Consumer and Producer Surplus

Efficiency and

Deadweight Loss

Consumer Surplus

- The difference between the maximum price consumers are willing to pay for a product and the actual price.
- The surplus, measurable in dollar terms, reflects the extra *utility* gained from paying a lower price than what is required to obtain the good.
- Consumer surplus can be measured by calculating the difference between the maximum willingness to pay and the actual price for each consumer, and then summing those differences.
- Or consumer surplus is shown graphically as the area under the demand curve and above the equilibrium price.
- Consumer surplus and price are inversely related – all else equal, a higher price reduces consumer surplus.

Consumer Surplus

In a competitive market, the actual price will be the equilibrium or market price.

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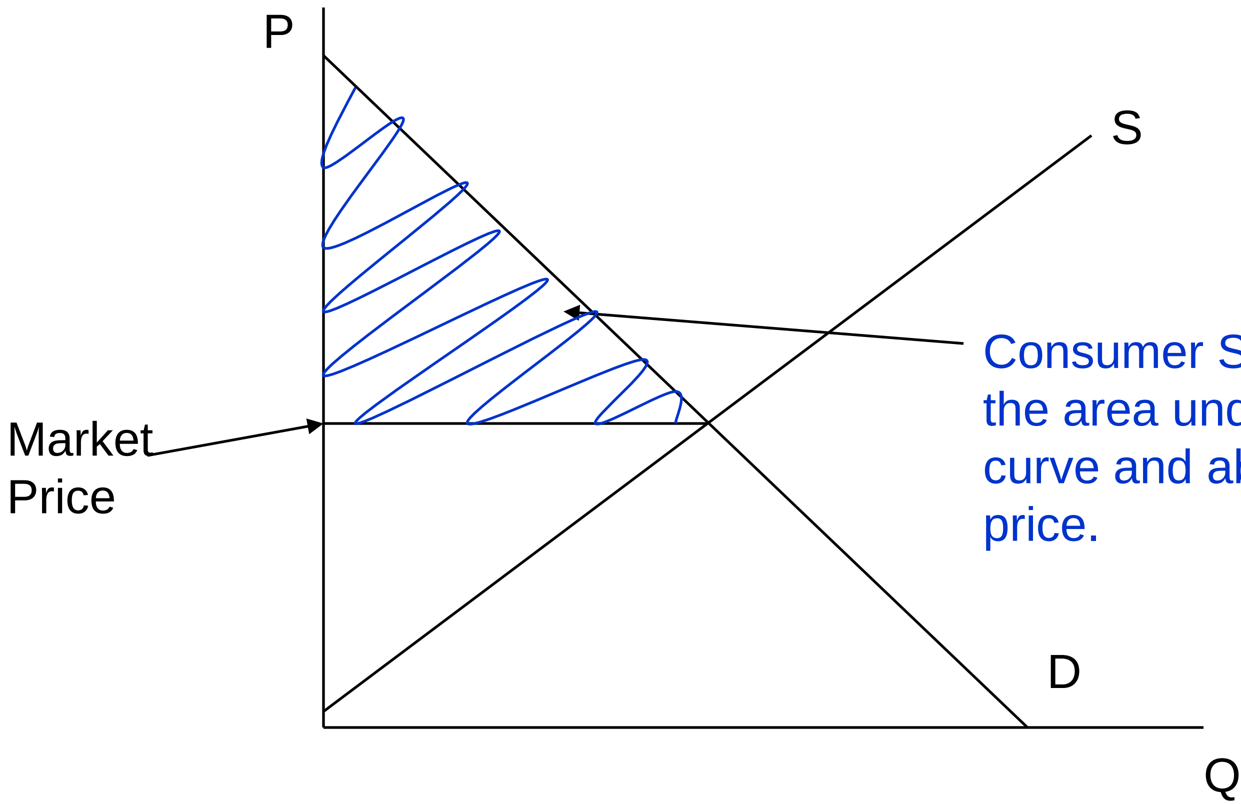
The maximum willingness to pay is the consumer's marginal benefit for the good measurable in dollar terms.

Consumer Surplus

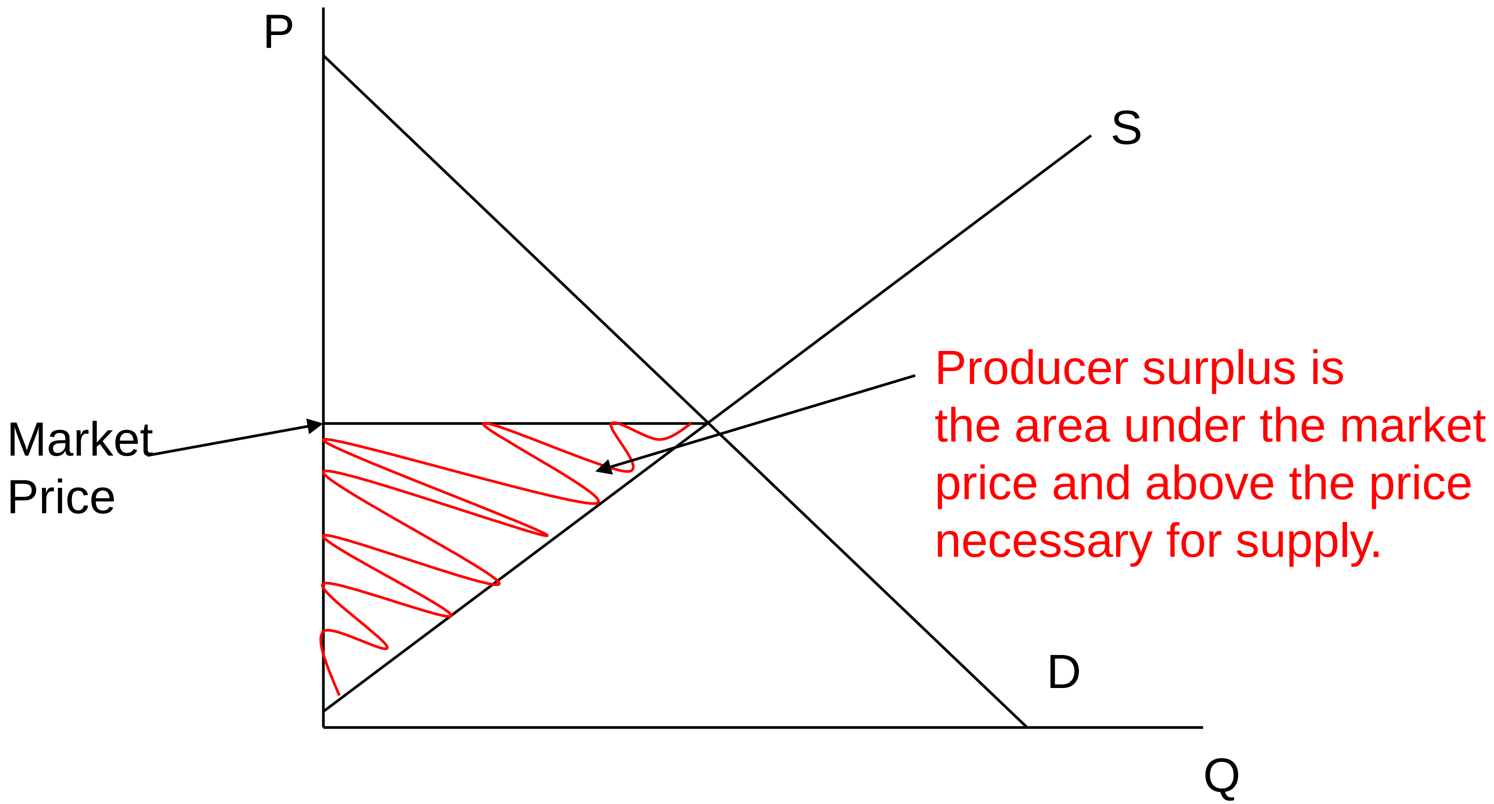


Consumer Surplus is the area under the demand curve and above the market price.

Producer Surplus

- The difference between the actual price producers receive and the minimum acceptable price.
- Producer surplus can be measured by calculating the difference between the minimum acceptable price and the actual price for each unit sold, and then summing those differences.
- Producer surplus is shown graphically as the area above the supply curve and below the equilibrium price.
- Producer surplus and price are directly related – all else equal, a higher price increases producer surplus.

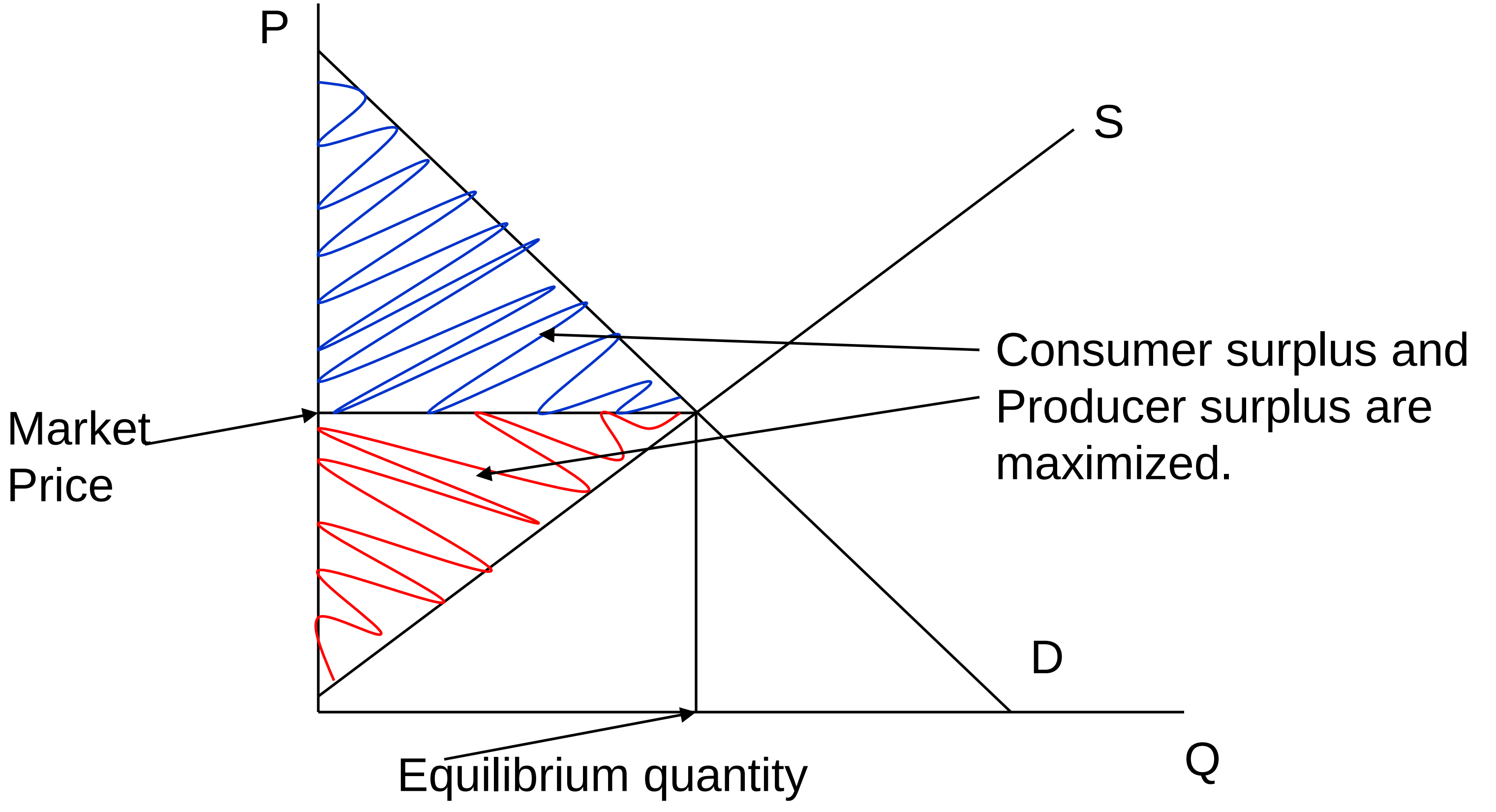
Producer Surplus



Efficiency

- Markets are allocatively efficient (i.e., the allocation of resources to the quantity most desired) when consumer and producer surplus are at a maximum.
  - Consumers receive utility up to their maximum willingness to pay, but only have to pay the equilibrium price.
  - Producers receive the equilibrium price for each unit, but it only costs the minimum acceptable price to produce.
- Allocative efficiency occurs at quantity levels where three conditions exist:
  - MB = MC
  - Maximum willingness to pay = minimum acceptable price.
  - Combined consumer and producer surplus is at a maximum.

Maximum benefit to society occurs when price and quantity are at the equilibrium point.



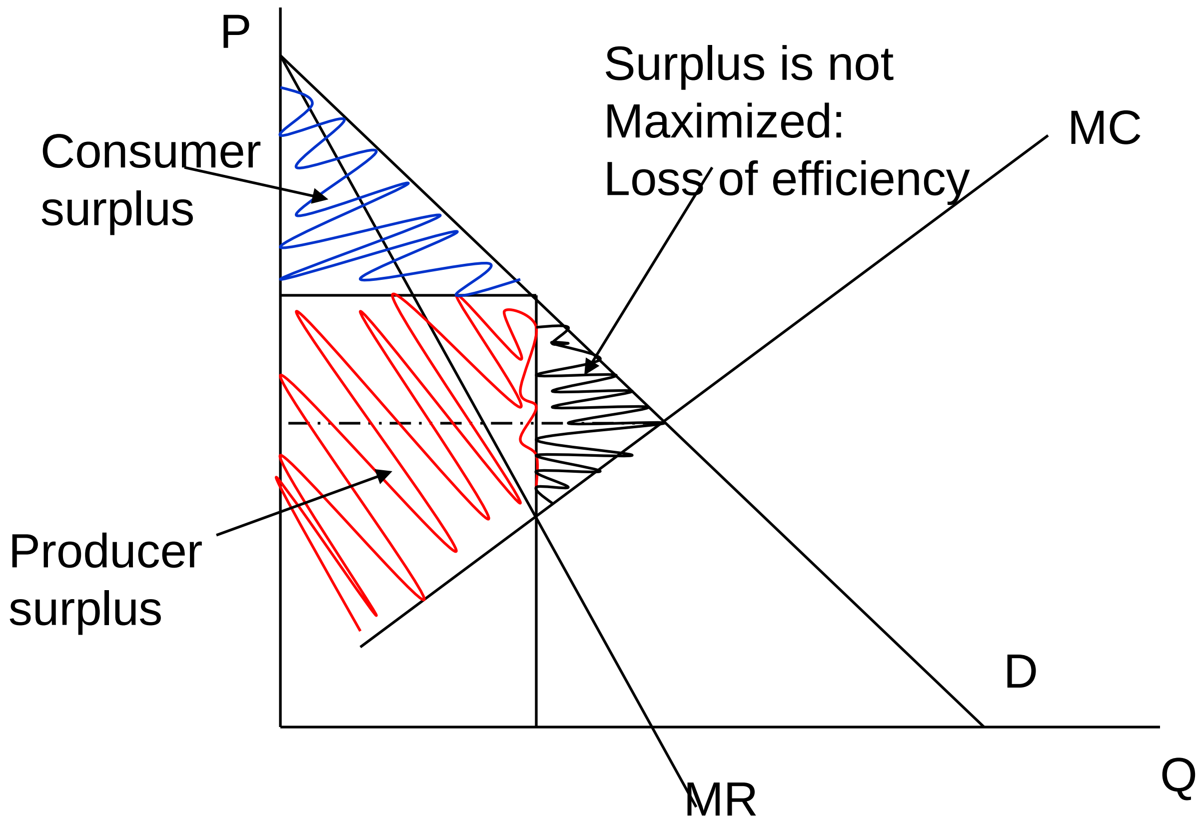
Inefficiency or Deadweight Loss

- Underproduction reduces both consumer and producer surplus, and efficiency is lost because both buyers and sellers would be willing to exchange a higher quantity.

- Overproduction causes inefficiency because past the equilibrium quantity, it costs society more to produce the good than it is worth to the consumer in terms of willingness to pay.

- A deadweight loss occurs when the combined consumer and producer surplus is not maximized. This occurs when something such as a price control causes either over-production or under-production of a good or service.

An imperfect competitor produces at a price higher and at a quantity less than pure competition causing a loss of efficiency.



Remember:

- Consumer surplus is the difference between the maximum price consumers are willing to pay for a product and the actual price.
- Producer surplus is the difference between the actual price producers receive and the minimum acceptable price.
- Markets are efficient when the consumer and producer surpluses are at a maximum.
- A deadweight loss occurs whenever there is over-production or under-production of a good or service.