the price at which a share is traded in stock exchange. Market value greater than its paid up value signify the positive gesture for investors.

### iii. Basic earnings per share

Basic earnings per share provide an estimate of the amount to be distributed to each share of the outstanding stock from company's net income. Earnings per share also help to gauge the profitability of the company

$$Basic\ earnings\ per\ share = \frac{Net\ income}{Total\ outstanding\ shares}$$

### iv. Price earnings ratio

The price-to-earnings ratio or P/E ratio is a ratio for valuing a company that measures its current share price relative to its per-share earnings.
The price-earnings ratio can be calculated as:

$$Price\ earning\ ratio = \frac{Market\ value\ per\ share}{Earning\ per\ share}$$

### v. Dividend Payout Ratio

The percentage of earnings paid to shareholders in dividends is the dividend payout ratio. It is calculated as:

$$Dividend\ payout\ ratio = \frac{Dividends}{Net\ income}$$

### vi. Cash Dividend per Share

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.

### vii. Book Value per Share

Book value per share is a measure used by owners of common shares in a firm to determine the level of safety associated with each individual share after all debts are paid off.

$$Book\ value\ per\ share = \frac{Total\ shareholders'\ equity}{Total\ outstanding\ shares}$$

## F. Solvency Ratios

Solvency or leverage ratio is another indicator similar to liquidity ratio. Unlike liquidity ratio, it measures the capacity of the enterprise to meet its long-term obligations.

### i. Debt to Equity Ratio

Debt/Equity Ratio helps to ascertain the financial leverage of the company. It indicates how much debt a company is using to finance its assets relative to the amount of value represented in the shareholders' equity.

$$Debt\ equity\ ratio = \frac{Total\ liabilities}{Shareholders'\ equity}$$

This form of D/E may often be referred to as risk or gearing.

### ii. Debt to Asset Ratio

Total debt to total assets is another leverage ratio that defines the total amount of debt relative to assets. This enables comparisons of leverage to be made across different companies. The higher the ratio, higher the degree of leverage, and consequently the financial risk.

$$Debt\ to\ asset = \frac{Total\ debt\ (liabilities)}{Average\ total\ assets}$$

### iii. Debt to Capital Ratio

A measurement of a company's financial leverage, calculated as the company's debt divided by its total capital.

$$Debt\ to\ Capital\ ratio = \frac{Total\ debt\ (liabilities)}{Total\ capital}$$

where, Total Capital = company's debt and Shareholders' Equity

### iv. Interest Cover Ratio

Interest cover ratio is used to determine how easily a company can pay interest on outstanding debt. It is achieved by dividing the company's earnings before interest and taxes (EBIT) during a given period by the amount a company must pay in interest on its debts during the same period.

$$Interest\ coverage\ ratio = \frac{EBIT}{Interest\ expenses}$$