MANAGERIAL ECONOMICS

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Lecture No - 29 : Monopoly

Recap from last Session

- Supply Curve of a Monopoly Firm
- Price and output decision of Multi plant monopoly
- Measures of Monopoly power

Session Outline

- Social costs of Monopoly Power
- Monopsony
- Bilateral monopoly
- Monopoly – real world evidence
- Comparison between monopoly and perfect competition

Measures of Monopoly Power

- Lerner's Index of Monopoly Power
- Cross elasticity of Demand
- Herfindahl – Hirschman Index
- Rothschild's Index

Measure of Monopoly Power: Rothschild's Index

This index shows how far a particular firm controls the market for a particular good.

Rothchild's Index = slope of demand curve of firm/slope of demand curve of industry

In case of pure monopoly – index is equal to unity

In case of perfect competition – index is equal to zero.

Graphical presentation

The Social Costs of Monopoly Power

- Monopoly power results in higher prices and lower quantities
- However, does monopoly power make consumers and producers in the aggregate better or worse off?
- We can compare producer and consumer surplus when in a competitive market and in a monopolistic market

The Social Costs of Monopoly Power

- Perfectly competitive firm will produce where MC = D → P_C and Q_C
- Monopoly produces where MR = MC, getting their price from the demand curve → P_M and Q_M
- There is a loss in consumer surplus when going from perfect competition to monopoly
- A deadweight loss is also created with monopoly

The Social Costs of Monopoly Power

- In competitive markets, firms produce where

P=MC And since

P=MB=willingness to buy

And

MC=willingness to sell

P=MC → MB=MC or

Maximum total surplus

The Social Costs of Monopoly Power

- In monopoly, P>MR so P>MC Or MB>MC

  Output falls short of the efficient amount →

  Deadweight Welfare Loss

The Social Costs of Monopoly Power

- Monopoly profit is not usually a social cost but a transfer of surplus from consumer to producer.
- Profit can be a social cost if extra costs are incurred to maintain it, such as political lobbying, or if the lack of competition leads to costs not being minimized.

The Social Costs of Monopoly Power

- Social cost of monopoly is likely to exceed the deadweight loss
- Rent Seeking
  - Firms may spend to gain monopoly power
    - Lobbying
    - Advertising
    - Building excess capacity

The Social Costs of Monopoly Power

- The incentive to engage in monopoly practices is determined by the profit to be gained
- The larger the transfer from consumers to the firm, the larger the social cost of monopoly

Regulation of Monopoly Power

- Attempts to increase competition through anti-trust legislation

- Price Regulation : eliminate deadweight loss with monopoly

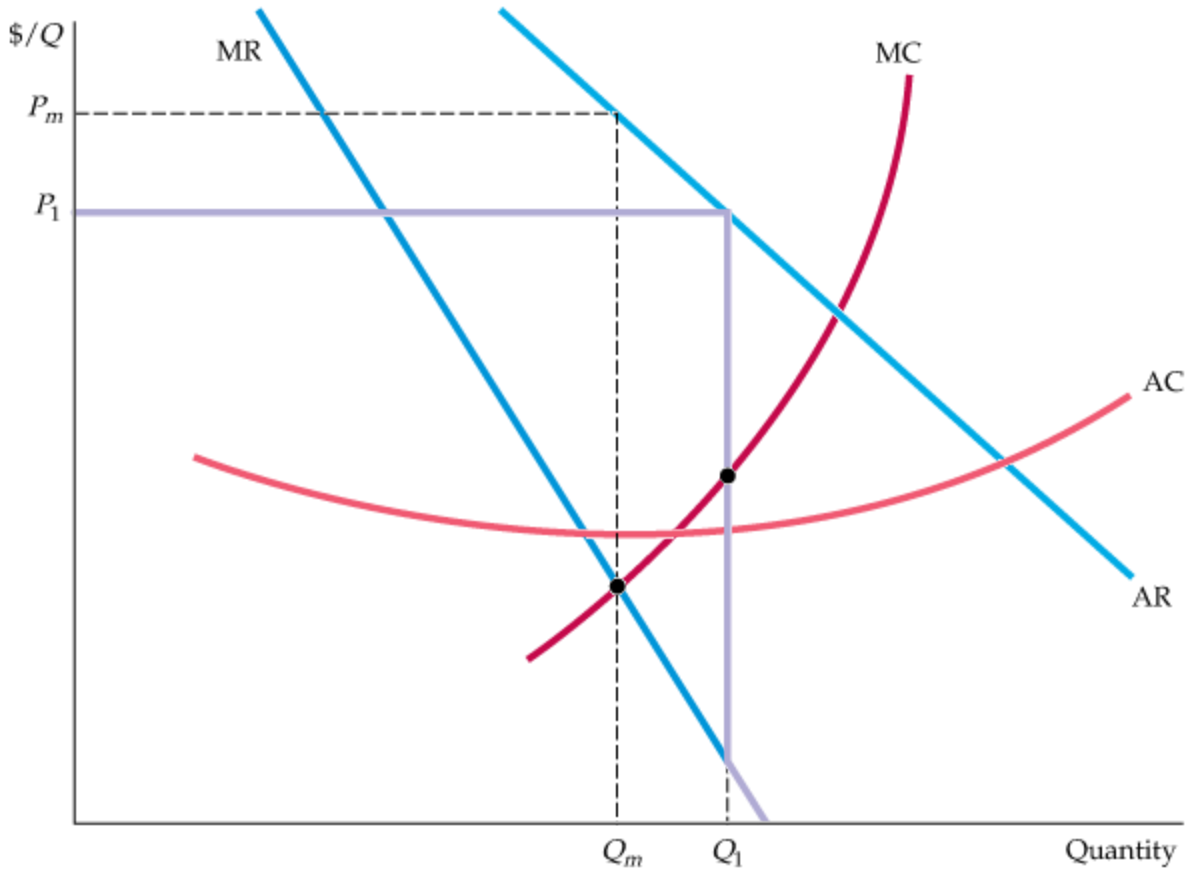
- Price Regulation

If left alone, a monopolist produces Q_m and charges P_m.

When the government imposes a price ceiling of P_1 the firm's average and marginal revenue are constant and equal to P_1 for output levels up to Q_1.

For larger output levels, the original average and marginal revenue curves apply.

The new marginal revenue curve is, therefore, the dark purple line, which intersects the marginal cost curve at Q_1.

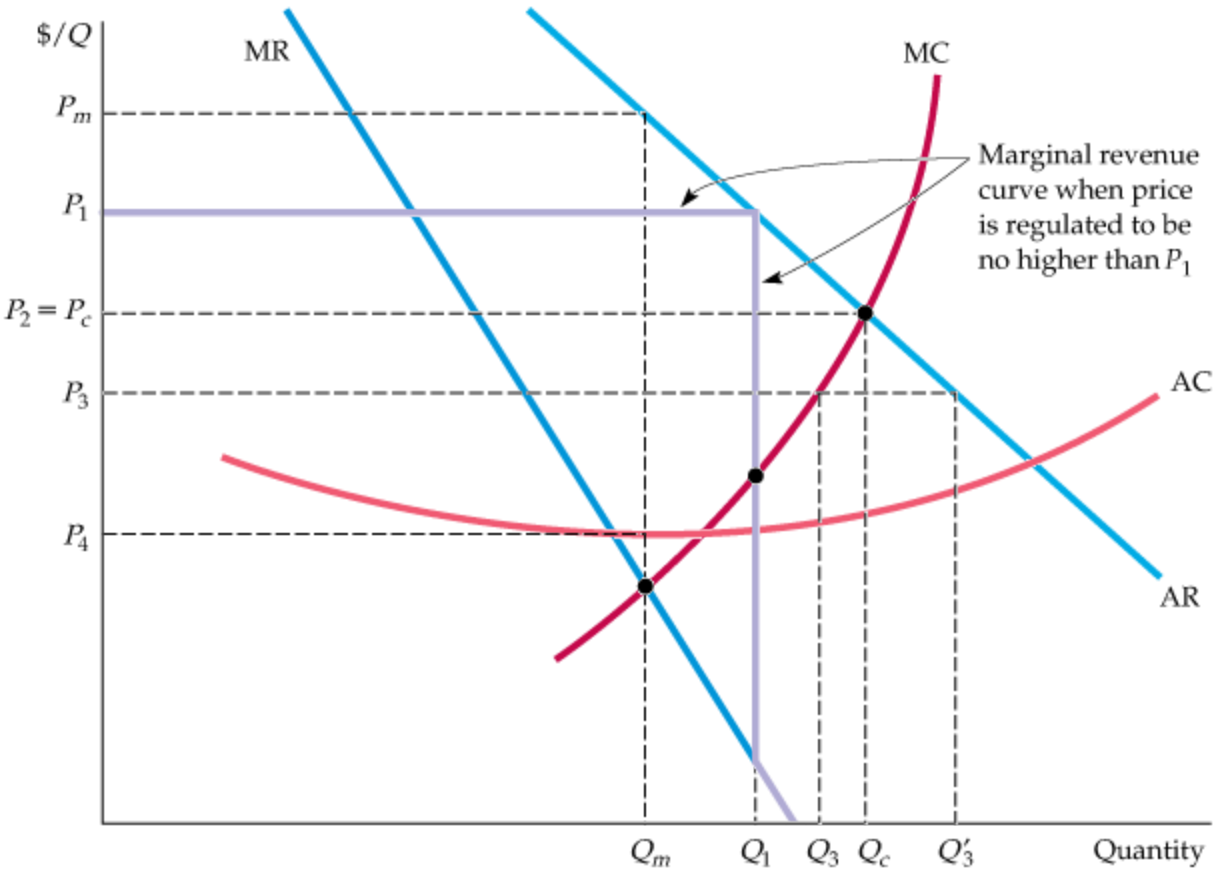


Source :Pearson education Inc, Micro economics , 7th edition, Pindyck and Rubinfield

- Price Regulation

When price is lowered to P_c, at the point where marginal cost intersects average revenue, output increases to its maximum Q_c. This is the output that would be produced by a competitive industry.

Lowering price further, to P_3 reduces output to Q_3 and causes a shortage, $Q'_3 - Q_3$.



Source :Pearson education Inc, Micro economics , 7th edition, Pindyck and Rubinfield

Regulation of Monopoly Power

- Regulation – Natural Monopolies
  - P=MC doesn't work with extensive economies of scale
  - Regulated forms have little incentive to minimize costs

Regulation of Monopoly Power

- Difficulties in estimate the firm's cost and demand functions because they change with evolving market conditions - alternative pricing technique – **rate-of-return regulation** allows the firms to set a maximum price based on the expected rate or return that the firm will earn

Regulation of Monopoly Power

- Government may also set price caps based on firm's variable costs, past prices, and possibly inflation and productivity growth
- A firm is typically allowed to raise its price each year without approval from regulatory agency by amount equal to inflation minus expected productivity growth

Monopsony

- A **monopsony** is a market in which there is a single buyer
- A monopsonist cannot purchase unlimited amount of an input at uniform price.
- The price which he must pay for each quantity purchased given by the market supply curves for the inputs.

Monopsony

- Since the supply curve for most inputs are positively sloped, the price that monopsonist must pay is generally an increasing function of quantity he purchases.
- Considering a case of a monopsonist which describes an employer with monopolistic buying power of labour.

Monopsony - Characteristics

- Firm's employment constitute a large portion of the total employment of labour.
- This types of labour is relatively immobile.
- Firm is wage maker in the sense that the wage rate it has to pay varies directly with the number of worker it employs.

Monopsony - Characteristics

- Sometime the monopsonistic power of the employers is virtually complete because there is one major employer in the labour market.

Monopsony -Equilibrium

- Suppose the firm is using 3 units of labour at a wage rate of Rs 60 per head – total factor cost Rs 180 .
- If addition unit of labour is required, the firm has to pay a higher price for 4^{th} unit, Rs 80 – which increases the total factor cost to Rs 320.

Monopsony -Equilibrium

- The marginal factor cost(MFC) of labour thus exceeds price of labour.

Monopsony

- **Monopsony power** is the ability of the buyer to affect the price of the good and pay less than the price that would exist in a competitive market

Monopsony

- The degree of monopsony power depends on three factors:

  Number of buyers

  - The fewer the number of buyers, the less elastic the supply and the greater the monopsony power

Degree of Monopsony Power

Interaction Among Buyers

- The less the buyers compete, the greater the monopsony power

Degree of Monopsony Power

Elasticity of market supply

- Extent to which price is marked down below MV depends on elasticity of supply facing buyer
- If supply is very elastic, markdown will be small
- The more inelastic the supply, the more monopsony power

- The Social Costs of Monopsony Power

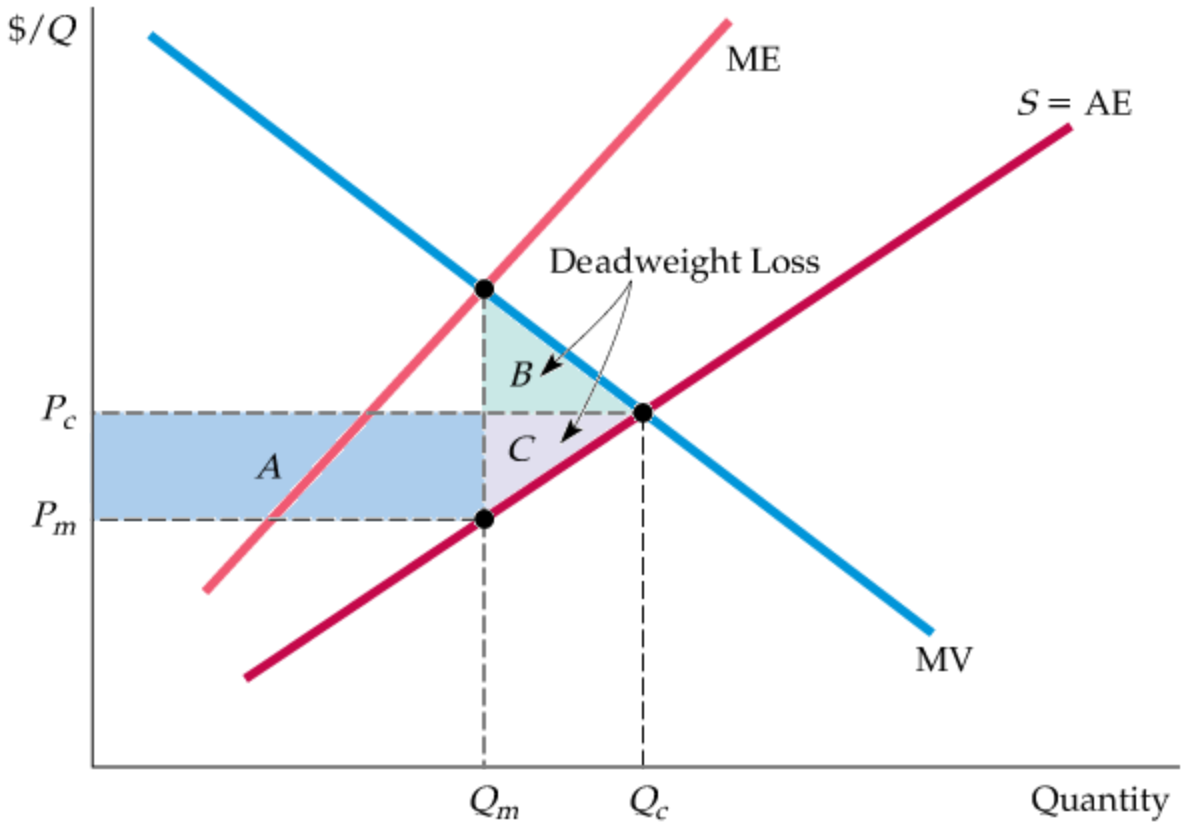
Deadweight Loss from Monopsony Power

The shaded rectangle and triangles show changes in buyer and seller surplus when moving from competitive price and quantity, P_c and Q_c,

to the monopsonist's price and quantity, P_m and Q_m.

Because both price and quantity are lower, there is an increase in buyer (consumer) surplus given by $A - B$.

Producer surplus falls by $A + C$, so there is a deadweight loss given by triangles B and C.



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Bilateral Monopoly

- A market with a single seller and single buyer
- A labour union like monopoly operates in a monopsony labour market.
- When the union(monopoly seller) faces a monopsony buyer- bilateral monopoly

Bilateral Monopoly

- Evidence in labour market – wage rate determination by collective bargaining through union of workers and the employers.
- Monopolist – no supply function- select a point from buyer's demand function which maximize profit
- Monopsonist – no demand function- select a point on his seller's supply function which maximize profit

Bilateral Monopoly

- It is not possible for the seller to behave as a monopolist and buyer as monopsonist at the same time.
- Seller cannot exploit demand curve and Buyer's cannot exploit supply curve which does not exists – which leads to few situations.

Bilateral Monopoly

- Firstly, one of the participant may dominate and force the others to accept his price and quantity decisions.
- Secondly, the buyers and sellers may collude or bargain to set price and quantity.
- Thirdly, the market mechanism may break down.

Equilibrium under Bilateral Monopoly

- Equilibrium cannot be determined by traditional tools.
- Non economic factors like bargaining power, negotiating skills and other strategies play an important role in determination of price.

Comparison between Monopoly and Perfect competition

Goal of the firm:

Both the case – Profit maximization and no separation of ownership and management

Comparison between Monopoly and Perfect competition

Assumptions

- Product
- No of sellers and buyers
- Entry Conditions
- Cost conditions

Comparison between Monopoly and Perfect competition

Behavioural rules of the firms

- Shape of Demand
- Atomistic behavior of independence
- Policy variables of the firms and main decisions

Comparison between Monopoly and Perfect competition

Comparison on long run equilibrium

- Price
- Output
- Profit
- Capacity utilization

Comparison between Monopoly and Perfect competition

Predictions of Models

- Shift in the demand curve
- Shift in the cost

DE BEERS: An unregulated monopoly

- Founded in 1880 in South Africa, control over 99% of world's diamond production until about 1900
- At present, the firm produces about 15% of world's diamond but still controls sales of 80% of the diamond market
- DE BEER controls price of the diamonds with the slogan *" take it all or leave it"*

DE BEERS: An unregulated monopoly

- If the demand for diamond fails as it did in early 90's, De Beer stands ready to buy diamonds to support the price
- Besides limiting the quantity supply, De Beer also works hard and cleverly to push the demand for diamonds to the right
- A diamond is forever

Session References

Micro Economics :ICFAI University Press
Managerial Economics – Robert S Pindyck and Daniel L Rubinfield
Principles of Microeconomics(Lecture Note) - D.W. Hedrick