Perfect Competition

RIDLEY COLLEGE
SINCE 1889

Assessment Objectives

Specific Expectations	
AO2	Explain firms in perfect competition as price takers having no market power
AO2	Explain profit maximization in the short run and long run
AO2	Explain the meaning of allocative efficiency in terms of it necessary conditions, P = MC or MB = MC or maximum social surplus
AO4	Draw diagrams showing: - The perfectly competitive firm as a price taker where P = D = AR = MR - The perfectly competitive firm making abnormal profit, normal profit, loss - Perfectly competitive market equilibrium showing allocative efficiency
AO3	Discuss the advantages/disadvantages of perfect competition

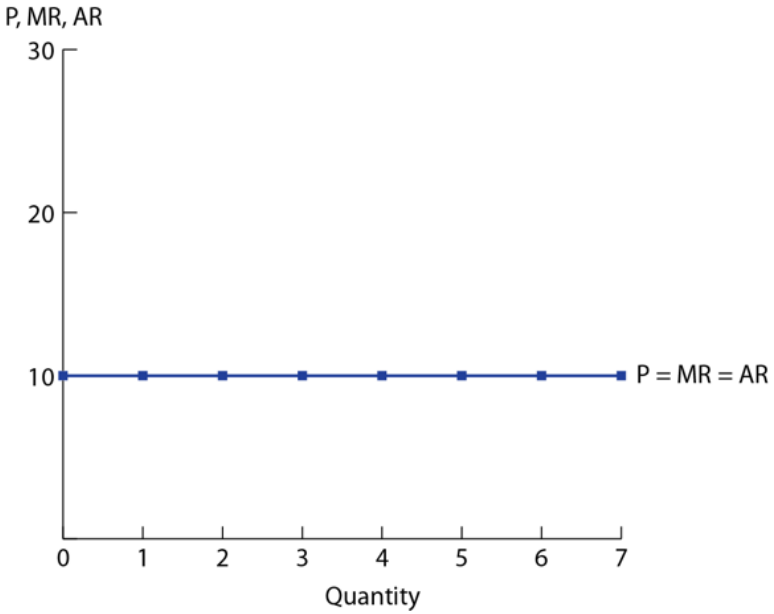
Perfect Competition: Assumptions

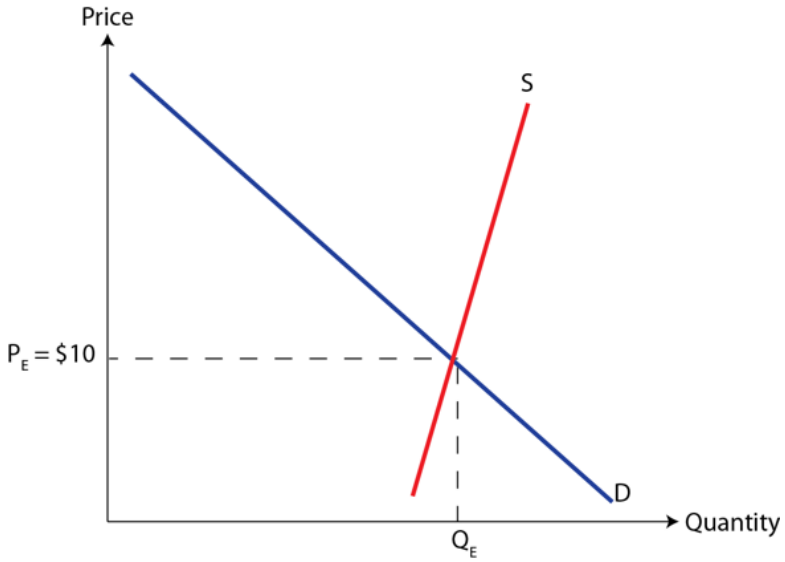
- The model of perfect competition is based on the following assumptions:
  1. **Large number of firms**
     - Each firm's output is small in relation to the size of the market. Consequently, firms are price takers and the demand curve is perfectly elastic.
  2. **Homogeneous products**
     - The products produced by the firms in each industry are identical.
  3. **Free entry and exit**
     - There are no barriers to entry into or exit from the industry.
  4. **Perfect information**
     - All firms and all consumers have complete information regarding products, prices, resources and methods of production.
  5. **Perfect resource mobility**
     - Resources can easily and without any cost be transferred from one firm to another.

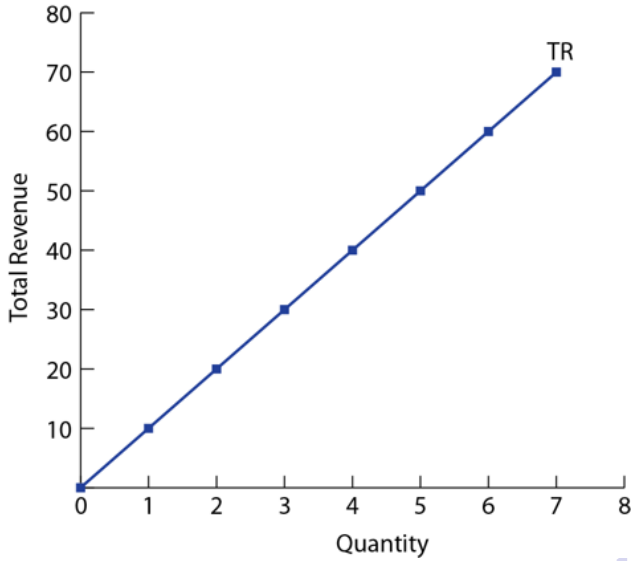
Perfect Competition: Assumptions

- The demand curve for a good facing the perfectly competitive firm is perfectly elastic (horizontal) at the price determined in the market for that good.
  - This means the firm is a **price-taker**, as it accepts the price determined in the market.
  - The firm has no ability to influence price therefore it has no market power.
  - No matter how much output the perfectly competitive firm sells, $P = MR = AR$ and these are constant at the level of the horizontal demand curve.
  - This follows from the fact hat price is constant regardless of the level of output sold.

Perfect Competition: Assumptions







Profit Maximization: Short-run

- Even when the firm produces its profit-maximizing output, the firm may earn negative, zero or positive profits.

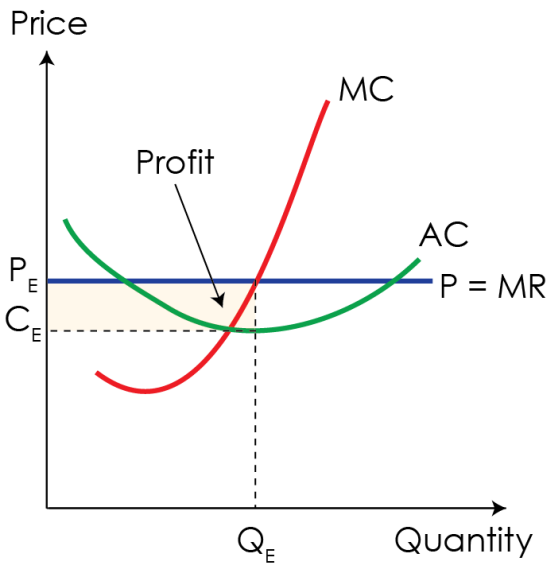
$$\begin{aligned} \text{Profit} &= \text{TR} - \text{TC} \\ &= \text{P} \times \text{Q} - \text{ATC} \times \text{Q} \\ &= (\text{P} - \text{ATC}) \times \text{Q} \end{aligned}$$

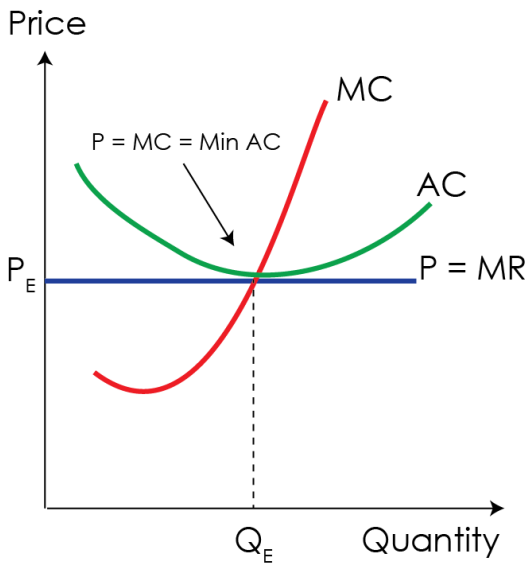
  - There are three possible cases when determining the profit maximizing or cost-minimizing output.

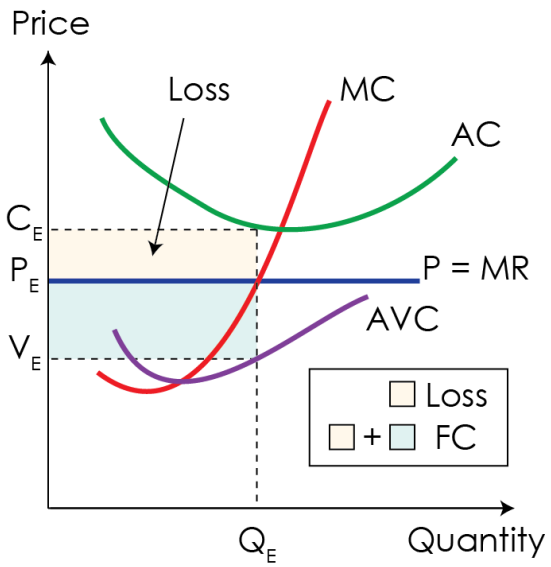
1. **Abnormal (Supernormal) Profit**
   - When $\text{P} > \text{ATC}$ ($\text{TR} > \text{TC}$) at the level of output where $\text{MC} = \text{MR}$, the firm earns abnormal profit (positive profit)

Profit Maximization: Short-run

2. **Normal Profit**
   - When P = ATC (TR = TC) at the level of output where MC = MR, the firm earns normal profit (zero profit)
3. **Loss**
   - When P < ATC (TR < TC) at the level of output where MC = MR, the firm makes a loss (negative profit)

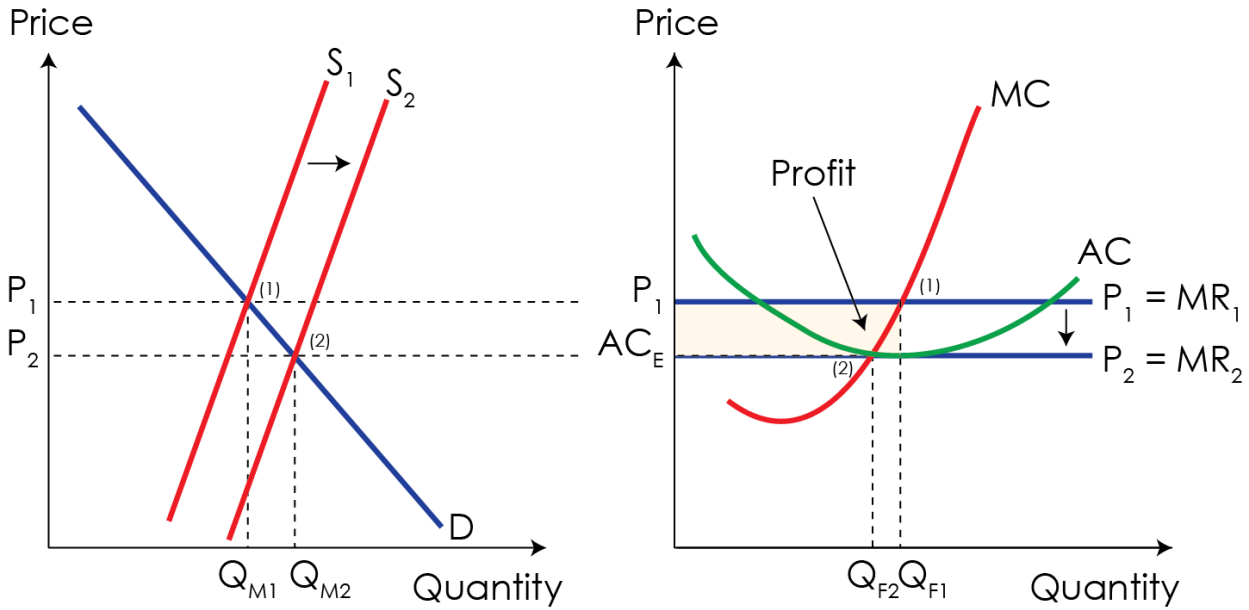






Profit Maximization: Long-run

- In a perfectly competitive long-run equilibrium, the entry and exit dynamic of firm ensures that profits and losses and eliminated, and revenues are just enough to cover all costs so that every firm earns normal profit.
  - In long-run equilibrium under perfect competition, the firm achieves allocative efficiency where P = MC (or where MB = MC) and productive efficiency where P = min ATC.



Perfect Competition: Evaluation – Insights

1. **Allocative efficiency**
   - Perfect competition leads to the "optimal" allocation of resources, achieved through P = MC (or MB = MC) in the long-run equilibrium.
2. **Low prices for consumers**
   - Consumers benefit from low prices, due to the absence of abnormal profits, which would have led to a higher price.
3. **Closing down of inefficient producers**
   - Inefficient firms are those that produce at higher than necessary costs.
   - The revenues of inefficient firms are insufficient to cover all costs, leading to losses that force these firms to leave the industry in the long-run.
4. **Market responds to consumer tastes**
   - Changes in consumer tastes are reflected in changes in market demand and therefore market price.

Perfect Competition: Evaluation – Limitations

1. **Unrealistic assumptions**
   - The model rests on strict and unrealistic assumptions that are rarely met in the real world.
2. **Cannot take advantage of economies of scale**
   - Economies of scale lead to lower average costs as a firm grows larger and larger.
   - In perfect competition firms are too small to grow to a size large enough to have economies of scale.
3. **Lack of product variety**
   - All firms within an industry produce identical or undifferentiated (homogeneous) products, however consumers prefer product variety.
4. **Limited availability to engage in new product development**
   - The lack of abnormal profits in the long run does not offer firms the necessary funds to pursue research and development.