Mona

Assistant Professor

Department of Economics

Maharaja College, Ara

Veer Kunwar Singh University

B.A. Economics

Sem-2

MIC-2

Topic : Average and Marginal Revenue for a Monopolist

Average and Marginal Revenue for a Monopolist

Imperfect competition the price is unaffected by variation in the firm's input and it follows that the addition to to revenue resulting from increasing the level of sales by one more unit is the market price of that unit. Thus the marginal and average revenue curves coincide in the same horizontal straight line. In the case of monopoly, however, the average revenue curve ,which is the same as the market demand curve, is downward sloping. Furthermore, the marginal revenue curve does not coincide with the demand curve: since the side of an extra unit forces down the price at which all units already being sold can now be sold, the sale of an extra unit results in a net addition to revenue of an amount less than its own selling price.

It is easy to prove algebraically that , if the demand curve slopes downward , marginal revenue is always less than price . Let n and (n+1) indicate the revenue associated with the sale of nth and the (n + 1)unit. So that, eg; TRn is the total revenue associated with the sale of n units period.

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\begin{aligned}
MR_{n+1} &= TR_{n+1} - TR_{n} \\
&= (n+1)\,P_{n+1} - n.P_{n} \\
&= n.P_{n+1} + P_{n+1} - n.P_{n} \\
&= n\,(P_{n+1} + P_{n}) + P_{n+1}.
\end{aligned}
$$

Since the demand curve slopes downwards Pn+1 (the price ruling when n+1 units are sold) will be less than Pn (the price ruling van and units are sold).
Thus, the MR of the (n+1)unit is less than Pn+1.

Using Calculus , the proof is as follows:

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\begin{aligned}
& P = f(Q) \\
\text{and} \quad & TR = Q.P = Q.f(Q) \\
\therefore \quad & MR = \frac{dTR}{dQ} \\
& \quad = Q.f'(Q) + f(Q)
\end{aligned}
$$

But f(Q) is the price and f'(Q) is negative, since the demand curve slopes downward. Thus MR< P , and the difference is the marginal fall in price, f'(Q), multiplied by the quantity already being sold ,Q