

Marginal Cost

“The amount at any given volume of output by which aggregate costs are changed if the volume of output is increased or decreased by one unit”

Marginal Costing

“Marginal costing is a technique of determining the amount of changes in the aggregate costs due to an increase of one unit over the existing level of production”

Features of Marginal Costing

- It is a method of recording costs and reporting profits;
- All operating costs are differentiated into fixed and variable costs;
- Variable cost charged to product and treated as a product cost whilst
- Fixed cost treated as period cost and written off to the profit and loss account

Advantages of Marginal Costing

- It is simple to understand re: variable versus fixed cost concept;

- A useful short-term survival costing technique particularly in a very competitive environment or recessions where orders are accepted as long as it covers the marginal cost of the business and the excess over the marginal cost contributes toward fixed costs so that losses are kept to a minimum;
- It shows the relationship between cost, price and volume;
- Under or over absorption does not arise in marginal costing;
- Stock valuations are not distorted with present years fixed costs;
- It provides better information hence is a useful managerial decision-making tool;
- It concentrates on the controllable aspects of business by separating fixed and variable costs
- The effect of production and sales policies is more clearly seen and understood.

Disadvantages of Marginal Costing

- Marginal cost has its limitations since it makes use of historical data while decisions by management relate to future events;
- It ignores fixed costs to products as if they are not important to production;
- Stock valuation under this type of costing is not accepted by the Inland Revenue as it ignores the fixed cost element;
- It fails to recognize that in the long run, fixed costs may become variable;
- It oversimplifies costs into fixed and variable as if it is so simply to demarcate them;
- It's not a good costing technique in the long run for pricing decision as it ignores fixed cost. In the long run, management must consider the total costs not only the variable portion;
- Difficulty to classify properly variable and fixed cost perfectly, hence stock valuation can be distorted if fixed cost is classified as variable.

Aspects of Marginal Costing

1. Ascertainment of Marginal Cost.
2. Deriving of Cost-Volume-Profit Relationship by differentiating fixed cost from variable costs.

Marginal Cost Statement

Particulars	Amount (Rs.)
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Variable	
Costs:DirectMater	Xxx
ialDirect	Xxx
WagesFactoryOve	Xxx
rheads	-----
	xxx
FixedCost:Administrativ	Xxx
eExpenses	-----
	Xxx
Total	Xxx
CostProfit	-----
	Xxx
Sales	-----

Concepts & Terms Used in Cost–volume-

profit Analysis **1. Variable Costs:**

These costs are varying in proportion to the level of production and sales.

Ex: Direct Material, Direct Wages, Direct Expenses and Variable Overheads.

2. Fixed Cost:

Irrespective of the level of activity, these costs are fixed in nature. Hence, these costs are called ‘sunk cost’ or ‘period cost’ or ‘time costs’.

Ex: Officer rent, Factory Rent, Manager’s Salary etc.

3. Contribution:

Contribution is the difference between sales and variable cost. Contribution is the amount that is contributed towards fixed expenses and profit. In practice majority of the managerial decisions are based on the principle of contribution.

Contribution = Sales – Variable

cost Contribution = Fixed Expenses + Prof

it Contribution = Fixed Expenses - Loss

4. Profit Volume Ratio (P/V Ratio) or Contribution to Sales Ratio (C/S Ratio):

The proportion of contribution to sale is called P/V ratio. P/V ratio generally expressed as a percentage. A high P/V ratio indicates high profitability and a low P/V ratio indicates low profitability.

Formula:

$$P.V.R = (\text{Contribution} / \text{Sales}) \times 100$$

$$P.V.R = (\text{Changes in Profit} / \text{Changes in Sales}) \times 100$$

5. Break Even Analysis

Break even analysis determines at what level cost and revenue are in equilibrium.

Assumptions:

1. All elements of costs are divided into fixed and variable costs.
2. Variable costs vary in relation to the volume of production.
3. Fixed costs remain constant at all volumes of output.
4. The selling price remains constant at all levels of output.
5. The volume of production is the only factor that influences cost.
6. There is only one product or in the case of multiple products, sales mix remains stable.

6. Break Even Point

The point which breaks the total cost and the selling price evenly to show the level of output or sales at which there shall be no profit or no loss is called “Break Even Point”. In other words, the point of sales volume at which total revenue is equal to total cost.

7. Margin of Safety

The excess of actual or budgeted sales over the break even sales is called the Margin of safety. The margin of safety is calculated in rupees, units or even in percentage form.

This Margin of safety can be improved by adopting the following steps:

1. By increasing the volume of production
2. By increasing the sale price of the product
3. By reducing the fixed cost through adopting the innovative technologies
4. By reducing the variable cost by means of cost reduction and cost consciousness principles.
5. By eliminating unprofitable products
6. By adopting the optimal sales mix to increase the viability of the product.

Formula's

1. $P.V.R = (\text{Contribution} / \text{Sales}) \times 100$
2. $P.V.R = (\text{Changes in profit} / \text{Changes in sales}) \times 100$
3. $B.E.P. (\text{in units}) = \text{Fixed expenses} / \text{Contribution per unit}$
4. $B.E.P. (\text{in Rs.}) = (\text{Fixed Expenses} / \text{Contribution per unit}) \times \text{Selling price per unit}$
5. $B.E.P. (\text{in Rs.}) = (\text{Fixed Expenses} / \text{Contribution}) \times \text{Sales}$
6. $B.E.P. (\text{in Rs.}) = \text{Fixed Expenses} / PVR$
7. $\text{Margin of Safety} = \text{Profit} / PVR (\text{or}) \text{Actual sales} - BEP \text{ Sales}$
8. No. of units to be sold to earn a profit of Rs. ---

$$\begin{aligned} & (\text{Fixed Expenses} + \text{Desired Profit}) \\ & = \dots\dots\dots \text{Contribution Per unit} \end{aligned}$$

Applications of Marginal Costing in Decision Making

1. Pricing Decision
2. Make or Buy Decision
3. Key or Limiting Factor
4. Selection of Suitable product mix

Explain CVP Analysis.

Definition of Cost Volume Profit Analysis (CVP Analysis)

Cost Volume Profit Analysis (CVP) looks at the impact on the operating profit due to the varying levels of volume and the costs and determines a break-even point for cost structures with different sales volumes that will help managers in making economic decisions for short term.

Importance of Cost Volume Profit Analysis

1. Cost Volume Profit Analysis includes the analysis of sales price, fixed costs, variable costs, the number of goods sold, and how it affects the profit of the business.
2. The volume of sales is dependent upon production volume, which in turn is related to costs that are affected by the volume of production, product mix, internal efficiency of the business, production method used, etc.

3. CVP analysis helps management in finding out the relationship between cost and revenue to generate profit.
4. CVP Analysis helps them to BEP Formula for different sales volume and cost structures.
5. With CVP Analysis information, the management can better understand the overall performance and determine what units it should sell to break even or to reach a certain level of profit.
6. CVP analysis helps in determining the level at which all relevant cost is recovered, which is also called the breakeven point.
7. It is that point at which volume of sales equals total expenses (both fixed and variable). Thus CVP analysis helps decision-makers understand the effect of a change in sales volume, price, and variable cost on the profit of an entity while taking fixed cost as unchangeable.
8. CVP Analysis helps in understanding the relationship between profits and costs on the one hand and volume on the other.
9. CVP Analysis is useful for setting up flexible budgets that indicate costs at various levels of activity. CVP Analysis also helpful when a business is trying to determine the level of sales to reach a targeted income.

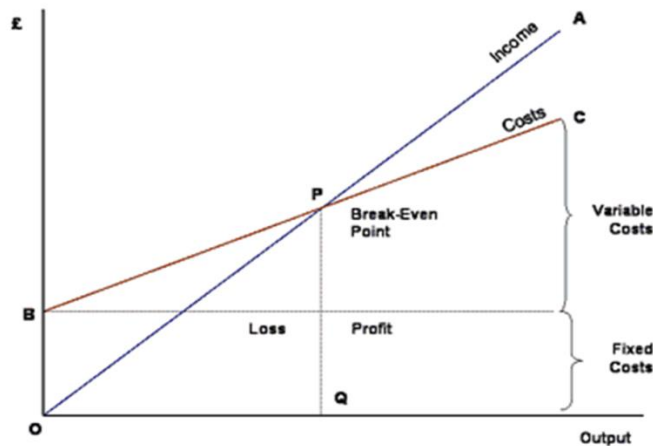
5. BEP Analysis

What is a Break-Even Analysis?

Break-even is a situation where an organisation is neither making money nor losing money, but all the costs have been covered.

Break-even analysis is useful in studying the relation between the variable cost, fixed cost and revenue. Generally, a company with low fixed costs will have a low break-even point of sale. For example, say Happy Ltd has fixed costs of Rs. 10,000 vs Sad Ltd has fixed costs of Rs. 1,00,000 selling similar products, Happy Ltd will be able to break-even with the sale of lesser products as compared to Sad Ltd.

Break-even chart



The break-even analysis assumptions:

1. The total costs may be classified into fixed and variable costs. It ignores semi-variable cost.
2. The cost and revenue functions remain linear.
3. The price of the product is assumed to be constant.
4. The volume of sales and volume of production are equal.
5. The fixed costs remain constant over the volume under consideration.
6. It assumes constant rate of increase in variable cost.
7. It assumes constant technology and no improvement in labour efficiency.
8. The price of the product is assumed to be constant.
9. The factor price remains unaltered.
10. Changes in input prices are ruled out.
11. In the case of multi-product firm, the product mix is stable.

The advantages of break-even point are as follows-

1. The breakeven point concept gives an accurate estimate of the number of units that must be sold to start making actual profits for the organization

2. The point helps to identify the variable and fixed costs and coordinate the relationship between them
3. It is a measurement tool that is used effectively to set targets
4. The breakeven point can predict the consequence of cost and efficiency changes on the profitability of a business.
5. The breakeven point can help a company to calculate the profit and loss figures at various level of sales and production
6. The organization uses a breakeven point to evaluate future demand
7. It helps to make a viable forecast about the probable effect of the change on the sales price
8. The information provided by the breakeven point helps the management in making important decisions for example while applying for loans, in setting prices and while preparing competitive bids

Limitations of Break-Even Analysis:

1. In the break-even analysis, we keep everything constant.
2. In the break-even analysis since we keep the function constant,.
3. It is not an effective tool for long-range use.
4. Profits are a function of not only output, but also of other factors like technological change, improvement in the art of management, etc.,
5. When break-even analysis is based on accounting data may suffer from various limitations.
6. Selling costs are specially difficult to handle break-even analysis.
7. The simple form of a break-even chart makes no provisions for taxes, particularly corporate income tax.
8. It usually assumes that the price of the output is given .

