

ECONOMICS

4th semester

Paper - C8T

Micro Economics

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Monopsony

Q1. What do you mean by Monopsony market?

Ans. A market with a single buyer and a large number of sellers is called a monopsony market. It is quite opposite of the monopoly market where there is a single seller and many buyers. Let us consider a situation where a firm is the only employer of labour in a locality. In this case there are many labourers to supply labour but a single buyer to purchase labour. There is monopsony in the labour market.

Q2. What is monopsony power?

Ans. It is defined as the ratio of excess of ME over price to the price.

$$\text{Monopsony power} = \frac{(ME - P)}{P}$$
$$= \frac{1}{e_s}$$

It is inversely related to the price elasticity of supply.

Loss of social welfare is the cost of monopsony power.

Source of monopsony power - Elasticity of supply.

number of buyers and the extent of interaction among them are the main sources of monopsony power.

- Q3. a) How does a monopsony determine its net benefit maximizing quantity and price?
- b) Draw a diagram and make-off the net benefit derived by the monopsony.

Ans.
a)

A single buyer buys a product, he is said to be receiving value. The total value (TV) received from Q units can be represented as

$$TV = vQ. \quad \text{--- --- --- (1)}$$

(where, v is the value per unit of a product and Q is the quantity of the product bought.)

In exchange of the value received, the buyer incurs expenditure. Total expenditure (TE) incurred by him on Q units at price p can be thus be represented

$$\text{as } TE = pQ. \quad \text{--- --- --- (2)}$$

(where, p is the price or expenditure incurred per unit of the product and Q is the quantity bought.)

The net benefit (NB) of the buyer can be expressed

$$\begin{aligned} \text{as } NB &= TV - TE \quad \text{--- --- --- (3)} \\ &= vQ - pQ. \end{aligned}$$

The buyer being single and hence in a dictating position has to determine the net benefit maximizing quantity that he should buy.

The necessary and the sufficient conditions for the purpose are

$$d(NB)/dQ = 0 \text{ and } d^2(NB)/dQ^2 < 0.$$

Differentiating Eq (1) with respect to Q , we have

$$d(NB)/dQ = d(TV)/dQ - d(ME)/dQ$$

$$= MV - ME$$

$$= 0 \quad (\text{as per necessary condition})$$

For the net benefit maximizing quantity the necessary condition thus is

$$MV = ME \quad \text{--- (4)}$$

Differentiating eq (1) and (2) with respect to Q , we have for maximization

$$d(MV - ME)/dQ < 0$$

$$d(MV)/dQ < d(ME)/dQ$$

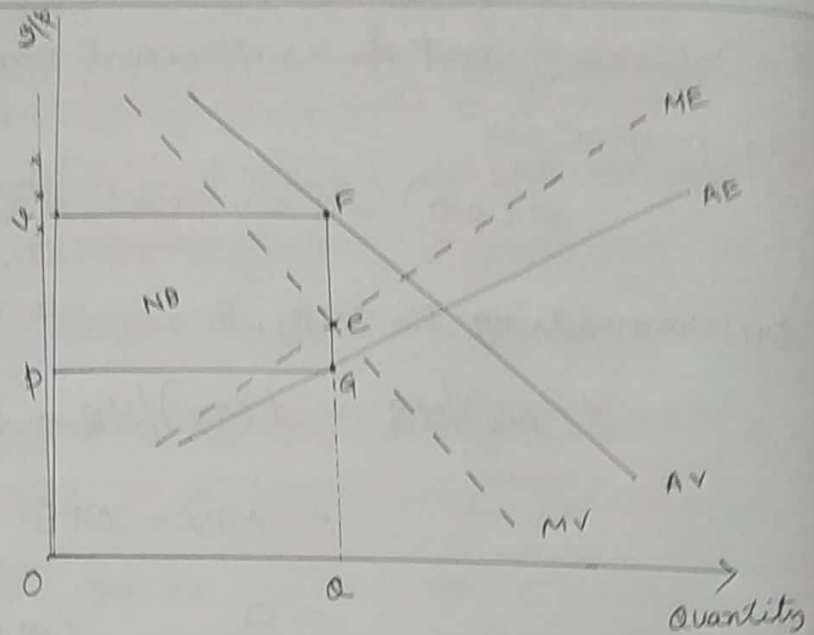
The slope of the MV curve < The slope of the ME curve.

--- (5)

b)

According to the law of diminishing utility, the MV curves must slope downwards and according to the increasing marginal utility of money, the ME curve must slope upwards.

For determining the net benefit maximizing quantity, the ME curve must therefore cut the MV curve from below as shown in figure



As per condition of net benefit maximization ME cuts MV from below as show at point e. The monopsony buys OQ spending Op per unit. The value received by the monopsony is Ov per unit and the net benefit maximized by it is the region $vFGp$.

Note that both v and P are functions of Q , i.e. $v = f(Q)$ and $p = g(Q)$. The former $v = f(Q)$, is a decreasing function of Q so that $dv/dQ < 0$, and the latter $p = g(Q)$ is an increasing function of Q , so that $dp/dQ > 0$. The net benefit is the difference of the average value $v(AV)$ received over average expenditure $p(AE)$ incurred per unit. The facts that we still need to establish are

- are (a) $AE < ME$ (b) $AV > MV$

(a) To show that $AE < ME$ Consider

$$TE = g(Q) \cdot Q.$$

so that $ME = dTE/dQ$

$$= g(Q) \cdot 1 + Q \cdot dp/dQ$$

$$= p + a \cdot \frac{dp}{da} \quad \text{--- (6)}$$

and

$$\begin{aligned}
 AE &= TE/a \\
 &= [g(a) \cdot a]/a \\
 &= g(a) \\
 &= p \quad \text{--- (7)}
 \end{aligned}$$

From eqs (6) and (7), since $dp/da > 0$
we have $ME > AE$.

(b) Note that $dp/da > 0$ because $AE [P = g(a)]$ is a supply curve, which slopes upwards as usual. The single buyer starts with a low price and increases it when sellers reject it. Low price is accepted by firms with large unsold stocks. As unsold stocks begin to deplete, the sellers get a little respite. Thus more supplied by the sellers only at higher prices and the single buyer has to accept it in need. The slope of the AE curve thus is positive i.e. $dp/da > 0$.
To show that $AV > MV$ consider

$$\begin{aligned}
 TV &= f(a) \cdot a \\
 MV &= d(TV)/da \\
 &= f(a) \cdot 1 + a \cdot \frac{df}{da} \\
 &= f(a) + a \cdot \frac{df}{da} \\
 &= v + a \left(\frac{dv}{da} \right) \quad \text{--- (8)}
 \end{aligned}$$

From eqn (8), $MV < AV$ as $\frac{dv}{da} < 0$.

$$\begin{aligned}
 AV &= TV/a \\
 &= a \cdot f(a)/a \\
 &= f(a) = v. \quad \text{Hence } MV < AV.
 \end{aligned}$$