

# Short Term Decision Making

## Chartered Accountancy Business Level II Management Accounting (MA)

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## Short Term Decision Making

### 1. Break Even Point Analysis (BEP)

Breakeven point means the maximum level of sales that ensure the company will not experience losses or level of sales at which a company would **make zero profit**.

At the BEP, **total sales income is equal to total expenses (Both Variable and Fixed)**

At BEP, Total sales income = Fixed Cost + Variable Cost

Formulas to calculate BEP

Contribution = Per unit selling price – Per unit variable cost

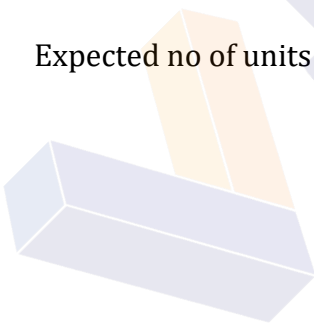
$$\text{BEP (Units)} = \frac{\text{Total Fixed Cost}}{\text{Contribution Per Unit}}$$

$$\text{BEP (Units)} = \frac{\text{Total Fixed Cost}}{\text{C/S Ratio}}$$

C/S Ratio = Contribution per unit/ Per unit selling price

Margin of Safety (Units) = Expected no of sales units – BEP (Units)

Expected no of units to earn target profit =  $\frac{\text{Total Fixed Cost} + \text{Target Profit}}{\text{Contribution Per Unit}}$



### Example:

**X Ltd.** manufactures cooking sauces in glass bottles and sells at supermarkets. It recently introduced a new product, **Sauce Y** which is being introduced to the market. The following information was extracted from the standard cost card of **Sauce Y**:

	Per bottle of Source Y (Rs.)
Direct Material	240
Direct Labour	60
Variable Overheads	120

A bottle of **Sauce Y** is sold at Rs.820/-.

The monthly specific fixed overheads amount to Rs.95,000/- while 10% of the common fixed overheads of Rs.650,000/- will be allocated to **Sauce Y**.

Required:

1. BEP in Units
2. BEP in rupees
3. Profit of Source Y
4. If Company expects to earn Rs.250,000 profit, target number of bottle to be sold.

## 2. BEP Calculation for Multiple Products

### BEP (In units)

**Step 01: Calculate the contribution for each product separately**

**Step 02: Identify the product portfolio composition ratio based on budgeted sales units**

**Step 03: Calculate the portfolio contribution.**

Portfolio Contribution = Sum ( Each Product Contribution \* Portfolio Composition ratio)

**Step 04: Calculate the portfolio BEP (In units)**

$$\text{BEP (Units)} = \frac{\text{Total Fixed Cost}}{\text{Portfolio Contribution}}$$

**Step 05: Separate Portfolio BEP(Units) among each product based on the portfolio composition ratio**

## **BEP (In Rupees)**

**Step 01: Calculate the contribution for each product separately**

**Step 02: Identify the product portfolio composition ratio based on budgeted sales units**

**Step 03: Calculate the portfolio contribution.**

Portfolio Contribution = Sum ( Each Product Contribution \* Portfolio Composition ratio)

**Step 04: Calculate the portfolio C/S ratio**

C/S Ratio = Portfolio Contribution / Portfolio Selling Price

**Step 05: Calculate the Portfolio BEP in Rupees**

BEP (Rupees) = 
$$\frac{\text{Total Fixed Cost}}{\text{Portfolio C/S ratio}}$$

**Step 06: Separate Portfolio BEP (Rupees) based on the each product per unit selling price.**

**Example:**

ABC PLC manufactures products called P,Q,R and S. Following details are relevant for these products.

Product	Budgeted Sales (Units)	Selling Price (Per Unit)	Variable Cost (Per Unit)
P	10,000	20	15
Q	10,000	40	20
R	50,000	4	3
S	20,000	10	7

Required :

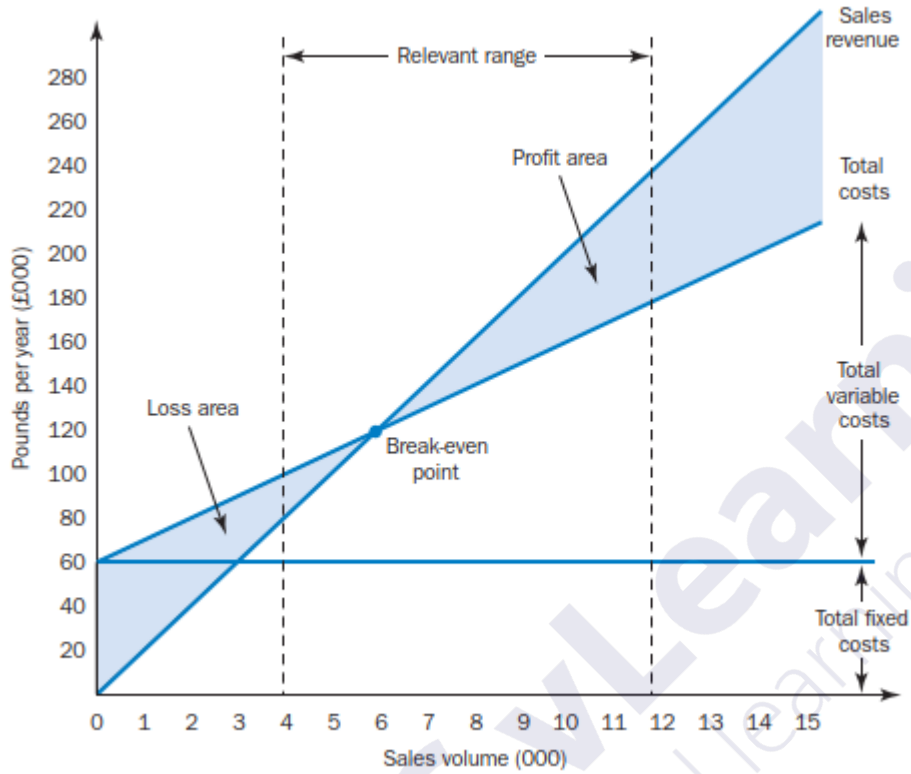
1. BEP in Units

2. BEP in rupees

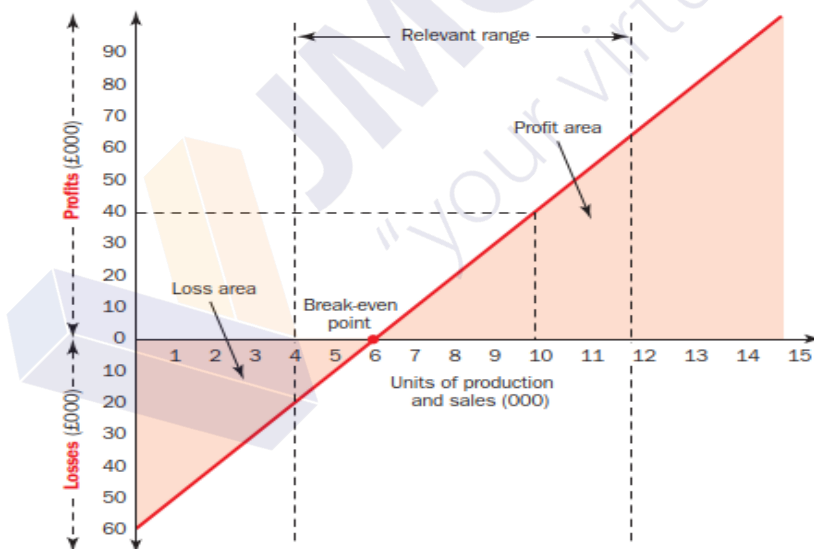


## CVP Charts

### - Contribution Chart



### - Profit Volume Chart



## CVP Analysis Assumptions

- All other variables remain constant.

- Single product or constant sales mix.
- Total costs and total revenue are linear functions of output.
- Profits are calculated on a variable costing basis.
- Costs can be accurately divided into their fixed and variable elements.
- The analysis applies only to the relevant range.
- The analysis applies only to a short-term time horizon.

### 3. Limiting Factor Decision Making

In the short term, sales demand may be in excess of current productive capacity. For example, output may be restricted by a shortage of skilled labour, materials, equipment or space. When sales demand is in excess of a company's productive capacity, the resources responsible for limiting the output should be identified. **These scarce resources are known as limiting factors.**

#### Example:

**Linen Ltd.** manufactures and sells hand embroidered table linen, in 3 sizes, the 6-seater, 8-seater and 12-seater. The following information was extracted from the standard cost card of **Linen Ltd.:**

	Rs. (per unit)		
	6-Seater	8-Seater	12-Seater
Selling Price	5,000	7,500	12,000
Direct Material (at Rs.450/- per meter)	1,125	1,800	2,700
Stitching Labour (at Rs.300/- per hour)	300	375	450
Embroidering Labour (at Rs.500/- per hour)	2,500	4,000	6,000
Variable Production Overheads	500	600	800
Budgeted Sales units for March 2023	30	15	8

For the month of March 2023, the resource availability will be as follows:

Direct Material	190 meters
stitching labour	100 hours
embroidering labour	302 hours

#### You are required to:

- Identify** the limiting factor/s with supporting calculations. (04 marks)
- Calculate** the optimal production mix based on the limiting factor/s identified. (06 marks)  
(Total 10 marks)

**Step 01: Identify the limiting factor.**

**Step 02: Calculate the contribution for each product**

**Step 03: Calculate the contribution per limiting factor of each product**

Contribution per limiting factor = Per Unit Contribution / Per unit required limiting factor

**Step 04: Rank the each product by limiting factor contribution**

**Step 05: Identify the product mix**



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