4. Equilibrium Analysis

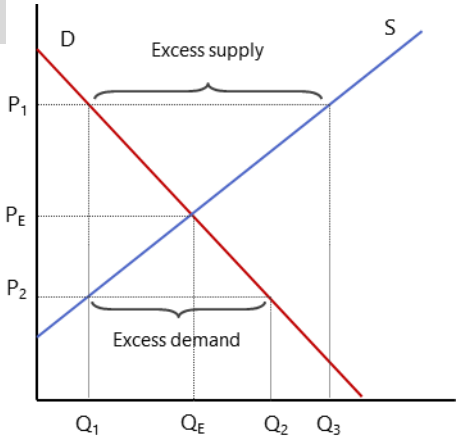
ECON1101 • KC Notes

4.1 Aggregate Demand and Supply

- Find aggregate demand and supply by summing individual curves horizontally
- Equilibrium is where aggregate demand and supply curves meet

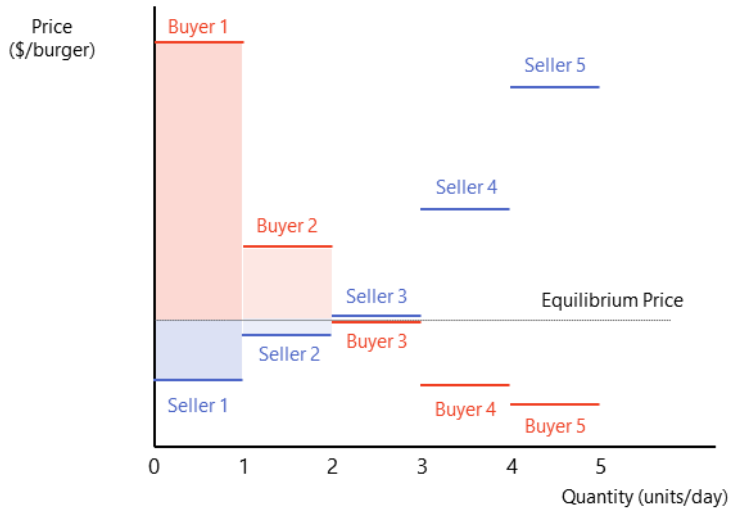
4.2 Market Equilibrium

- **Excess Supply**: where quantity supplied is larger than quantity demanded (at P_1)
- **Excess Demand**: where quantity demanded is larger than quantity supplied (at P_2)
- **Equilibrium**: when quantity supplied is equal to quantity demanded. (Know how to use equations like $Q = 100 - 2P$)
- In a perfectly competitive market, buyers and sellers are **price takers** of the equilibrium price



4.3 Reservation Price and Surplus

- Buyers and sellers differ by their **reservation price** (willingness to produce/buy at a price)
    - **<u>Rationing rule</u>**: Buyer/seller with the highest reservation price will purchase/sell first
    - Lines represent each buyer/seller's reservation price.
- **<u>Consumer/Producer Surplus</u>**: each buyer/seller has a surplus (each coloured box), the difference between **price actually paid/recieved and the price they are willing to pay**
- **Total Consumer/Producer Surplus**: sum of all individual consumer/producer surpluses
- **Total surplus**: sum of total consumer surplus and total producer surplus (sum of all boxes)



4.4 Shifts and Changes

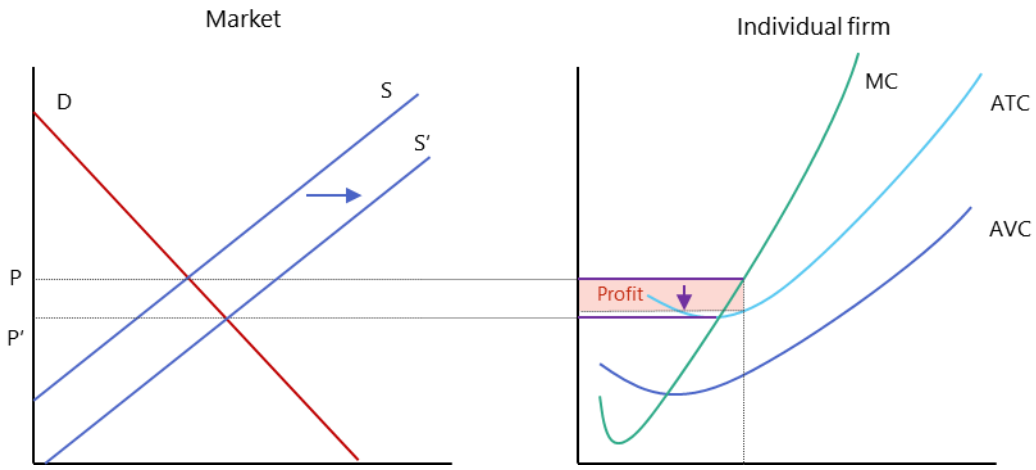
- Equilibrium price and quantity will change if supply/demand curves shift
    - Draw a diagram
- If both shift, you may be unsure of the change in price

4.5 Pareto Efficiency (Short run)

- **Pareto Efficiency**: an outcome situation where it is **impossible to make an individual better off without making at least another worse off**
    - When there is no excess supply and no excess demand (i.e. at equilibrium), **market has maximum surplus and is Pareto efficient**
    - Transaction with makes everyone better off is a **Pareto improving transaction**
- Pareto efficiency should not be a goal – surplus should be redistributed for **equality of resources and opportunities**

4.6 Invisible Hand Principle (Long run)

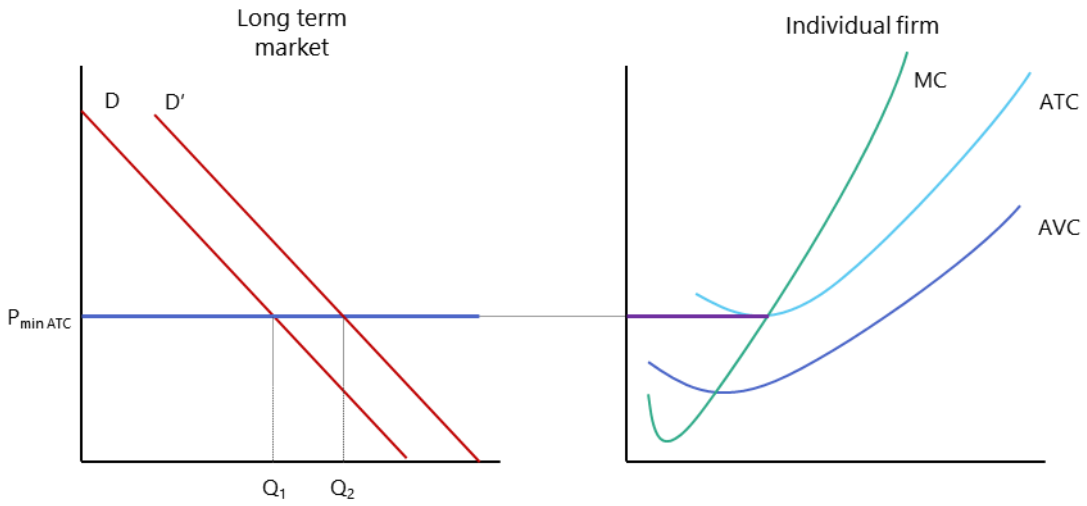
- **Invisible Hand Principle**: individual's efforts to maximise gains (profit/utility) will generally be beneficial for society and result in the socially optimal allocation of resources
- When firms make profit in a market, **more firms will join the market**
    - **Shifts supply curve to the right**, until all firms no longer make a profit (P to P')



- Therefore the **long term equilibrium price** is the **minimum ATC**

4.6.1 LONG RUN SUPPLY CURVE

- Because entry will always continue to move until profit = 0 and price = minimum ATC, changes to **demand has no effect on the market** and thus **price will remain the same**.
    - If there is an increased demand for boats:
        - Short term: Firms will gain more profit as they are higher up the supply curve
        - Long term: More firms enter and price drops back down to minimum ATC
- Therefore, the **long term supply curve is horizontal at price = minimum ATC**
- Only **quantity changes** from Q_1 to Q_2



4.7 General model

- Long run supply curve is horizontal only if **all firms have the same productive technology**