

BREAK EVEN ANALYSIS

BEP - ①

PV Ratio: $\frac{\text{Total cont}}{\text{Total sales}} \times 100 = \frac{\text{Cont p.u}}{\text{Sale p.u}} \times 100 = \frac{\Delta \text{cont}}{\Delta \text{sales}} \times 100 = \frac{\Delta \text{profit}}{\Delta \text{sales}} \times 100 = 100 - \frac{\text{VC ratio}}{\text{C\%}}$

	(Rs)	(Units)
BEP (No profit - no loss)	$\frac{\text{T. Fixed cost}}{\text{PV ratio}}$	$\frac{\text{T.F.C}}{\text{cont p.u.}}$ BEP + MOS = 100% sales SVC = $\frac{\Delta \text{Cost}}{\Delta \text{units}}$ (variable cost component)
MOS (sales over & above BEP) profit = cont [as FC = 0 all rec'd in BEP]	$\frac{\text{profit}}{\text{PV ratio}}$ T. sales - BEP sales [Rs]	$\frac{\text{profit}}{\text{cont p.u.}}$ T. sales - BEP sales [Rs]
IDP (cost break even point) total cost = total profit Sales > IDP: ↑ PVR Sales < IDP: ↓ FC. profit under 2 op ⁿ is same.	$\frac{\Delta \text{FC}}{\Delta \text{PVR}}$ $\frac{\Delta \text{FC}}{\Delta \text{VC}}$	$\frac{\Delta \text{FC}}{\Delta \text{cont p.u.}}$ $\frac{\Delta \text{FC}}{\Delta \text{VC p.u.}}$
SDP (level for below which x justifiable) = or ↑ (continue)	$\frac{\text{avoidable FC}}{\text{PVR}}$	$\frac{\text{avoidable FC}}{\text{cont p.u.}}$

BEP analysis

Single product
check if any opening stock.

NO OPⁿ stock

$$\text{BEP} = \frac{\text{TFC}}{\text{PVR}} \text{ or } \frac{\text{TFC}}{\text{cont p.u.}}$$

$$= \frac{\text{TFC}}{\text{cont p.u.}}$$

Same cont p.u.

$$\text{BEP} = \frac{\text{TFC}}{\text{PVR or cont p.u.}}$$

diff cont p.u.

FIFO (limited life)

FC is rec'd from OS then others.

T.F.C

$$\text{BEP} = x + y \text{ units}$$

Opⁿ stock
10 → cont.
x units FC

CV
bal FC
decoi
+ units

✓ opⁿ stock.
check cont p.u.
for opⁿ stock &
C.V is same.

Multiple product
check selling policy of co

Sell all prod together.

↓
Wtd avg.

$$\text{BEP} = \frac{\text{TFC}}{\text{Wtd cont or } \frac{\text{T.F.C}}{\text{Wtd PV}}}$$

First sell one then other.

↓
use FIFO
FC first
rec'd from 1st
lots then...

Wtd avg. continued life

$$\text{BEP} = \frac{\text{T.F.C}}{\text{Wtd cont or } \frac{\text{T.F.C}}{\text{Wtd PVR}}}$$

EXISTENCE OF STEP LOSS

= total cont

total units

OR -

(of units)

Prod. cont % Prod

1	2	1x2
C	301	2

6	50%	2
4	40%	4

$$\frac{1}{x+1}$$

wt'd cont. $\frac{x+y}{2}$

wfd p.v

$$= \underline{\text{total cost}}$$

total sales

Q.

Prod cont 1/2 Prod

% of ★ A
SALES

$$\varepsilon \overline{wta}pv$$

Calculate multiple BEP for all level where FC Δ .

Steps

① Find the level @ which FC A

(ii) Find total FC at these levels

T.F.C = regular FC + step cost.

(iii) Find BEP for each level separately.

• range if capacity is fixed - find BEP for that range only.

- very no. of dangers:

1st make estimation of BEP

- consider $SC = VC$ *

$$\therefore \text{BEP} = \frac{\text{T.F. (Contribution)}}{\text{S.C}}$$

cont p.u * (SP-VC-SC_{pu})

range of BEP: around the estimated ($\uparrow$ and $\downarrow$)

estimatii
BEP

range.

150

141-150(↓)

$$151 - 160 (\uparrow)$$

148

141 - 150
(↓) only (↑)