MANAGERIAL ECONOMICS

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Lecture No - 26 : Perfect Competition

Recap from last Session

- Features of Perfect Competition
- Demand and Revenue of a firm
- Short run Equilibrium
- Market supply and firm's supply analysis

Session Outline

- Market supply and firm's supply analysis- Short run
- Long Run Profit Maximization
- Long Run Supply Analysis
- Application in Real world

Market supply curve and Firm's supply curve

The perfectly competitive firm produces above the minimum point of its AVC and discontinues production if price falls short of Minimum of AVC.

Condition 1- if price < minimum AVC, then shut down.

Condition 2 – If price >/= minimum AVC , then choose any output that would maximize profit.

Market supply curve and Firm's supply curve

Short run supply curve for an individual firm can be derived from these two conditions.

If the price is less than minimum AVC, firm would not supply, output would be equal to zero.

For such price, supply curve will coincide with the vertical axis.

Market supply curve and Firm's supply curve

- For any price above minimum AVC, the firm would choose an output level that would satisfy the condition of profit maximization.
- And thus supply curve of the firm would be identical to the short run marginal cost curve above the minimum point of AVC curve.
- Industry supply curve can be obtained by horizontal summation of the supply curve of all firms in the industry.

Long Run Equilibrium

- In the long run perfect competitive firm only earn normal profit.
- This is due to unrestricted entry into and exit of firms from the industry in the long run.
- Two extreme possibilities:

-Firm's earning supernormal profit

- firm's incur losses in the short run

Long Run Equilibrium

- If some of the existing firm earns super normal profit, this attracts new firm into the industry to gain profit.
- With the entry of new firms, the supply of commodity in the market increases, assuming no change in the market price, this lowers market price.
- This process of adjustment continues till the price becomes equal to the long run average cost(AR = AC =MR =MC)

Long Run Equilibrium

- As such, supernormal profits of existing firms are squeezed until all the firms in the industry earn normal profit.

Long Run Equilibrium

- Suppose firms are making losses in the short run.
- This would force some of them to leave the industry in the long run, as they may not bale to sustain loss for a longer period of time.
- Their exit from the industry causes a reduction in the supply of the product and as a result equilibrium price in the industry rises.

Long Run Equilibrium

- The process of adjustment continues to the point where the marginal firm no longer earn losses- till the price line in tangent to AC curve.
- Equilibrium occurs at a point where price in tangent to the long run average cost and all the firms make normal profit in the long run.
- Thus perfectly competitive firm only earn normal profit in the long run.

Long Run Equilibrium

- The condition for profit maximizing behavior of firm in the long run is
- P = MC = MR = LAC

Long Run Market Supply

- Constant cost industry
- Increasing cost industry
- Decreasing cost industry

Long Run Market Supply

- Constant cost industry: an industry in which costs of production remain constant as output in the industry expands

Long Run Market Supply

What will happen to the supply of the product as new firms enter the industry?
It will increase.
What happens to the price of the product?
It falls.
So the price goes back to where it was before the demand change, but there is more output being produced by more firms.

Long Run Market Supply

Note that if the price didn't drop enough, there would still be positive economic profits and firms would continue to enter the industry, supply would keep increasing, and the price would drop some more.

If the price dropped too much, it would not cover costs per unit, and there would be losses. Firms would leave the industry, supply would fall and the price would come back up to just covering costs per unit.

Long Run Market Supply

So what has happened as a result of the increase in demand in this constant cost industry?

We now have the same price we had before, but we now have more output because we have more firms in the industry.

So in a constant cost industry, firms will produce as much or as little as the economy demands at a price which is just enough to cover the cost per unit.

Long Run Market Supply

That means that the long run supply curve in a constant cost industry is horizontal.

Long-Run Market Supply

- ***Increasing-cost industry*** – factor prices rise as new firms enter the market and existing firms expand capacity.
- ***Decreasing-cost industry*** – factor prices fall as industry output expands.

Long Run Supply: An Increasing-Cost Industry

- If inputs are specialized, factor prices are likely to rise when the increase in the industry-wide demand for inputs to production increases.

Long Run Supply:An Increasing-Cost Industry

- This rise in factor costs would force costs up for each firm in the industry and increases the price at which firms earn zero profit.

Long Run Supply:An Increasing-Cost Industry

- Therefore, in increasing-cost industries, the long-run supply curve is upward sloping.

Long Run Supply: A Decreasing-Cost Industry

- If input prices decline when industry output expands, individual firms' marginal cost curves shift down and the long-run supply curve is downward sloping.

Long Run Supply :A Decreasing-Cost Industry

- Input prices may decline to the zero-profit condition when output rises and when new entrants make it more cost-effective for other firms to provide services to all firms in the market.

Effect of Taxation

- Imposition of a lump sum tax
- Imposition of profit tax
- Imposition of specific sales tax

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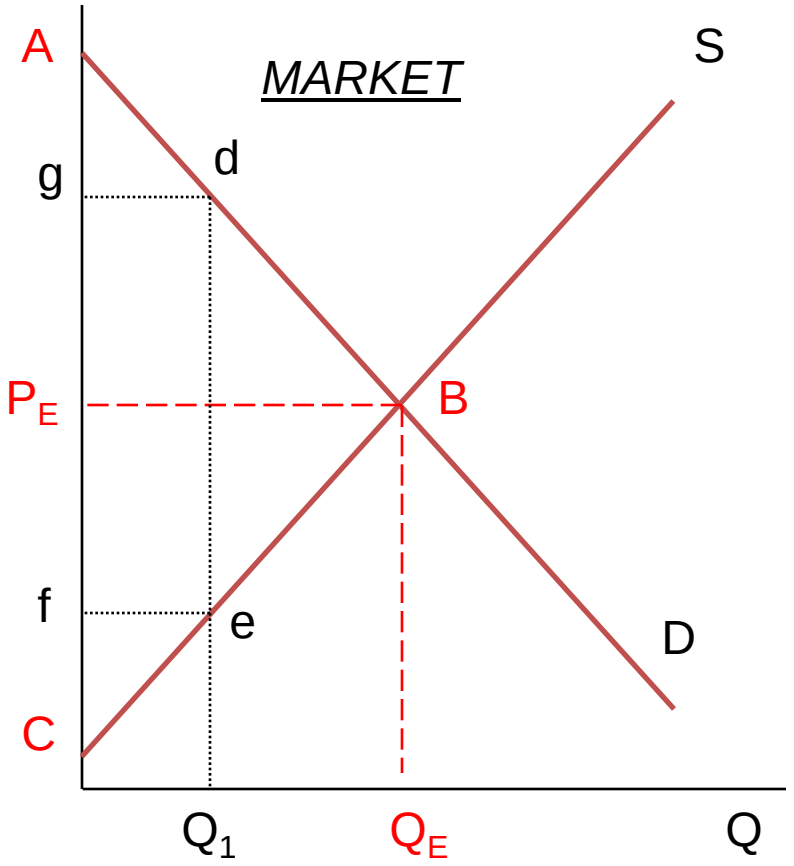
Efficiency Criterion & Perfectly Competitive Markets

- (1) Resource Allocative Efficiency Explained
  - Any firm produces at MR = MC
  - Since MR = P for competitive firm, then P = MC
  - Meaning: Marginal Benefit (demanders) = Marginal Cost (suppliers of using society's resources)
  - Society's marginal value of resources = its opportunity costs of using resources
  - Allocative Efficiency satisfied

Competitive Markets and Allocative Efficiency

- Consumer Surplus = area ABP_E
- Supplier Surplus = area CBP_E
- Market Surplus = area ABC
- Competitive Equilibrium maximizes market surplus
- What about Q_1?



Efficiency Criterion & Perfectly Competitive Markets

- (2) Productive Efficiency
  - Firms produce at Minimum ATC in long-run
  - Firms economizing on resource use
  - If not, competing firm would undercut it's price and capture extra profits

Perfect Competition Market in Real World : Stock Market

- The price of stock usually determined by the market forces of demand and supply of stock.
- Individual buyers and sellers have very little impact on price as they are price taker.
- Resources are mobile as stock is bought and sold frequently.
- Information about price and quantities is readily available.

Perfect Competition Market in Real World : Stock Market

- Funds flows in to stocks and resources flow in to uses in which the rate of return. Thus stock prices provide the signal for efficient allocation of investment in the economy.
- Imperfection occurs here also though stock market is very close to a perfect competition. For example, sale of huge amount of stocks by a large corporation will affect the price of stock.

Session References

Managerial Economics: Geetika, Ghosh and Choudhury
Managerial Economics : D N Dwivedi
Micro Economics – ICFAI University Press
Managerial Economics – Dr Atmanand