

Marginal Costing

MARGINAL COST

It is defined as **cost of producing one additional unit**. Thus, marginal cost is the amount by which total cost changes when there is a change in output by one unit.

MARGINAL COSTING

- It is a costing technique used **to determine** the **cost of producing an additional unit of a product or service**.
- In this technique of costing, **only variable costs are charged to operations, processes, or products**, leaving all fixed costs to be written off against contribution, in the period in which they arise.

FEATURES OF MARGINAL COSTING

- Marginal costing encompasses **both the recording and reporting of costs**.
- In marginal costing, costs are **classified into fixed costs and variable costs**.
- **Fixed costs are excluded** from the **calculation of product costs** and are instead charged against the revenue in the period they are incurred.
- To determine profitability, the **contribution of a product or department is considered**.

IMPORTANT TERMS IN MARGINAL COSTING

CONTRIBUTION

It refers to the **excess of sales revenue over variable costs**. It represents the amount of money that **each unit of a product or service contributes** towards covering fixed costs and generating profits.

Example

If the sales price of one unit of the product is 2000 and its variable cost is 1400, then the contribution is calculated to be & 600.

COST-VOLUME-PROFIT(CVP) ANALYSIS

- It is a managerial accounting technique used to **study the relationship between costs, volume of production or sales, and profits**.
- It provides insights **how costs and profits are affected** by changes in the **volume of business activities**.
- This analysis involves classification of **every cost as either a fixed cost or a variable cost**.

ASSUMPTIONS

- Sales price per unit is constant.
- Variable costs per unit are constant.
- Total fixed costs are constant.

$\text{Profit} = \text{Sales Volume} - (\text{Fixed Costs} + \text{Variable Costs})$

$P = (S \times N) - [F + (V \times N)]$

P = Profit

S = Sales value per unit

N = Number of units sold

JOIN LEARNING SESSIONS On YouTube and App

F = Fixed Costs

V = Variable Cost per unit

Example

A firm, manufacturing Tables, has fixed costs of 1,00,0000 and variable cost of 1200 per unit. Sales price is 1600 per unit. During the year, it sold 3000 Tables. What is the profit of the firm during the year?

SOLUTION

- S= 1600
- N =3000
- F = 1000000
- V = 1200

$$\text{Profit} = (S \times N) - [F + (V \times N)]$$

$$\text{Profit} = (1600 \times 3000) - [1,00,0000 + (1200 \times 3000)]$$

$$\text{Profit} = 4,80,0000 - (1,00,0000 + 3,60,0000)$$

$$\text{Profit} = 4,80,0000 - 4,60,0000$$

$$\text{Profit} = 20,0000$$

Importance Of CVP Analysis

- This analysis helps in understanding **how costs behave in relation to changes in production or sales volume.**
- It allows businesses to **identify the volume of production or sales at which they will break even.**
- It enables businesses to assess the **sensitivity of profits to changes in output** or sales volume.
- This analysis aids in **profit planning** by providing a framework to estimate the profit potential **at different levels of production or sales.**

- This analysis allows businesses to **determine the required quantity of production** or sales to reach a **specific target profit**
- It helps assess the **financial risks associated** with changes in production or sales volume.

BREAK-EVEN ANALYSIS

- It is a financial tool used to determine the **point at which a business neither makes a profit nor incurs a loss.**
- It calculates the volume of production or sales needed to **cover all costs, resulting in a breakeven point.**

Components Of Break-Even Analysis

Fixed Costs

These are expenses that **do not change with the level of production** or sales such as rent, salaries, and insurance.

Variable Costs

These are expenses that **vary in direct proportion to the volume of production or sales** such as direct materials, direct labour, and variable overhead.

Selling Price

It is the price at which a **product or service is sold per unit.** It is determined by factors such as **market demand, competition, and pricing strategies.**

Contribution Margin

It is the **difference between the selling price per unit and the variable cost per unit.** It represents the amount available to cover fixed costs and contribute to profit.

Breakeven Point

It is the level of production or sales at which **total revenue equals total costs**, resulting in zero profit or loss. It is the point where the business covers all its expenses but **does not generate any profit**.

Breakeven Point = Fixed Costs / Contribution Margin per unit

XYZ Manufacturing produces and sells a single product, which has a selling price of 50 per unit. The variable cost per unit is 30, and the fixed costs for the company amount to 100,000.

SOLUTION

In number of units

Contribution Margin per unit = Selling Price per unit - Variable Cost per unit

Contribution Margin per unit = 50 – 30 = 20

Breakeven Point = Fixed Costs / Contribution Margin per unit

Breakeven Point = 100,000 / 20 = 5000 UNITS

In sales volume in money terms

Break-even Point = Total Fixed Cost/contribution per unit X sale price

Breakeven Point = 100,000 / 20 *50 = 250000

Therefore, XYZ Manufacturing needs to sell 5,000 units of their product to cover all their costs and reach the breakeven point. At this level of production and sales, the company will neither make a profit nor incur a loss.

PROFIT-VOLUME RATIO

- The Profit volume (PV Ratio) is the **relationship between contribution and sales**. It is also termed as contribution to sales ratio.

- PV Ratio is considered to be the basic indicator of the profitability of the business.

$$\text{P/V ratio} = (\text{Contribution Margin} / \text{Sales}) * 100$$

EXAMPLE

Suppose you run a company that manufactures and sells widgets. The selling price per widget is 100, and the variable cost per widget is 60. The fixed costs for your business amount to 20,000 per month.

Solution

Contribution Margin = Selling Price - Variable Cost per unit

$$\text{Contribution Margin} = 100 - 60 = 40$$

$$\text{P/V ratio} = (\text{Contribution Margin} / \text{Sales}) * 100$$

$$\text{P/V ratio} = (40 / 100) * 100 = 40\%$$

The P/V ratio in this case is 40%. This means that for every rupee of sales, the company's contribution margin is 40 cents. The P/V ratio helps in understanding the impact of sales on profitability.

Significance Of PV Ratio

Profitability Analysis Helps analyse the impact of sales volume on profitability.

Break-Even Analysis Determines the sales volume needed to cover costs and reach the break-even point.

Pricing Decisions Assists in setting optimal pricing strategies by considering the P/V ratio's impact on profitability

Cost Control and Efficiency Provides insights into cost management and identifies areas for cost reduction.

Financial Planning Helps with budgeting, forecasting, and setting sales targets.

Risk Assessment Enables evaluation of the financial risks associated with sales fluctuations.

Decision Making Supports informed decisions regarding product mix, expansion, and resource allocation.

MARGIN OF SAFETY

- It is a financial concept that measures the extent to **which actual sales exceed the break-even point**
- It represents the amount by which **sales can decline before a business starts incurring losses.**

Margin of Safety = (Actual sales - Break-even sales)

EXAMPLE

Suppose you own a clothing manufacturing business. Your fixed costs, including rent, salaries, and utilities, amount to 50,000 per month. The selling price of your clothing item is 50, and the variable cost per unit, including materials and labor, is 30. Based on these figures, we can calculate the breakeven point and the Margin of Safety.

Solution

Breakeven Point Calculation

Breakeven Point (in units) = Fixed Costs / Contribution per unit

Contribution per unit = Selling Price per unit - Variable Cost per unit

Contribution Margin per unit = $50 - 30 = 20$

Breakeven Point (in units) = $50,000 / 20 = 2,500$ units

Margin of Safety Calculation

Margin of Safety (in units) = Actual Sales - Breakeven Point

Suppose you are currently selling 3,500 units of clothing per month.

Margin of Safety (in units) = $3,500 - 2,500 = 1,000$ units

Margin of Safety in revenue = Margin of Safety in units * Selling Price per unit

Margin of Safety (in revenue) = $1,000 * 50 = 50,000$

Explanation

In this example, the Margin of Safety is 1,000 units or 50,000 in revenue. It means that you are selling 1,000 units or generating 50,000 in revenue above the breakeven point. This provides a cushion to cover unexpected expenses, market fluctuations, or changes in demand.

ADVANTAGES OF MARGINAL COSTING

- **Simple and easy** to understand.
- Enables clear cost-volume-profit analysis.
- Facilitates **decision-making** by providing incremental **cost information**.
- Helps in making effective **pricing decisions**.
- Simplifies **inventory valuation**.
- Suitable for **short-term decision-making**.
- Encourages **cost control and efficiency**.

LIMITATIONS/DISADVANTAGES OF MARGINAL COSTING

- **Difficulty in segregating costs** into fixed and variable categories accurately.
- **Unrealistic assumption** of fixed costs remaining unchanged and variable costs being strictly proportional to production volume.

- **Unrealistic inventory valuation** as fixed costs are not included.
- Inaccuracy in assuming consistent sales price per unit.
- **Limited suitability for long-term** profitability assessment.

ABSORPTION COSTING

- It is a costing method that allocates all **manufacturing costs, both variable and fixed**, to the cost of a product. It includes direct materials, direct labour, variable overhead, and fixed overhead costs.
- Absorption costing is needed for **external financial reporting and for income tax reporting purposes**.

DIFFERENCE BETWEEN ABSORPTION COSTING AND MARGINAL COSTING

CRITERIA:	Absorption Costing Method:	Marginal Costing Method:
Allocation of Costs	Both fixed and variable overheads are charged.	Costs are divided into fixed and variable costs.
Costs of overheads	Fixed overheads are charged.	Fixed overheads are not charged.
Inventory treatment	Inventory is valued at total cost.	Inventory is valued at variable cost.
If the ending inventory: Increases / Decreases	The profits will increase / decrease in this method.	The profits will decrease / increase in this method.
Profit calculation	Profit is difference between sales and cost of sales.	First contribution is calculated, and then profit is obtained by deducting total fixed cost from contribution.

Sr no.	Questions	Answer
1	_____ is the cost of producing one additional unit of a product or service.	Marginal cost
2	Marginal costing focuses on analyzing the cost of producing additional units rather than the _____.	total cost.
3	_____ are not considered in calculating the marginal cost.	Fixed costs
4	_____ helps in decision-making by providing information about the cost and profitability of producing additional units.	Marginal costing
5	_____ is the difference between sales revenue and variable costs.	Contribution
6	Contribution represents the amount available to cover _____	fixed costs and generate profits.
7	Marginal costing assumes that the sales price per unit and variable costs per unit _____.	Remain constant.
8	_____ analysis examines the relationship between costs, volume, and profits.	Cost-volume-profit (CVP)
9	CVP analysis helps in understanding the impact of changes in sales volume on _____	profits.
10	_____ is the level of sales at which total revenue equals total costs.	Break-even point
11	_____ is used in CVP analysis to assess the impact of changes in variables on profits.	Sensitivity analysis
12	The Profit-Volume (PV) Ratio is also known as _____.	Contribution to Sales Ra
13	The PV Ratio is calculated as _____.	Contribution

		n Margin / Sales
14	The PV Ratio helps in analyzing the impact of _____	Sales volume on profitability
15	The Margin of Safety is calculated as _____	Actual Sales - Break-even Sales
16	Absorption costing allocates all manufacturing costs, including _____.	Both variable and fixed costs
17	An increase in the variable cost _____	Decreases the break-even point
18	The profit/volume ratio in marginal costing can be improved by _____	Increasing the selling price
19	Under marginal costing, the stock is valued at _____	Variable Cost
20	The profit at which total revenue is equal to the total cost is known as _____	Break-even point