CONCEPTS OF COST

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Short-Run Costs of the Traditional Theory

- **Marginal Cost:** Marginal cost is defined as the change in total cost resulting from a unit change in output.
- According to Ferguson ,"Marginal cost is the addition to total cost due to the addition of one unit of output."

CONCEPTS OF COST

- The Marginal Cost of the nth unit of output is the total cost of producing 'n' units minus the cost of producing 'n-1' units of output. Or,
- $MC_n = TC_n - TC_{n-1}$, in which n stands for any number.

MC_n = Marginal Cost of nth unit.

TC_n = Total Cost of n units

TC_{n-1} = Total Cost of n-1 units.

Or, $MC = \frac{\Delta TC}{\Delta Q}$,

Here, ΔTC = Change in total cost

ΔQ = Change in output.

CONCEPTS OF COST

- MC is an additional cost .Additional cost by definition cannot be fixed cost ;it can only be variable cost.Therefore, Marginal cost only depends on variable cost, not on fixed cost ,i.e.,Marginal cost is also viewed as the change in Total Variable Cost(TVC) resulting from a unit change in the output.
- So, **MCn=TCn-TCn-1,**
- Or, **MCn=TVCn-TVCn-1,**
- Proof:
- MCn=TCn-TCn-1,
- =(TFCn+TVCn)-(TFCn-1+TVCn-1) [TC=TFC+TVC]
- = TFCn+TVCn- TFCn-1-TVCn-1 [TFCn=TFCn-1,because TFC is constant]
- =TVCn-TVCn-1,
- So, **MC= TVCn-TVCn-1**

CONCEPTS OF COST

QUANTITY	TFC(Rs.)	TVC(Rs.)	TC(Rs.)	MC(Rs.)
1	60	100	160	-
2	60	180	240	80
3	60	240	300	60
4	60	340	400	100
5	60	500	560	160
6	60	720	780	22O

It is thus obvious that MC does not depend upon the fixed cost and it is defined either as (a)the change in total cost resulting from a one unit change in output or (b) as the change in total variable cost resulting from one unit change in output.

- Table shows that MCn=TCn-TCn-1,
- Or, MCn=TVCn-TVCn-1,
- For example,When 4 units of output is produced ,
- MC4=TC4-TC4-1,
- MC4=TC4-TC3,
- =400-300=100

CONCEPTS OF COST

MC is U-shaped in accordance with the law of variable proportion. It decreases at first, reaches a minimum then rises as output is increased.MC decreases at first ,it is because MP tends to rise (As MC is the reciprocal of MP),when there are increasing returns to a factor. Subsequently ,MC tends to rise it is because MP tends to fall when there are diminishing returns to a factor.