

# Marginal Costing

# Introduction

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## Marginal Cost

- Marginal Cost is defined as, 'the change in aggregate costs due to change in the volume of production by one unit.'
- Marginal cost is the additional cost incurred in the production of one more unit of a good or service.
- It is derived from the **variable cost** of production, given that fixed costs do not change as output changes, hence no additional fixed cost is incurred in producing another unit of a good or service once production has already started.

# Marginal cost

Particular	Rs.
Direct Material	XX
Direct labour	XX
Direct Expenses	XX
<b>Prime Cost</b>	<b>XX</b>
(+) Total Variable overhead	XX
<b>Marginal cost per unit</b>	<b>XXX</b>

# Marginal Costing

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- Marginal Costing is a costing technique wherein the marginal cost, i.e. variable cost is charged to units of cost, while the fixed cost for the period is completely written off against the contribution.
- Ascertainment of cost and measuring the impact on profits of the change in the volume of output or type of output.
- Marginal costing is a very useful technique of costing for decision-making.
- In marginal costing, costs are segregated into fixed and variable

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# Features of Marginal Costing

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- It is a technique of costing which is used to ascertain the marginal cost and to know the impact of variable cost on the volume of output.
- Selling price is based on marginal cost plus the contribution.
- Profit is calculated by deducting marginal cost and fixed cost from sales.
- The profitability of product or department is based on contribution made available by each product or department.
- Cost Volume Profit (or Break Even) Analysis is one of the integral parts of marginal costing.
- Valuation of stock of work in progress and finished goods is done on the basis of marginal cost.

# Advantages

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- It is simple to understand and easy to operate.
- It helps in evaluation of performance of different departments, divisions, products, salesmen etc.
- It helps in cost control by concentrating on variable cost as the fixed cost is non-controllable in the short period.
- It provides the management with useful techniques like break even analysis, P/V ratio etc.
- It is a very useful tool of profit planning. It guides the management about the profitability at various levels of production and sales.

# Limitations

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- The classification of total costs into fixed and variable cost is difficult.
- In this technique fixed costs are totally eliminated for the valuation of inventory of finished and semi-finished goods. Such elimination affects the profitability adversely.
- In marginal costing historical data is used while management decisions are related to future events.
- It does not provide any standard for the evaluation of performance.
- Selling price fixed on the basis of marginal cost will be useful only for short period of time.
- Assessment of profitability on the marginal cost base can be used only in the short period of time.

## Income Statement Under Marginal Costing

### XYZ LTD. Product P

Particulars	Amount Rs.	Amount Rs.
Sales		
Less: Variable Costs		
Contribution		
Less: Fixed Costs		
Profit		

PARTICULARS	AMT (Rs.)	COST PER UNIT
<b>SALES</b>	<b>1000</b>	<b>10</b>
<b>- VARIABLE COST</b>	<b>- 400</b>	<b>4</b>
<b>CONTRIBUTION</b>	<b>600</b>	<b>6</b>
<b>- FIXED COST</b>	<b>300</b>	<b>3</b>
<b>PROFIT</b>	<b>300</b>	<b>3</b>

# Some concepts/Terms of Marginal Costing

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- Fixed Cost
- Variable cost
- Contribution
- Profit Volume Ratio
- Break Even point
- Margin of Safety
- Cost Volume Profit Analysis

# Fixed Cost

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- Known as “**Period Cost**” or “**Time Cost**”.
- Does not depend on volume of production and sales.
- Fixed cost remain constant
- Fixed cost are fixed in unite.
  
- Examples:-
  - **Salary, rent, manager’s Salary etc. known as fixed overheads.**

# Variable Cost

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- Increase and Decrease in proportion to sales and output.
- Called as “**Product Cost**” or “**Marginal Cost**”
- Vary in direct proportion to output
- Variable cost vary in total but they remain constant per unit.
- Example:-  
**Direct Material, Direct Wages etc.**

# Contribution

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- Contribution is the difference between sales and variable cost.
- Contribution is also known as “Contribution Margin” or “Gross Margin”.
- Formulas :-
  - $\text{Contribution} = \text{Sales} - \text{Variable Cost}$
  - $\text{Contribution} = \text{Fixed Expenses} + \text{Profit}$
  - $\text{Contribution} - \text{Fixed cost} = \text{Profit}$
  - $\text{Contribution} + \text{Variable Cost} = \text{Sales}$
  - $\text{Sales} - \text{Variable cost} = \text{Fixed Cost} \pm \text{Profit/ Loss}$

# Profit Volume Ratio/ Contribution to Sales

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- **Profit-volume ratio** indicates the relationship between contribution and sales and is usually expressed in percentage.
- High P/V ratio indicate high profitability
- Low P/V ratio indicate low profitability

# Formulas of P/V ratio

$$\begin{aligned} \text{P/V Ratio} &= \frac{\text{Contribution}}{\text{Sales}} \times 100 && \text{(or)} \\ &= \frac{\text{Sales} - \text{Variable Cost}}{\text{Sales}} \times 100 && \text{(or)} \\ &= \frac{\text{Fixed Expenses} + \text{Profit}}{\text{Sales}} \times 100 && \text{(or)} \\ &= \frac{\text{Change in Profits or Contribution}}{\text{Change in Sales}} \times 100 \end{aligned}$$

# Break Even Point

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- The break-even point can be defined as a point where total costs (expenses) and total sales (revenue) are equal.
- Break-even point can be described as a point where there is **no net profit or loss**.
- **Total Sales Revenue = Total Cost incurred**

# Formulas for BEP

$$\bullet \text{ Break Even Points} = \frac{\text{Fixed Cost}}{\text{Contribution per unit}}$$

(Units)

$$\text{Break Even Points( Rs.)} = \frac{\text{Fixed Costs}}{\text{C/S Ratio}}$$
$$= \text{BEP Unit} * \text{Selling price}$$

# Margin of Safety

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- Margin of Safety (MOS) measures the distance between budgeted sales and breakeven sales

- $$\text{Margin Of Safety} = \text{Actual Sales} - \text{Breakeven sales}$$

$$\text{Margin Of Safety} = \frac{\text{Profit}}{\text{P/V Ratio}}$$

# Cost-volume-profit

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- Cost-volume-profit analysis, or CVP, is something companies use to figure out how changes in costs and volume affect their operating expenses and net income.
- CVP works by comparing different relationships, such as the cost of operating and producing goods, the amount of goods sold, and profits generated from the sale of those goods.
- CVP analysis gives companies strong insight into the profitability of their products or services.
- Cost-volume-price analysis is a way to find out how changes in variable and fixed costs affect a firm's profit.
- Companies can use the formula result to see how many units they need to sell to break even (cover all costs) or reach a certain minimum profit margin.

# Cost-Volume-Profit Analysis

## Formula

- The CVP formula can be used to calculate the sales volume needed to cover costs and break even, in the CVP breakeven sales volume formula, as follows:

$$\text{Breakeven Sales Volume} = \frac{FC}{CM}$$

**where:**

*FC* = Fixed costs

*CM* = Contribution margin = Sales – Variable Costs

To use the above formula to find a company's target sales volume, simply add a target profit amount per unit to the fixed-cost component of the formula. This allows you to solve for the target volume based on the assumptions used in the model.

# Uses of CVP analysis

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- Many companies and accounting professionals use cost-volume-profit analysis to make informed **decisions about the products or services they sell.**
- CVP analysis plays a larger role in managerial accounting than in financing accounting.
  - Managerial accounting focuses on helping managers or those tasked with running businesses , make smart, cost-effective moves.
  - Financial accounting, by contrast, focuses more on painting an economic picture of a company so that outside parties, such as banks or investors, can determine how financially healthy it is.

# Elements of CVP analysis

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- **The three elements involved in CVP analysis are:**
  - **Cost**, which means the expenses involved in producing or selling a product or service.
  - **Volume**, which means the number of units produced in the case of a physical product, or the amount of service sold.
  - **Profit**, which means the difference between the selling price of a product or service minus the cost to produce or provide it.

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# Assumptions when using CVP analysis

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- When managers use CVP analysis to make business decisions, the following assumptions are made:
  - All costs, including manufacturing, administrative, and overhead costs, can be accurately identified as either fixed or variable.
  - The selling price per unit is constant
  - Changes in activity are the only factors that affect costs.
  - All units produced are sold.