

## Break Even Analysis

- Break-even analysis refers how much should be produced & sold at a minimum to ensure that the project does not lose money.
- The minimum quantity at which loss is avoided is called break even point. The break even point may be defined in accounting terms or financial terms.

# Financial Break even analysis

- The focus of financial break even analysis is an NPV & not accounting profit. Financial break even point identifies the level of sales where the project will have a zero NPV.

## Financial Break even analysis: Example

1. Variable Cost: 60% of sales
2. Contribution Margin: 40% of sales
3. Fixed cost: Tk. 3 million (Dep. 2 million included)
4. Pretax profit =  $(0.40 \times \text{sales}) - \text{Tk } 3 \text{ million}$
5. Tax (25%) =  $0.25 \{ (0.40 \times \text{sales}) - \text{Tk } 3 \text{ mil} \}$
6. Profit after tax =  $0.75 \{ (0.40 \times \text{sales}) - \text{Tk.3 million} \}$
7. Cash flow=  $\text{Tk } 2 \text{ million} + 0.75 \{ (0.40 \times \text{sale}) - \text{Tk.3 million} \}$   
=  $\text{Tk } 2 \text{ million} + 0.30 \times \text{sales} - 2.25 \text{ million}$   
=  $0.30 \text{ sales} - 0.25 \text{ million.}$

## Financial Break even analysis: Example

Since he cash flow cost for last 10 years, its present value at a discount rate of 12% is:

$$PV(\text{cash flows}) =$$

$$\begin{aligned} &= (.30 \text{ sales} - 0.25 \text{ million}) \times PVIF(10 \text{ years } 12\%) \\ &= (.30 \text{ sales} - .25 \text{ million}) \times 5.650 \\ &= 1.695 \text{ sales} - 1.4125 \end{aligned}$$

The project breaks even in NPV terms whose the present value of there cash flows equals the initial investment of the 20 million. Hence, the financial break even occurs when.

$$PV(\text{Cash flows}) = \text{Investment}$$

$$\therefore 1.695 \text{ sales} - 1.4125 \text{ million} = 20 \text{ million}$$

$$\text{Sales} = 12.63 \text{ million}$$

# Cash Flow Statement

## Source of Funds : Total (A)

1. Share Issue
2. Profit before taxation with interest added back
3. Depreciation provision for the year
4. Development rebate reserve
5. Increase in secured medium & long term borrowings for the project
6. Other medium/long term loans
7. Increase in unsecured loans & deposits
8. Increase in bank borrowings for working capital
9. Increase in liabilities for deferred payment to machinery suppliers
10. Sale of fixed assets
11. Sale of investments
12. Other income

# Cash Flow Statement (contd....)

## Disposition of Funds : Total (B)

1. Capital expenditure for the project
2. Other normal capital expenditure
3. Increase in working capital
4. Decrease in secured medium & long term borrowings
5. Decrease in unsecured loans & deposits
6. Decrease in bank borrowings for working capital
7. Increase in liabilities for deferred payment to machinery suppliers
8. Increase in investments in other companies
9. Interest on term loans
10. Interest on bank borrowings for working capital
11. Taxation
12. Dividends (Equity, Preference)
13. Other Expenditure

# Cash Flow Statement (contd....)

- Opening balance of cash in hand & at Bank
- Net surplus/deficit (A-B)
- Closing balance of cash in hand & at bank

# Projected Balance Sheet

- The balance sheet, showing the balance in various asset & liability accounts, reflects the financial condition of the firm at a given point of time.

# Format of Balance Sheet

## Liabilities

Share Capital

Reserves & Surplus

Secured loans

Unsecured loans

advances & provisions

## Assets

Fixed Assets

Investments

Current assets,

loans & Current liabilities

Miscellaneous expenditures  
& losses

## Format of Balance Sheet (contd...)

- 3 The liabilities side of the balance sheet shows the sources of finance employed by the business.
- 3 The assets side of the balance sheet shows how funds have been used in the business.

For preparing the projected balance sheet at the end of year n+1; we need information about the following:

- 3 The balance sheet at the end of year n.