ECO111 : Lecture 26

14 October 2024

UNIT 7: FIRMS & MARKETS FOR GOODS & SERVICES

Source: Economy, Society, and Public Policy

Economies of Scale & Technology Advantage

- When doubling all the inputs causes the output to increase by more than double we say, the production process exhibit economies of scale or increasing returns to scale.
- When doubling all the inputs causes the output to also double, the production process exhibit constant returns to scale.
- When doubling all the inputs causes the output to increase by less than two times the earlier ouput, the production process exhibits decreasing returns to scale.
- Suppose the production function is $y = f(L, K)$ and both L and K increases by a factor of 2 so that the new inputs $L' = 2L$ and $K' = 2K$.
- If $y' > 2y - >$ increasing returns to scale.
- If $y' = 2y - >$ constant returns to scale.
- If $y' < 2y - >$ decreasing returns to scale.

Economies of scale may result from specialization within the firm, or for pure operational reasons.

Cost Advantages

- Fixed cost is the cost of production that is not dependent on the number of units of output produced. It remains the same if no output were produced or 1 unit of output was produced.
- Fixed cost includes marketing expenses, innovation cost (research & design), lobbying cost.
- These fixed costs imply that even if production happens at decreasing returns, cost per unit might still fall if the output increases.
- Large firms have more bargaining power when negotiating with suppliers. They can purchase inputs at more favorable terms.

Demand Advantages

- Network economies of scale exist when an increase in the number of users of an output of a firm implies an increase in the value of the output to each of them, because they are connected to each other.

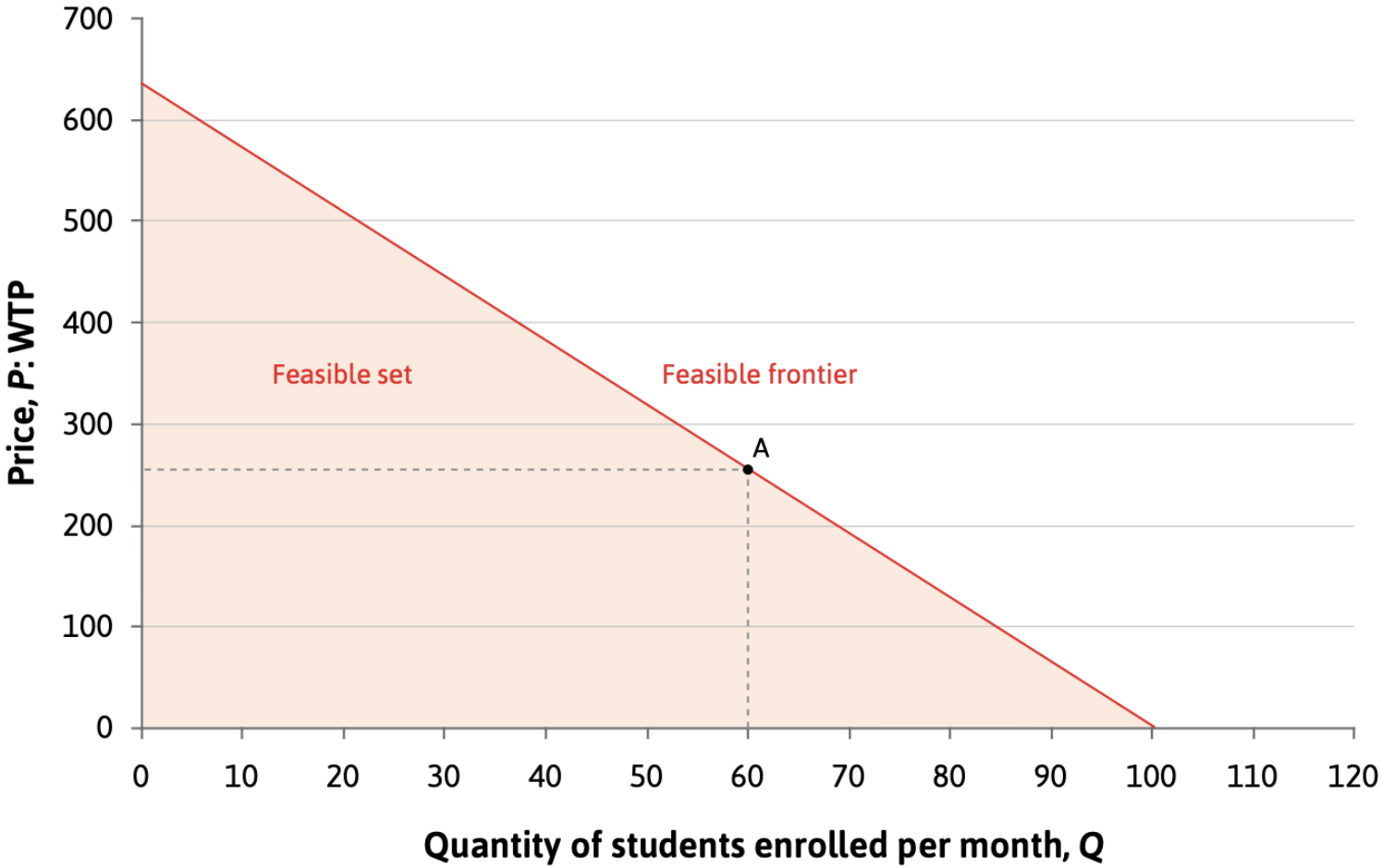
Outsourcing

- Sometimes it is cheaper to outsource production of part of the product than to manufacture to within the firm.

The Demand Curve & Willingness to Pay

- **Demand curve** is the curve that gives the quantity the consumers will pay at each possible prices.
- Differentiated products are products produced by a single firm that has some unique characteristics compared to similar products of other firms.
- **Willingness to pay (WTP)** is measured by the amount a consumer would pay to acquire a unit of the good.
- A person will buy a commodity if the price of the commodity is less than or equal to their WTP.
- If we arrange the consumers in increasing order of their WTP, we see that as Price (P) decreases, more people are willing to pay for the commodity and consume it. Hence the demand of the good increases as P decreases.
- **LAW OF DEMAND**: is the inverse relationship between the price of a good and the demand for the good. The demand curve generally slopes downward.

Demand Curve



Price Discrimination

- A selling strategy in which different prices are set for different buyers or group of buyers for the same product, or per-unit price is set depending on the number of units purchased.
- The strategy of price discrimination relies on the difference in the WTP of the consumers.
- It is difficult for the producer to know the WTP of different consumers exactly. Thus charging each consumer their WTP is not possible.
- There is a possibility of arbitrage in the event of complete price discrimination.

Profits, Costs, & the Isoprofit Curve

- Costs include all variable costs, fixed costs, and the opportunity cost as well.
- $Average\ cost = \frac{Total\ cost}{Quantity}$
- $Marginal\ cost = \frac{dTC}{dQ}$
- $Total\ cost = Average\ cost$ x $Quantity$
- $Total\ revenue = Price$ x $Quantity$
- $Profit = Total\ revenue - Total\ cost$
- Isoprofit curve is the price-quantity curve on which all points yield the same amount of profit.
- At the point where Profit = 0, we have Price = Average Cost.
- The average cost curve is also the curve where profit = 0, as shown in the figure.
- The isoprofit curve can be thought of as the producer's indifference curve.