Finance Management

Module 3: Corporate Finance and Financial Ratio Analysis

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Corporate Finance

Definition:

Corporate finance is the area of finance that deals with–

- sources of funding
- the capital structure of corporations,
- the actions that the management takes to increase the value of the corporation (company)
- the tools and analysis used to allocate financial resources.

Objective

The primary objective of corporate finance is to maximize or increase shareholder value through planning and implementation of resources, while balancing risk and profitability.

Functions of Corporate finance

Functions of Corporate finance

- Investment Decision,
- Financing Decision,
- Dividend Decision.

Investment Decision

Consider the following situations,

- A TATA motors is considering investment in a new plant for EV vehicles.
- Rakesh Jhunjhunwala's firm *RARE Enterprises* is going to have a new venture of airliner business (Akasa).
- Jankalyan Sah. Bank Ltd. wants to provide online facilities to customers across all its branches.
- Bharat Biotech wants to evaluate a major R&D program for vaccine of various mutants of COVID 19.

Investment Decision

Note that,

- All these situations involve a capital expenditure decision.
- The basic characteristic of a capital expenditure is that it typically involves a current outlay and/or future outlays of funds in the expectation of a stream of benefits extending far into future.
- Also, a capital expenditure we are discussing may be different from one in accounting, which is an expenditure shown as an asset on the balance sheet.

Capital expenditures have three distinctive features

(i) They have long-term consequences.

(ii) They often involve substantial outlays.

(iii) It may be difficult or expensive to reverse them.

Investment Decision (Capital Budgeting)

How a firm allocates its capital i.e. the capital budgeting decision, reflects its strategy and its business.Therefore, capital budgeting is also referred to as strategic asset allocation.

- Capital budgeting includes planning where to place the company's long-term capital assets in order to generate the high 'risk-adjusted' returns.
- This decides whether or not to pursue an investment opportunity through extensive financial analysis.
- By using financial accounting tools, a company
  - identifies capital expenditures
  - estimates cash flows from proposed capital projects
  - compares planned investments with projected income

  and decides which projects to include in the capital budget.

Financing Decision

- This activity determines the capital structure (Debt/equity proportion) of the company.
- This decides, how to optimally finance the capital investments, through the business equity or debt, or both.
- Balancing the two sources of funding namely, equity and debt should be closely managed.
- Because having too much debt may increase the risk of default in repayment, while depending too heavily on equity may dilute earnings and value for original investors.
- So ultimately, it's the job of corporate finance professionals to optimize the company's capital structure by lowering its Weighted Average Cost of Capital (WACC) as much as possible.

Dividend Decision

- This activity determines whether to retain a business's excess earnings for future investments and operational requirements or to distribute the earnings to shareholders in the form of dividends or share buybacks.
- Retained earnings that are not distributed back to shareholders may be used to fund a business' expansion.
- This can often be the best source of funds, as it does not incur additional debts nor dilute the value of equity by issuing more shares.

Overview of Financial Statements

Balance Sheet

- The balance sheet shows the financial condition of a business at a given point of time.
- As per the Companies Act, the balance sheet of a company shall be in either the **account form** or the **report form**.

Balnce Sheet : Account Form

Account Form	
Liabilities	*Assets*
■ Share capital ■ Reserves and surplus ■ Secured loans ■ Unsecured loans ■ Current liabilities and provisions ■ Current liabilities ■ Provisions	■ Fixed assets ■ Investments ■ Current assets, loans and advances ■ Current assets ■ Loans and advances ■ Miscellaneous expenditures and losses

Balnce Sheet : Report Form

Report Form
I. *Sources of Funds*
(1) Shareholders' funds
a) Share capital
b) Reserves & surplus
(2) Loan funds
a) Secured loans
b) Unsecured loans
II. *Application of Funds*
(1) Fixed assets
(2) Investments
(3) Current assets, loans and advances
Less: Current liabilities and provisions
Net current assets
(4) Miscellaneous expenditures and losses

Liabilities

- Liabilities represent what the firm owes others.
- A liability arises when a firm receives benefits or services and in turn promises to pay cash or provide goods and services in future.
- The format prescribed in the Companies Act classifies liabilities as follows:
    - Share capital
    - Reserves and surplus
    - Secured loans
    - Unsecured loans
    - Current liabilities and provisions

Share Capital

- Share capital includes *equity capital* and *preference capital*.
  - Equity capital represents the contribution of equity shareholders who are the owners of the firm. It carries **no fixed rate of dividend**.
  - Preference capital represents the contribution of preference shareholders and the **dividend rate payable on it is generally fixed.**
- Share capital essentially is the *paid-up capital* that comprises,
  - *Authorized capital:* the maximum amount of share capital a company is allowed (by regulator) to raise i.e. this is the amount of capital that a company can potentially issue.
  - *Issued capital or paid-up capital:* Issued or paid-up capital is the amount that is actually paid by the shareholders to the company.
  - *Subscribed capital:* It is the part of 'issued capital' which has been subscribed by the investors.

Share Capital

Note that,

- At any point, the paid-up capital of a company can never be more than its authorized capital but it can be equal to the authorized capital.
- On the other hand, a company is not authorized to issue shares beyond the authorized share capital.
- A company can increase its authorized share capital in the future by following the procedure mentioned in the Companies Act, 2013.
- Whereas, a company can increase its paid-up capital by way of issue of shares to existing shareholders or by private placement to third parties.
- Also, Authorized capital cannot be used in the calculation of net worth of a company, while paid-up capital is considered for net worth calculation

Reserves and Surplus

Reserves and surplus comprise retained earnings as well as non-earnings items like share premium and capital subsidy (offered by govt.).

There are two broad kinds of reserves viz., **Capital Reserves** and **Revenue Reserves**.

Capital Reserves:

- Capital reserves include items such as share premium, revaluation reserve (amount retained for fluctuating market value of asset), and capital redemption reserve (for the redemption or purchase of a company's own shares).
- A capital reserve cannot be distributed as dividend to shareholders.

Revenue Reserves:

- Revenue reserves represent accumulated retained earnings from the profits of the business. They are held in accounts like dividend equalization reserve (it is distributable to ensure that dividends remain stable even changes in earnings occurs.), taxation reserve, and general reserve (for the future purpose, often the most important reserve).

- It is a common practice for companies to transfer amounts from the profit and loss account to various reserve accounts. **This process is called appropriation.**
- Surplus is the balance in the profit and loss account which has not been appropriated to any particular reserve account. Note that reserves and surplus along with paid-up capital represent owners' equity, which is also called shareholders' funds or networth.

Secured and Unsecured Loans

Secured Loans:

- Secured loans are loans that are secured by a charge on the assets of the firm.
- The charge may be created in the form of pledge or hypothecation of movable assets such as inventories and/or in the form of mortgage (usually equitable mortgage) of immovable assets such as land, buildings, and plant and machinery.The most common forms of secured loans in India are term loans, and working capital loans.

Unsecured Loans:

- In contrast to secured loans, unsecured loans are loans which are not secured by a specific charge on the assets of the firm.
- These loans are given against the general credit worthiness of the firm.
- The most common forms of unsecured loans in India are public deposits, debentures, commercial paper, unsecured loans from promoters, inter- corporate loans, and unsecured loans from commercial banks and financial institutions.

Deferred Tax Liability

- Taxable income, which is determined according to income tax regulations, is generally different from accounting profit.
- Accounting profit is measured according to generally accepted accounting principles and the accounting policies followed by the firm.
- Deferred tax liability(or asset) arises because of the temporary differences between taxable income and accounting profit.
- In other words, a deferred tax liability on balance sheet represents taxes that are owed but are not due but to be paid on a future date.

Current Liabilities and Provisions

- Broadly speaking, current liabilities and provisions represent obligations that are expected to mature within a year.
- **Current liabilities** include items such as bills payable, sundry creditors, advance payments, and accrued interest payable etc.
- **Provisions** include items such as provision for taxes, provision for dividend, and provision for provident fund, gratuity, superannuation, leave encashment etc.

Assets

- Assets are resources which are expected to provide a firm with future economic benefits, in terms of higher cash inflows or lower cash outflows.
- Resources are recognized as assets in accounting when
  - the firm acquires rights over them as a result of a past transaction
  - the firm can quantify future economic benefits with a fair degree of accuracy.
- Assets are classified as follows under the Companies Act:
  - Fixed assets
  - Investments
  - Currents assets, loans, and advances
  - Miscellaneous expenditures and losses

Fixed Assets

- Fixed assets, also called noncurrent assets, are assets that are expected to produce benefits for more than one year.
- These assets are
  - **Tangible assets** such as land, buildings, plant, machinery, furniture, computers etc.
  - **Intangible assets** such as patents, copyrights, trademarks, goodwill etc.
  - Tangible assets are recorded on the balance sheet initially, but as they are used up, they get carried over to the income statement. e.g. (i) Inventory is a tangible asset. When it is used, becomes included in the cost of goods sold. (ii) Plant and equipment, are the other types of tangible assets that are recorded on the balance sheet. But as their useful life is reduced, that portion is considered as a depreciation.
  - Some intangible assets have an initial purchase price, such as a patent or license. The cost of such intangible assets can be spread out over the years for which the asset generates value for the company or throughout its useful life.

Investments

- Investments represent financial securities owned by the firm. They are divided into two categories, viz., long-term investments and current investments.
- **Long-term investments** generally comprise of financial securities like equity shares, preference shares, and debentures of other companies, most of which are likely to be associate companies and subsidiary companies.
- **Current investments** generally represent short-term holdings of units or shares of mutual fund schemes. These investments are made primarily to generate income from short-term cash surpluses of the firm.

Current Assets, Loans and Advances

- This category consists of cash and other assets which get converted into cash, or which result in cash savings, during the operating cycle of the firm.
- The major components of current assets, loans and advances are: inventories, sundry debtors, cash and bank balances, other current assets, and loans & advances.
    - **Inventories (stocks)** comprise raw materials, work-in-process, finished goods, packing materials, and stores and spares. Inventories are generally valued at cost or net realizable value, which ever is lower.
    - **Sundry debtors** (also called accounts receivable) represent the amounts owed to the firm by its customers (who have bought goods and services on credit) and others.
        - It is classified as (i) debts outstanding for a period exceeding six months and (ii) other debts.
        - It is further classified as (i) good debt (ii) doubtful date (generally make provisions for doubtful debts).
        - The net figure of sundry debtors is arrived at after deducting the provision for doubtful debts.

contd..

- **Cash and bank balances** comprise of cash on hand and balances with scheduled banks and non-scheduled banks.
- **Other current assets** comprise items such as interest accrued on investments, dividends receivable, and fixed assets held for sale.
- **Loans and advances** comprise items such as advances and loans to subsidiaries, advances recoverable in cash or in kind for value tobe received, and deposits with governmental authorities.The net figure of loans and advances is arrived at after deducting a provision for doubtful advances, if any.

Miscellaneous Expenditures and Losses

- Miscellaneous expenditures comprise items such as preliminary expenses, discount allowed on the issue of securities, interest paid out of capital during construction and development expenditure to the extent not written off or adjusted.
- Losses If there is a debit balance of 'Profit and Loss' account carried forward after deduction of the uncommitted reserves, if any, it is shown on the asset side.

Financial Ratio Analysis

Financial Ratios

- Financial ratios are used to compare a particular company with other in the same business (sector) regardless of the size of the company.
- Using financial ratio, one can analyze company's health, profitability or cab perform valuation etc.
- Broadly, these ratios can be categorized as,
  - Liquidity ratios.
  - Leverage ratios.
  - Turnover ratios
  - Profitability ratios.
  - Valuation ratios.

Liquidity Ratios

- Liquidity refers to the ability of a firm to meet its obligations in the short run.usually one year.
- It is about short term characteristic, it deals with current liabilities (short-term obligations) and current assets (source to meet the short-term obligations).
- Liquidity ratios are generally based on the relationship between current assets and current liabilities.
- Three important liquidity ratios are current ratio, acid-test ratio and cash ratio.

Current Ratio

It is given by,

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liability}}$$

Where,

Current assets include cash, current investments, debtors, inventories (stocks), loans and advances, and pre-paid expenses.

Current Liabilities comprise loans, secured or unsecured,that are due in the next twelve months and current liabilities and provisions.

- Apparently, Higher the current ratio, greater the short-term solvency.
- If two companies have same current ratio and liabilities, then one with less portion of inventories and more cash and debtors in current assets is more liquid than one with high proportion of inventories in current assets.

Examples: Current Ratio

- In the balance sheet at March 2020 of Reliance industries limited (RIL), total current liabilities are ₹ 310,183.00 Cr and total current assets are ₹ 166,597.00 Cr.
- So Current Ratio for RIL is 166597.00/310183.00 =**0.54**
- In the balance sheet at March 2020 of Oil and Natural Gas Corporation Ltd. (ONGC), total current liabilities are ₹ 40,567.02 Cr and total current assets are ₹ 26,986.00 Cr.
- So Current Ratio for ONGC is 26,986.00/40,567.02 =**0.67**

Acid-test Ratio (Quick ratio)

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Current Liability}}$$

- *Quick assets* are current aasets excluding inventories.

  Current Liabilities comprise loans, secured or unsecured,that are due in the next twelve months and current liabilities and provisions.
- As this ratio, doesn't include inventories therefore, it indicates short-term solvency better way than current ratio.

Examples: Quick Ratio

- In the balance sheet at March 2020 of Reliance industries limited (RIL), total current liabilities are ₹ 310,183.00 Cr, total current assets are ₹ 166,597.00 Cr and inventories are of ₹ 38,802.00 Cr.
- So Quick Ratio for RIL is (166597.00-38,802.00)/310183.00 =**0.41**
- In the balance sheet at March 2020 of Oil and Natural Gas Corporation Ltd. (ONGC), total current liabilities are ₹ 40,567.02 Cr, total current assets are ₹ 26,986.00 Cr and inventories are of ₹ 8,566.62 Cr.
- So Quick Ratio for ONGC is (26,986.00-8,566.62)/40,567.02 =**0.45**

Cash Ratio

- Because cash and bank balances and short term marketable securities are the most liquid assets of a firm, financial analysts look at cash ratio.
- it is stringent measure of liquidity.
- It is defined as,

$$\text{Cash Ratio} = \frac{\text{Cash and Bank Balances + Current Investments}}{\text{Current Liability}}$$

- Higher the Cash Ratio, better the liquidity is.

Examples: Cash Ratio

- In the balance sheet at March 2020 of Reliance industries limited (RIL), total current liabilities are ₹ 310,183.00 Cr, current investments are ₹ 70,030.00 Cr cash and cash equivalents are ₹ 8,443.00 Cr.
- So Cash Ratio for RIL is (70,030.00 +8,443.00)/310183.00 =**0.25**
- In the balance sheet at March 2020 of Oil and Natural Gas Corporation Ltd. (ONGC), total current liabilities are ₹ 40,567.02 Cr, current investments are ₹ 0.00 Cr, cash and cash equivalents are ₹ 968.23 Cr.
- So Cash Ratio for ONGC is (968.23)/40,567.02 =**0.02**

Leverage Ratios

- Financial leverage refers to the use of debt finance.
- While debt capital is a cheaper source of finance, it is also a riskier source of finance.
- Leverage ratios help in assessing the risk arising from the use of debt capital.
- The use of leverage is beneficial during times when the firm is earning profits.
- On the other hand, decline in profitability might result in risk of default for a high levered as compared to less levered firm in the same situation.
- So creditors often use leverage ratios for an assessment of risk when a firm wishes to apply for further borrowing.

Leverage Ratios

Two types of ratios are commonly used to analyze financial leverage, structural ratios and coverage ratios.

- **Structural ratios** are based on the proportions of debt and equity in the financial structure of the firm. Commonly used structural ratios are debt-equity (D/E) ratio and debt-assets ratio (D/A).
- **Coverage ratios** show the relationship between debt servicing commitments and the sources for meeting these burdens. Important covering ratios are interest coverage ratio, fixed charges coverage ratio, and debt service coverage ratio.

Debt-Equity (D/E) Ratio

- The debt-equity ratio shows the relative contributions of creditors and owners.
- It is given by,

$$\text{D/E} = \frac{\text{Total Debt}}{\text{Shareholder's Funds}}$$

- Total Debt comprises short-term as well as long-term borrowings and fixed payment obligations.

Example: D/E ratio

- In the balance sheet at March 2020 of Reliance industries limited (RIL), Shareholder's funds are ₹ 424,583.00, total current liabilities are ₹ 310,183.00 Cr and total non-current liabilities are ₹234,145.00 Cr.
- So D/E Ratio for RIL is (310183.00+234,145.00)/424,583.00 =**1.28**
- In the balance sheet at March 2020 of Oil and Natural Gas Corporation Ltd. (ONGC), Shareholder's funds are ₹ 194,338.09, total current liabilities are ₹ 40,567.02 Cr and total non-current liabilities are ₹ 61,775.64 Cr
- So D/E Ratio for ONGC is (40,567.02+61,775.64)/194,338.09 =**0.53**

Debt-Asset (D/A) Ratio

- It is given by,

$$\text{D/A} = \frac{\text{Total Debt}}{\text{Total Assets}}$$

- Note that Assets=Total Debt+Equity (Shareholder's Funds) So

$$\begin{aligned}\text{D/A} &= \frac{\text{Total Debt}/\text{Shareholder's Funds}}{\text{Total Assets}/\text{Shareholder's Funds}} \\ &= \frac{\text{Total Debt}/\text{Shareholder's Funds}}{(\text{Shareholder's Funds} + \text{Total Debt})/\text{Shareholder's Funds}} \\ &= \frac{D/E}{1 + D/E}\end{aligned}$$

Example: D/A ratio

- In the balance sheet at March 2020 of Reliance industries limited (RIL), Shareholder's funds are ₹ 424,583.00, total current liabilities are ₹ 310,183.00 Cr and total non-current liabilities are ₹234,145.00 Cr.
- So D/A Ratio for RIL is (310183.00+234,145.00)/968,912.00 =**0.56**
- In the balance sheet at March 2020 of Oil and Natural Gas Corporation Ltd. (ONGC), Shareholder's funds are ₹ 194,338.09, total current liabilities are ₹ 40,567.02 Cr and total non-current liabilities are ₹ 61,775.64 Cr
- So D/A Ratio for ONGC is (40,567.02+61,775.64)/296,680.75 =**0.34**

Interest Coverage Ratio

It is given by,

$$\text{Interest Coverage Ratio} = \frac{\text{PBIT}}{\text{Interest}}$$

Where, PBIT is a Profit Before Interest and Taxes.

- A high interest coverage ratio means that the firm can easily meet its interest burden even if PBIT suffers a considerable decline.
- A low interest coverage ratio may result in financial embarrassment when profits before interest and tax declines.This ratio is widely used by lenders to assess a firm's debt capacity.
- Also, it is a major determinant of bond rating.

Example: Interest Coverage Ratio

- In the Financial Results at March 2020 of Reliance industries limited (RIL), PBIT is found to be ₹ 4,198.00 Cr and interest paid is ₹ 4,161.00.

  So Interest Coverage Ratio for RIL is 4,198.00/4,161.00 =**1.01**
- In the Financial Results at March 2020 of Oil and Natural Gas Corporation Ltd. (ONGC), PBIT is found to be ₹-3,892.02 Cr (Loss) and interest paid is ₹ 869.48.

  So Interest Coverage Ratio for ONGC is -3,892.02/869.48 =**-4.48**

Interest Coverage Ratio (Modified)

- Interest coverage ratio is computed using PBIT. However, source of interest payment is cash flow rather than profit.
- So numerator can be modified by adding to it a depreciation.
- So modified Interest Coverage Ratio can be given by

$$\text{Modified Interest Coverage Ratio} = \frac{\text{PBIT+Depreciation}}{\text{Interest}}$$

Example: Interest Coverage Ratio

- In the Financial Results at March 2020 of Reliance industries limited (RIL), PBIT is found to be ₹ 4,198.00 Cr, depreciation is ₹ 2,685.00 and interest paid is ₹ 4,161.00.

  So Interest Coverage Ratio for RIL is 6,883.00/4,161.00 =**1.65**
- In the Financial Results at March 2020 of Oil and Natural Gas Corporation Ltd. (ONGC), PBIT is found to be ₹ -3,892.02 Cr, depreciation is ₹ 4,998.62 and interest paid is ₹ 869.48.

  So Interest Coverage Ratio for ONGC is 1,106.60/869.48 =**1.27**

Fixed Charges Coverage ratio

- Fixed Charges Coverage Ratio shows how many times the cash flow before interest and tax covers all fixed financing charges.
- It is defined as,

$$\text{Fixed Charges Coverage Ratio} = \frac{\text{PBIT+Depreciation}}{\text{Interest} + \frac{\text{Repayment of Loan}}{\text{1-tax rate}}}$$

Example: Fixed Charges Coverage Ratio

- In the Financial Results at March 2020 of Reliance industries limited (RIL), PBIT is found to be ₹ 4,198.00 Cr, depreciation is ₹ 2,685.00, short-term loan is ₹ 51,276.00 and interest paid is ₹ 4,161.00.

  Here tax rate=Tax/PIBT=1,618.00/4,198.00=0.39 So Fixed Charges Coverage Ratio for RIL is
  (4,198.00+2,685.00)/(4,161.00 +51,276.00/0.39)
  6,883.00/135637.92=**0.05**

Debt Service Coverage Ratio

- Used by financial institutions in India.
- The debt service coverage ratio (DSCR) is defined as:

$$\text{DSCR} = \frac{\text{Net Operating Income}}{\text{Total Debt Service}}$$

Where,

$$\begin{aligned}
&\text{Net Operating Income} = \text{Profit after tax+Depreciation} \\
&\text{+Other non-cash charges+Interest + Lease rentals} \\
&\text{Total Debt Service} \\
&= \text{Interest on term loan + Lease rentals + Repayment of term loan}
\end{aligned}$$

Turnover Ratios

- Turn over ratios, also referred to as activity ratios or asset management ratios, measure how efficiently the assets are employed by a firm.
- These ratios are based on the relationship between the level of activity, represented by cost of goods sold and the levels of various assets.
- The important turnover ratios are: (i) inventory turnover (ii) Debtors Turnover Ratio and average collection period (iii) receivables turnover (iv) fixed assets turnover, and (v) total assets turnover.

Inventory Turnover Ratio

- The inventory turn over reflects the efficiency of inventory management.
- The higher the ratio,the more efficient the management of inventories and vice-versa.
- However, A high inventory turnover may be caused by a low level of inventory which may result in frequent stockouts and loss of sales and customer good will.
- It is given by,

$$\text{Invenotry Turnover Ratio} = \frac{\text{Cost of Good Sold}}{\text{Average Inventory}}$$

Debtors Turnover Ratio

- This ratio shows how many times sundry debtors (accounts receivable) turn over during the year.
- It is given by,

$$\text{Debtors Turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Average Sundry Debtors}}$$

- Obviously, the higher the debtors' turnover the greater the efficiency of credit management.

Average Collection Period

- Average Collection Period The average collection period represents the number of days worth of credit sales that is locked in sundry debtors.
- It is given by,

$$\text{Average Collection Period} = \frac{\text{Average sundry debtors}}{\text{Average daily credit sales}}$$

or it can be given by,

$$\text{Average Collection Period} = \frac{365}{\text{Debtors' turnover}}$$

Fixed Assets Turnover

- It is given by,

$$\text{Fixed Assets Turnover} = \frac{\text{Net Sales}}{\text{Average Fixed Assets}}$$

- This ratio is supposed to measure the efficiency with which fixed assets are employed
- High ratio indicates a high degree of efficiency in asset utilisation and a low ratio reflects inefficient use of assets.

Total Assets Turnover

- It is given by,

$$\text{Total Assets Turnover} = \frac{\text{Net Sales}}{\text{Average Total Assets}}$$

- This ratio is similar fixed asset turnover ratio except that it relates Net Sales to Total Asset instead of Fixed assets only.
- This ratio measures how efficiently overall assets are employed.

Profitability Ratios

- Profitability reflects the final result of business operations.
- There are two types of profitability ratios: (i) Profit Margins Ratios and (ii) Rate of Return Ratios.
- Profit Margin Ratios show the relation ship between profit and sales. Commonly used Profit Margin Ratios are (a) Gross Profit Margin Ratio (b) Operating Profit Margin Ratio and (c) Net Profit Margin Ratio.
- Rate of Return Ratios reflect the relationship between profit and investment.
- Commonly used Rate of Return Ratios are (a) Return on Assets (b) Earning Power (C) Return on Capital Employed and (d) Return on equity.

Gross Profit Margin Ratio

- It is given by.

$$\text{GPM} = \frac{\text{Gross Profit}}{\text{Net Sales}}$$

- Here Gross Profit is the Net sales-minus- the Cost of goods sold.

Operating Profit Margin Ratio

- It is given by.

$$\text{OPM} = \frac{\text{Operating Profit}}{\text{Net Sales}}$$

- Here Operating Profit is the Net sales-minus- the Cost of goods sold+general +selling +admin expenses+depreciation.

Net Profit Margin Ratio

- It is given by.

$$\text{NPM} = \frac{\text{Net Profit}}{\text{Net Sales}}$$

- Here Net Profit Operating Profit + Taxes etc. Net profit is the earnings left for shareholders.

Return on Asset Ratio

- It is given by.

$$\text{ROA} = \frac{\text{Profit After Tax}}{\text{Average Total Assets}}$$

- Its numerator measures the return to shareholders (equity and preference) where as its denominator represents the contribution of all investors (shareholders as well as lenders).

Earning Power

- Earning power is a measure of business performance which is not affected by interest charges and tax burden.
- It doesn't reflect the effect of capital structure and tax factor . It focuses on operating performance. Therefore, it is suitable for inter-firm comparison.
- Earning power is given by,

$$\text{Earning Power} = \frac{\text{Profit before interest and tax}}{\text{Average total assets}}$$

Return on Capital Employed (ROCE)

- ROCE is the post-tax version of earning power.
- It is also referred to as the return on invested capital (ROIC).
- It considers the effect of taxation, but not the capital structure.
-
- ROCE is given by,

$$\text{ROCE} = \frac{\text{Profit before interest and tax} \times (1 - \text{tax rate})}{\text{Average total assets}}$$

- Or it can be given by,

$$\text{ROCE} = \text{Earning Power} \times (1 - \text{tax rate})$$

Return on Equity (ROE)

- ROE is a measure of great interest to equity shareholders.
- It is given by,

$$\text{ROE} = \frac{\text{Equity earnings}}{\text{Average equity}}$$

Valuation Ratios

- Valuation ratios are used to assess performance of the equity stock of the company in the capital market.
- Since the market value of equity reflects the combined influence of risk and return, valuation ratios are the most comprehensive measures of a firm's performance.
- The important valuation ratios are: (i) yield (ii) price-earnings ratio (iii) market value (price) to book value ratio and (iv) q-ratio.

Yield

- It measures total return to equity shareholders
- Yield is defined as,

$$\text{yield} = \frac{\text{Dividend + Price change}}{\text{Initial price}}$$

Price to Earnings (P/E) Ratio

- P/E is the most popular financial statistic in stock market.
- The price-earnings ratio is defined as,

$$\text{P/E} = \frac{\text{Market Price per share}}{\text{Earnings per Share}} = \frac{\text{Price}}{EPS}$$

- Where, The earnings per share is a profit after tax less preference dividend divided by the number of outstanding equity shares.

Price to Book Value(P/B) Ratio

- Market Value (Price) to Book Value Ratio (P/B) is another popular stock market ratio.
- The market value to book value is defined as,

$$\text{P/B} = \frac{\text{Market Price per share}}{\text{Book value per Share}}$$

q- Ratio

- Tobin's Q ratio can be given by,

$$\text{q-Ratio} = \frac{\text{Market value of Equity and Liabilities}}{\text{Estimated Replacement Cost of Assets}}$$
$$= \frac{\text{Market value of Equity + Liability's Market Value}}{\text{Book value of Equity + Liability's Market Value}}$$

EV-EBITDARatio

- This is widely used ratio in company valuation.
- The EV-EBTTDA ratio is defined as,

$$\text{EV-EBITDA} = \frac{\text{Enterprise Value (EV)}}{\text{EBITDA}}$$

- Where, EBITDA is Earnings before interest, taxes, depreciation and amortisation.
- Enterprise Value (EV) is the sum of the market value of equity and the market value of debt.
- The market value of equity is the number of outstanding equity shares times the price per share.
- As far as debt is concerned, if it is in the form of traded debt securities, its market value can be observed. If the debt is in the form of loans, its market value has to be imputed.
- Generally, a rupee of loan is deemed to have a rupee of market value.

End of Module 3