

HW - Chapter 6 - Leverages - Q9

1.

(i) Financial leverage

Combined Leverage = Operating Leverage (OL) x Financial Leverage (FL)

2.5 = 2 x FL

FL = 1.25

Financial Leverage = 1.25

(ii) P/V Ratio and Earning per share (EPS)

Operating leverage = $\frac{\text{Contribution (C)}}{\text{Contribution} - \text{Fixed Cost (FC)}}$

2 = $\frac{C}{C - 3,40,000}$

Or, C = $2(C - 3,40,000)$

Or, C = $2C - 6,80,000$

Or, Contribution = Rs. 6,80,000

Now, P/V ratio = $\frac{\text{Contribution (C)}}{\text{Sales}} \times 100 = \frac{6,80,000}{50,00,000} \times 100 = 13.6\%$

EBT = Sales - Variable Cost - Fixed Cost - Interest

= Rs. 50,00,000 - Rs. 50,00,000 (1-0.136) - Rs. 3,40,000 - (8% × Rs. 30,25,000)

= Rs. 50,00,000 - Rs. 43,20,000 - Rs. 3,40,000 - Rs. 2,42,000

= Rs. 98,000

PAT = $\text{EBT}(1-T) = \text{Rs. } 98,000(1-0.3) = \text{Rs. } 68,600$

EPS = $\frac{\text{Rs. } 68,600}{3,40,000 \text{ shares}} = \text{Rs. } 0.202$

(iii) Assets turnover

Assets turnover = $\frac{\text{Sales}}{\text{Total Assets}^*} = \frac{\text{Rs. } 50,00,000}{\text{Rs. } 34,00,000 + \text{Rs. } 30,25,000} = 0.78$

0.78 < 1.5 means lower than industry turnover.

*Total Asset = Equity share capital + 8% Debentures

(iv) EBT zero means 100% reduction in EBT. Since combined leverage is 2.5, sales have to be dropped by $100/2.5 = 40\%$. Hence new sales will be Rs. 50,00,000 x (100 - 40) % = Rs. 30,00,000. Therefore, at Rs. 30,00,000 level of sales, the Earnings before Tax (EBT) of the company will be zero.

Alternatively

Required sales when EBT is zero = Fixed Cost + Interest + desired Profit ÷ P/V Ratio

= Rs. 3,40,000 + Rs. 2,42,000 + zero ÷ 13.60% = Rs. 42,79,412

[Note: The question can also be solved by first calculating EBIT with the help of Financial Leverage. Accordingly answer to the requirement (ii) and (iv) will also vary]