UNIT – II

Leverage

In finance, leverage (also known as gearing or levering) refers to the use of debit to supplement investment. Companies usually leverage to increase returns to stock, as this practice can maximize gains (and losses). Leverage is the degree to which an investor or business is utilizing borrowed money.

Types of leverage –

1. **Opening leverage** – The operating leverage is a measure of how revenue growth translates into growth in operating income. It is a measure of leverage and how risky (volatile) a company's operating income is. Operating leverage can also be measured in terms of change in operating income for a given change in sales (revenue). Operating leverage reflects the extent to which fixed assets and associated fixed costs are utilized in the business. Degree of operating leverage (DOL) may be defined as the percentage to levering. DOL the Degree of operating leverage (DOL) can be computed in a number of equivalent ways; one way it is defined as the ratio of the percentage change in Operating Income for a given percentage change in Sales.
2. Financial leverage –
    - Financial leverage is the ability of the firm to use fixed financial charges to magnify the effects of changes in EBIT on the firm's earnings per share.
    - In other words, financial leverage may be defined as the payments of fixed rate of interest for the use of fixed interest bearing securities to magnify the rate of return as equity shares.
    - The use of the fixed-charges sources of funds, such as debt and preference capital along with the owner's equity in the capital structure, is described as financial leverage or gearing or trading on equity.

   Degree of financial leverage – Degree of financial leverage (DFL) may be defined as the percentage change in earnings (earnings per share) that occurs as a result of a percentage in earnings before interest and taxes.
3. Combined leverage – If both operating and financial leverage allow us to magnify our returns, and then we will get maximum leverage through their combined use in the form of combined leverage. Degree of combined leverage (DTL) uses the entire income statement and shows the impact of a change in sales or volume on bottom-line earnings per share.

FORMAT OF LEVERAGE

Particular	Amount
Sales (In Rs.) (-) Variable Cost	* *
= Contribution (-) Fixed Cost	* *
= EBIT (-) Interest	* *
= EBT (-) Tax	* *
= EAT (-) Preference Dividend	* *
= Earning after Preference dividend (-) Equity Divided	* *
= Net Profit (Retained Earning)	*

EBIT = Earnings before Income & Tax – EBT = Earnings Before Tax – EAT = Earnings after Tax

Formulae

1. **Operating Leverage =** $\frac{Contribution}{EBIT}$ or $\frac{Percentage\ \ changes\ in\ EBIT}{Percentage\ \ change\ in\ sales}$

2. **Financial leverage =** $\frac{EBIT}{EBT}$ or $\frac{Percentage\ \ changes\ in\ EPS}{Percentage\ \ change\ in\ EBIT}$

3. **Combined leverage =** $\frac{Contribution}{EBT}$ or $\frac{Percentage\ \ changes\ in\ EPs}{Percent\ age\ change\ in\ sales}$ or OL x FL

Other Formulae

1. Earnings per share (EPS) = $\frac{Net\ Profit\ or\ REtained\ \ Earnings}{No.of\ Equity\ \ shares}$

2. Break even Analysis = $\frac{fixed\ \ Cost\ x\ Sales}{Contribution}$

3. P/V ratio = $\frac{Contribution}{\text{sales}}$ x 100

4. ROI = $\frac{EBIT}{\text{Capital Employed}}$ x 100

5. Assets turnover = $\frac{Net\ Sales}{\text{Total Sales}}$

Some major points taken into consideration

1. Interest in chargeable on debts only
2. Total assets = Debts Assets + Equity Capital

Operating and Financial Leverage

Leverage refers to relationship between two interrelated variables. In financial analysis, leverage reflects the response of one financial variable over some other financial variable.

Leverage are of three types

a. Operating leverage
b. Financial leverage
c. Combined leverage

Sales Revenue
- Variable cost
= Contribution
- Fixed Cost
= EBIT

$\boxed{\text{Operating Leverage}}$

- Interest
= PBT
- Tax
= PAT

$\boxed{\text{Financial Leverage}}$

$\boxed{\text{Combined Leverage}}$

Operating leverage is the tendency of the operating profits to vary disproportionately with sales.

$$\text{Operating leverage} = \frac{C}{\text{EBIT}} \text{ or } \frac{\%\nabla in\ EBIT}{\%\nabla in\ sales\ /contr}$$

Financial leverage is related to the changes in operating profit available to equity shareholders on account of changes in EBIT

$$FL = \frac{EBIT}{EBT} \text{ or } \frac{\% \nabla in\ EBT}{\% \nabla in\ EBIT} \text{ or } \frac{EBIT}{PBT - PD\ /(1-t)}$$

Combined leverage – clarifies the combined effect of OL & FL

$$CL = OL \times FL = \frac{C}{EBIT} \text{ or } \frac{\% \nabla in\ EBIT\ /EPS}{\% \nabla in\ sales\ /contr}$$

OL explains the business risk while Fl deals with the financial risk. The more is leverage the higher is the risk associated.

Other formulae –

Assets turnover ratio = $\frac{sales}{Total\ Assets}$

Debt assets ratio = $\frac{Debt\ x\ 100}{Total\ Assets}$

Debt Equity Ratio = $\frac{Debt\ x\ 100}{Total\ Equity}$

Financial Leverage

Financial leverage is synonym of trading n equity

Of course, Financial leverage may e called as refind form of trading on equity financial leverage is related to the change in EBIT. A business concern may increase the profit to equally share holders by increasing the EBIT.

In other words we can say, "When the rate of return available to equally share holders in caused to rise by the use of best and performance share capital, it is termed as FL.

Financial Leverage (FL) = $\frac{EBIT}{EBT}$

EBT – It is equal to the amount left after deducting interest on.

$$DFL = \frac{\%\ change\ in\ EBT}{\%\ change\ in\ EBIT}$$

Combined leverage – "Who have observed that operating leverage affects the business risk and it is measured in terms of changes in EBIT due to changes in sales. Similarly financial leverage affects financial risk and is measured in terms of percentage change in EBT or EPS relative to percentage change in EBIT. Since both the leverage are closely reputed in ascertaining the ability of the firms to cover fixed charges. The mixture of the two would give combined or total leverage.

Formula –

$$CL = OL \times FL$$

OR

$$CL = \frac{C}{EBIT} \times \frac{EBIT}{EBT}$$

Degree of combined leverage

$$DCL = DOL \times DFL$$

OR

$$DCL = \frac{\%change\ in\ EBIT}{\%change\ in\ sales} \times \frac{\%change\ in\ EBT}{\%change\ in\ EBIT}$$

OR

$$DCL = \frac{\%change\ in\ EBT\ or\ EPS}{\%change\ in\ sales}$$