Using the Demand Curve to Measure Consumer Surplus

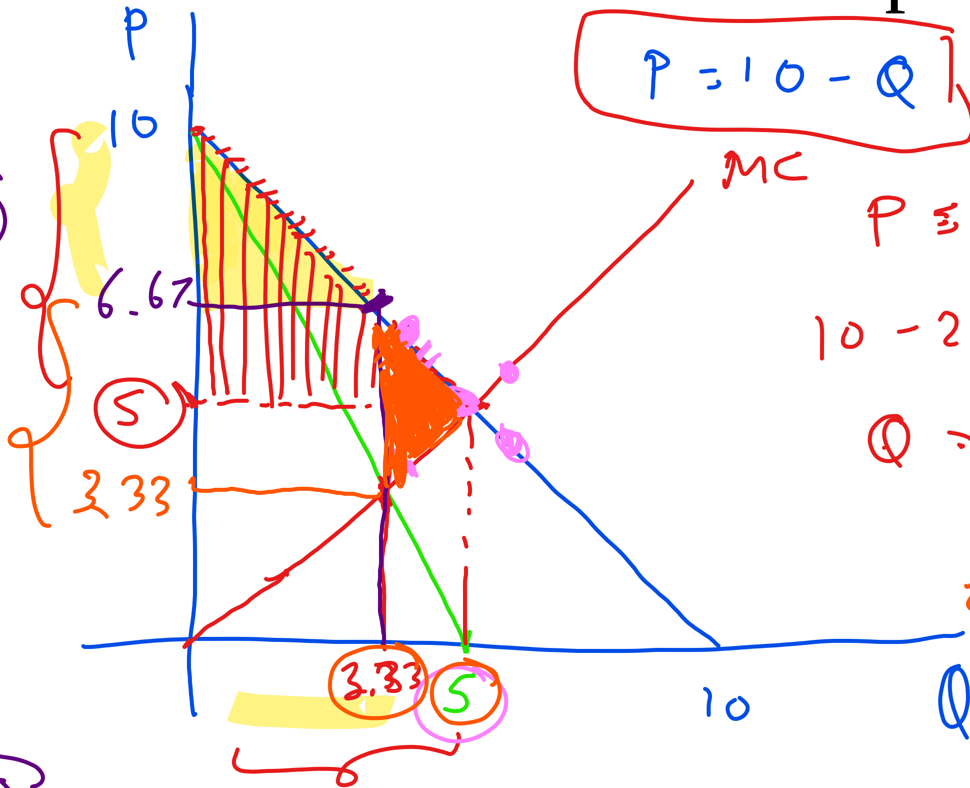
- The area below the demand curve and above the price measures the consumer surplus in the market.

$CS^{comp} = 12.5$

$\frac{10}{2} \times \frac{10}{3} \times \frac{1}{2}$

$\frac{10}{3} \times \frac{5}{3} = \frac{50}{9}$

5.55



$P = Q$

$10 - 2Q = Q$

$Q = 3.33$

$\frac{1}{2} \times \frac{1}{6} \times \frac{10}{3}$

$\frac{5}{18} = \frac{1}{2}\left(\frac{5}{9}\right)$

Figure 3 How the Price Affects Consumer Surplus

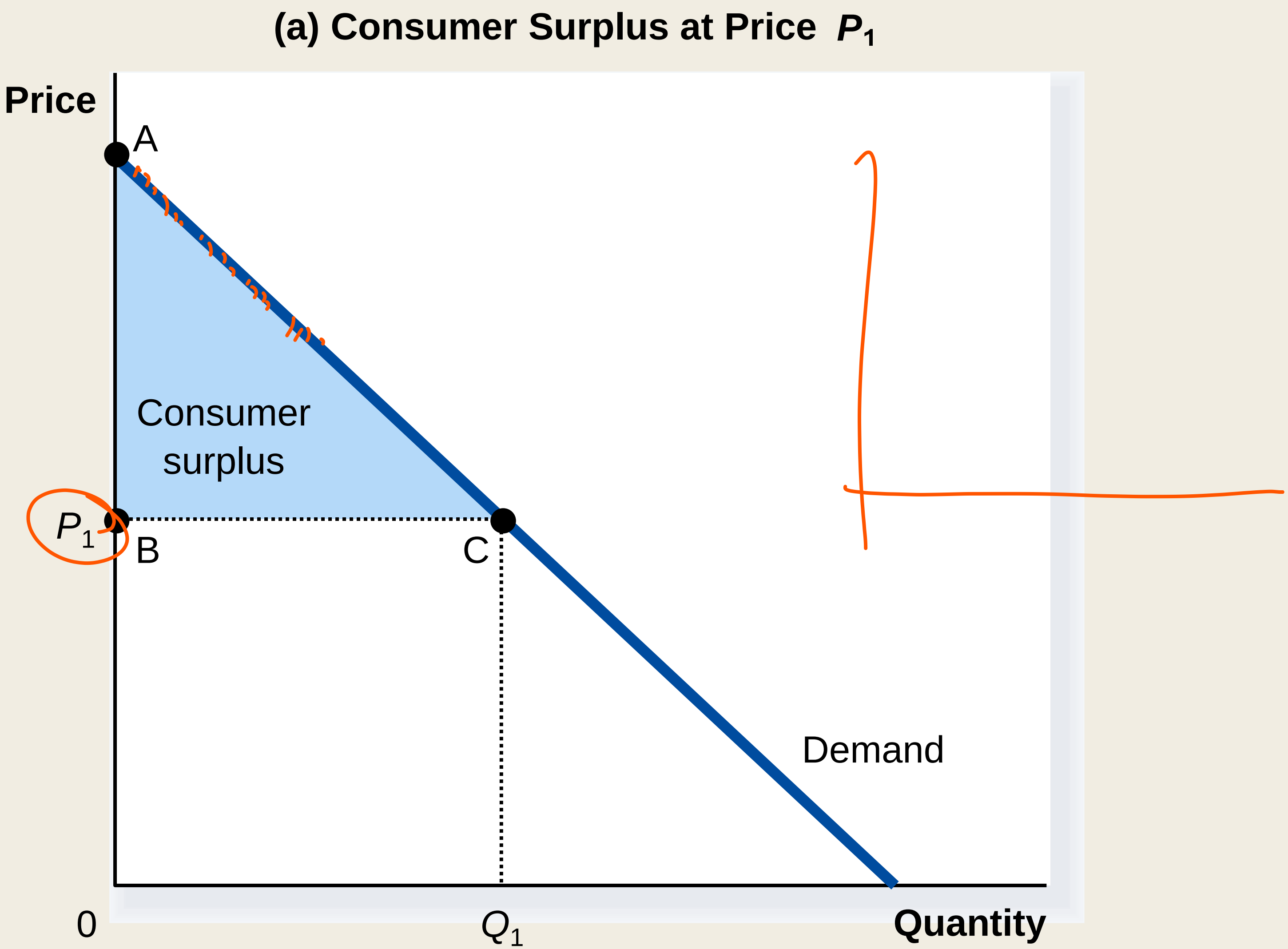
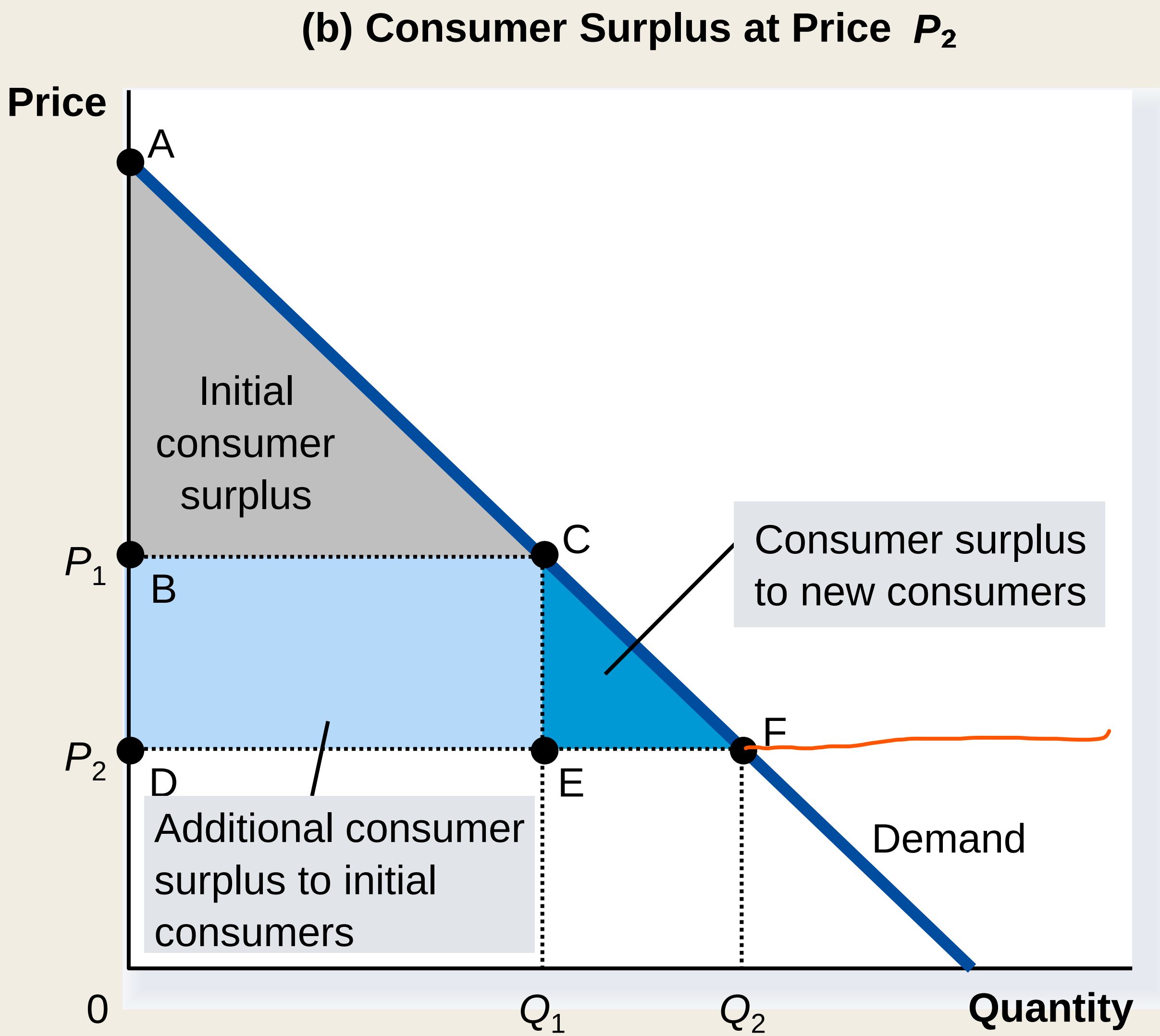


Figure 3 How the Price Affects Consumer Surplus



What Does Consumer Surplus Measure?

- Consumer surplus, the amount that buyers are willing to pay for a good minus the amount they actually pay for it, measures the benefit that buyers receive from a good as the buyers themselves perceive it.

PRODUCER SURPLUS

- *Producer surplus* is the amount a seller is paid for a good minus the seller's *cost*.
- It measures the benefit to sellers participating in a market.

Table 2: The Costs of Four Possible Sellers

Seller	Cost
Mary	$900
Frida	800
Georgia	600
Grandma	500

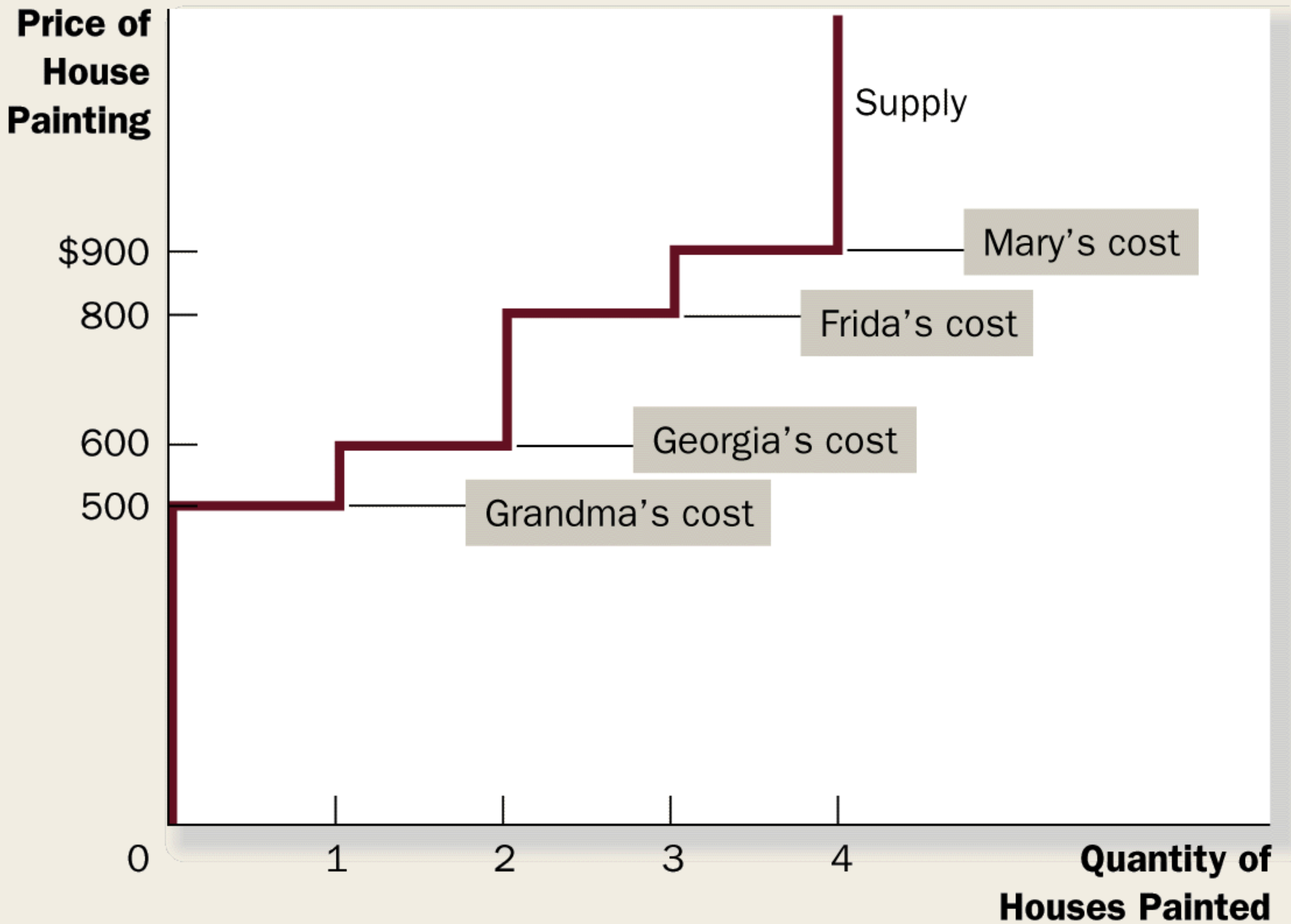
Using the Supply Curve to Measure Producer Surplus

- Just as consumer surplus is related to the demand curve, producer surplus is closely related to the supply curve.

The Supply Schedule and the Supply Curve

Price	Sellers	Quantity Supplied
$900 or more	Mary, Frida, Georgia, Grandma	4
$800 to $900	Frida, Georgia, Grandma	3
$600 to $800	Georgia, Grandma	2
$500 to $600	Grandma	1
Less than $500	None	0

Figure 4 The Supply Schedule and the Supply Curve



Using the Supply Curve to Measure Producer Surplus

- The area below the price and above the supply curve measures the producer surplus in a market.

Figure 5 Measuring Producer Surplus with the Supply Curve

(a) Price = $600

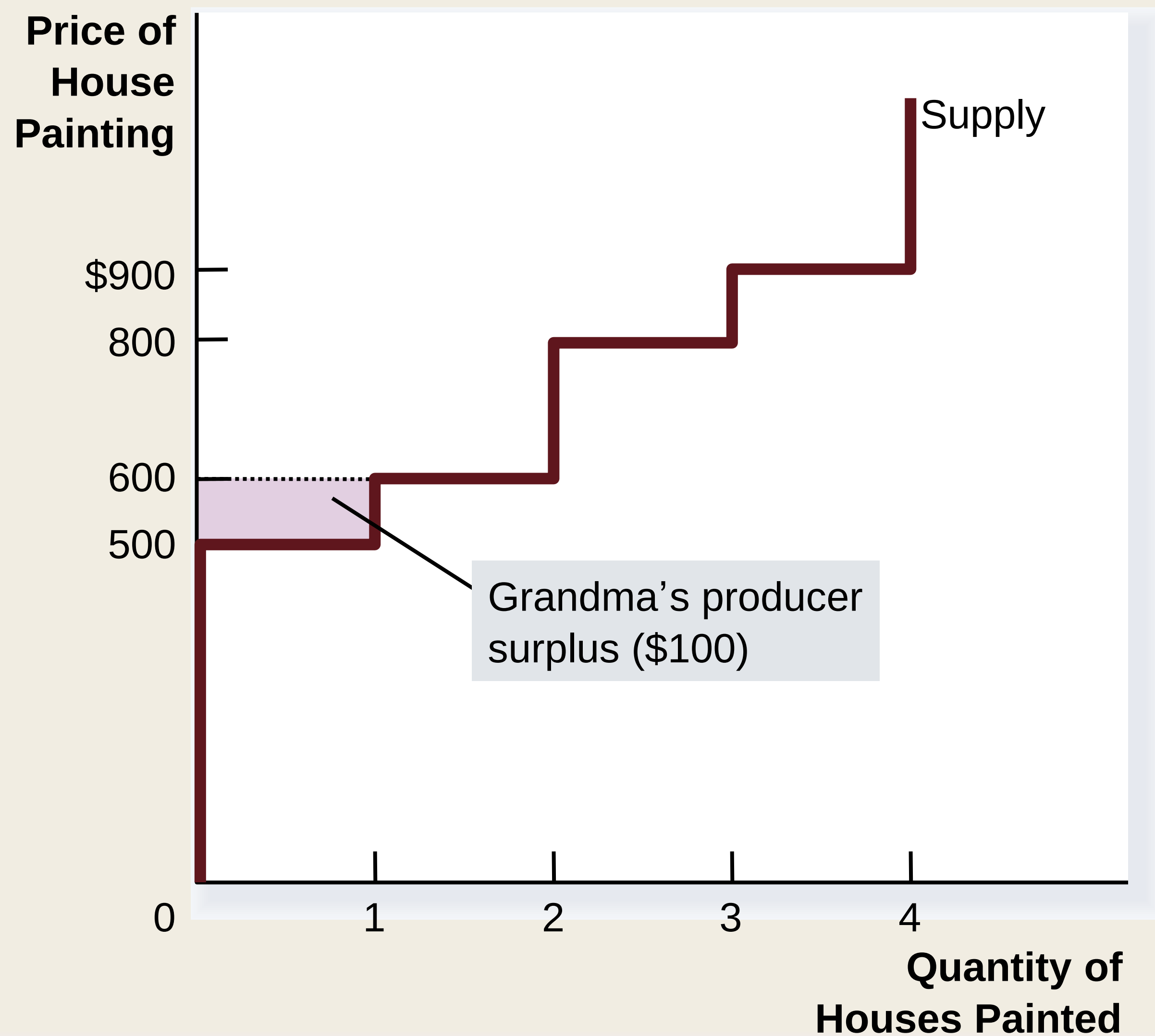


Figure 5 Measuring Producer Surplus with the Supply Curve

(b) Price = $800

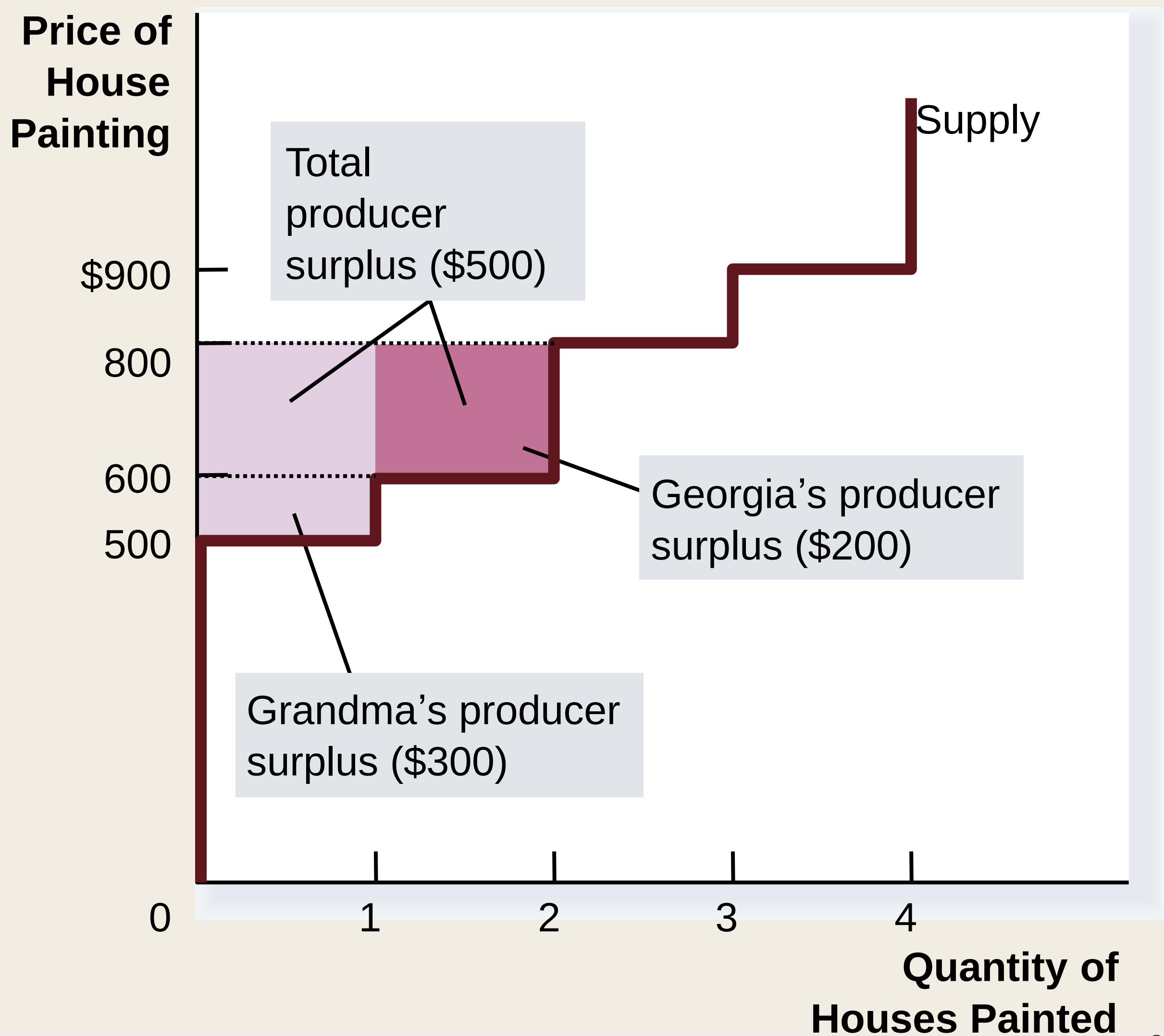


Figure 6 How the Price Affects Producer Surplus

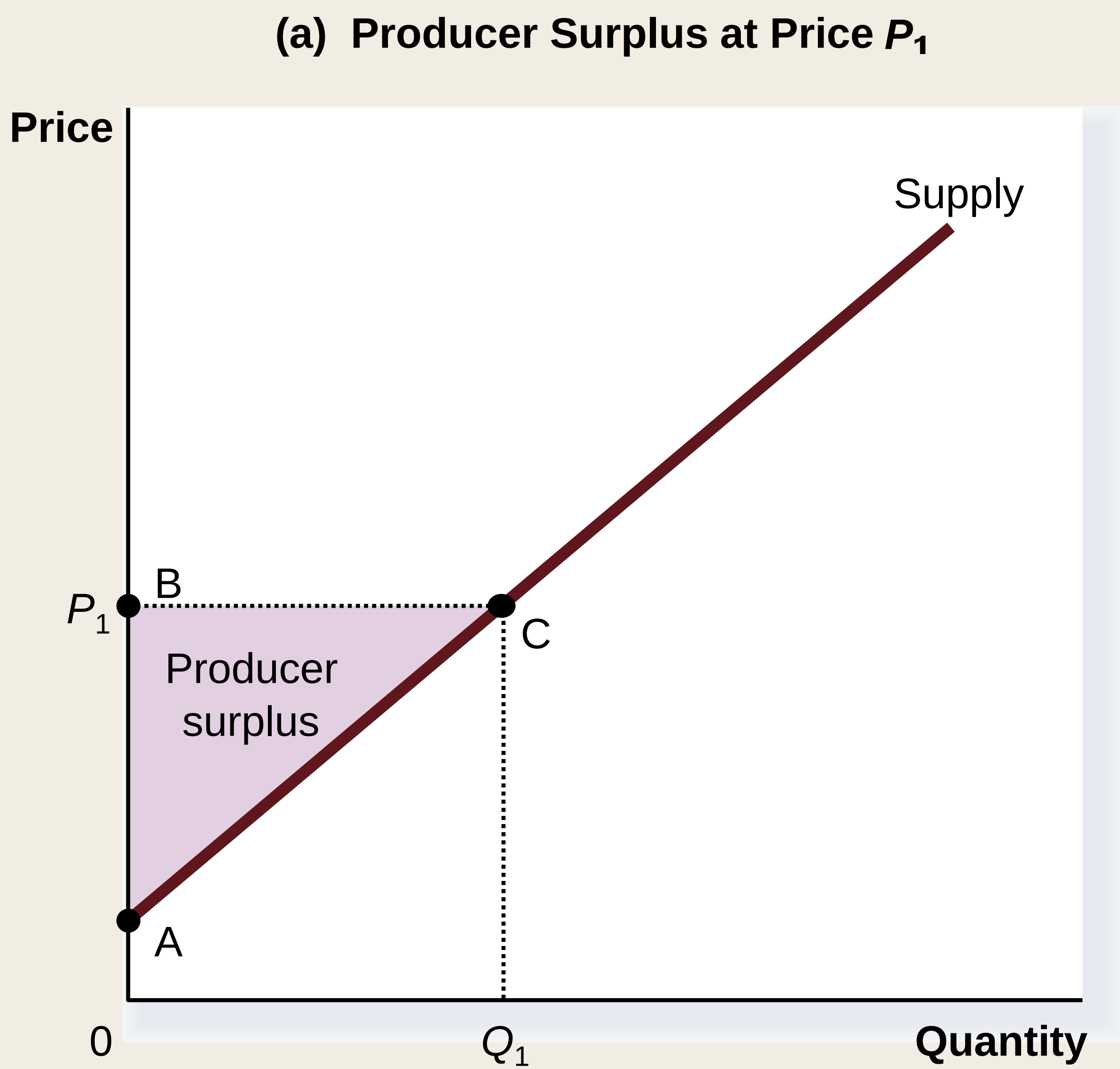
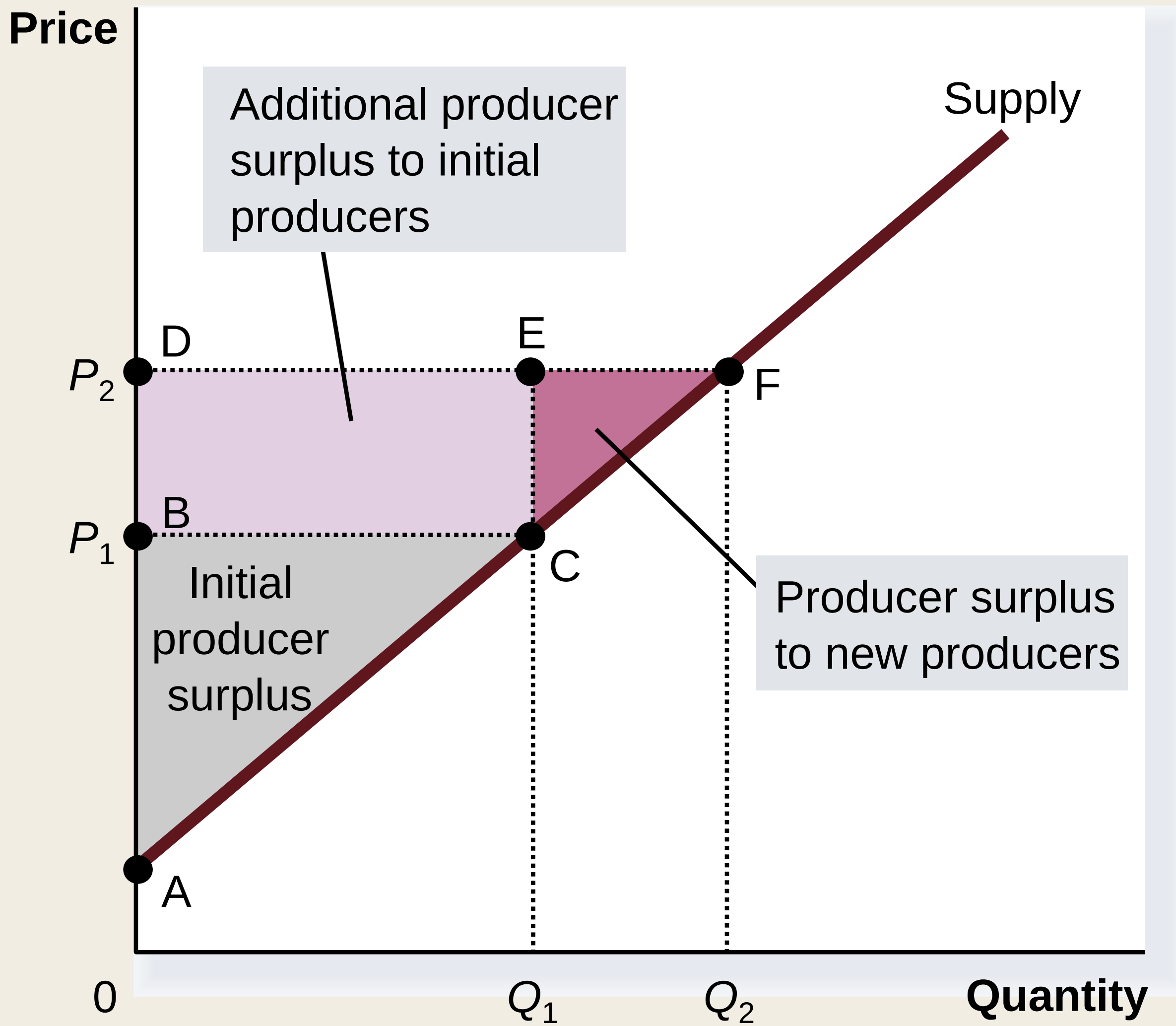


Figure 6 How the Price Affects Producer Surplus

(b) Producer Surplus at Price P_2



MARKET EFFICIENCY

- Consumer surplus and producer surplus may be used to address the following question:
  - Is the allocation of resources determined by free markets in any way desirable?

The Benevolent Social Planner

Consumer Surplus

= Value to buyers – Amount paid by buyers

and

Producer Surplus

= Amount received by sellers – Cost to sellers

The Benevolent Social Planner

Total surplus

= Consumer surplus + Producer surplus

or

Total surplus

= Value to buyers – Cost to sellers

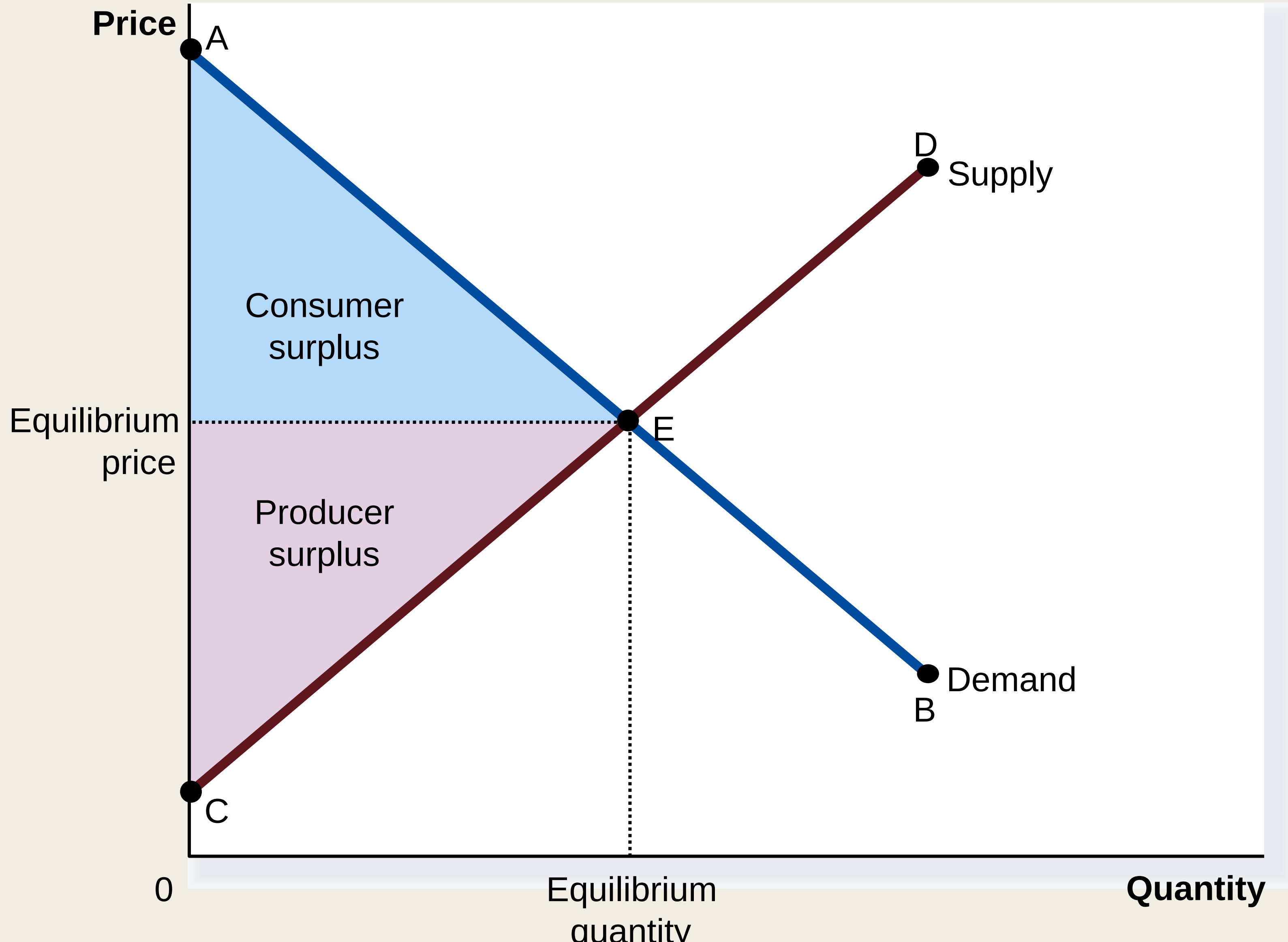
The Benevolent Social Planner

- *Efficiency* is the property of a resource allocation of maximizing the total surplus received by all members of society.

The Benevolent Social Planner

- In addition to market efficiency, a social planner might also care about *equity* – the fairness of the distribution of well-being among the various buyers and sellers.

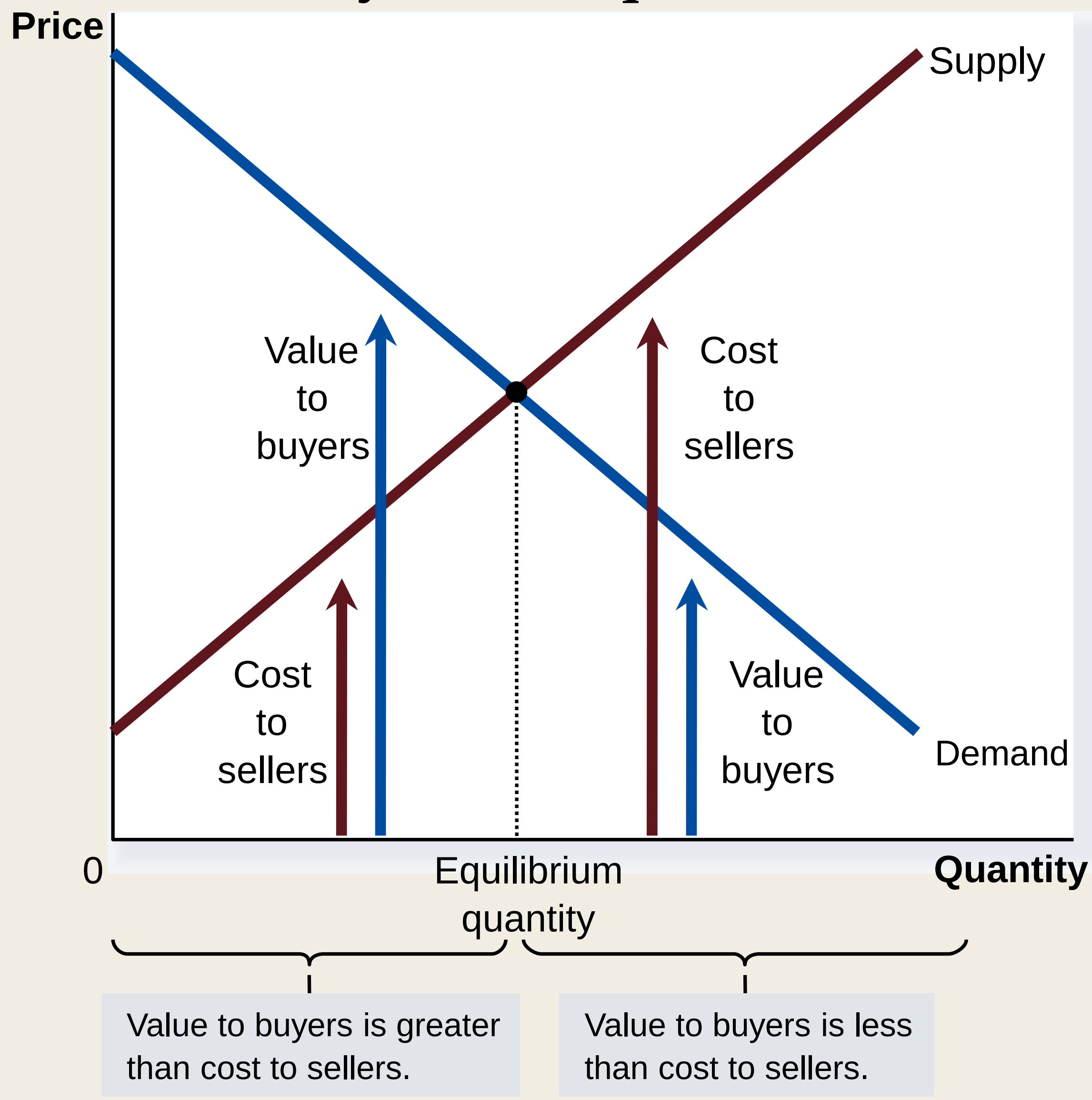
Figure 7 Consumer and Producer Surplus in the Market Equilibrium



Evaluating the Market Equilibrium

- Three Insights Concerning Market Outcomes
  - By “Free markets” we mean Perfect Competition, where there is free entry and exit of firms in long run.
  - Free markets allocate the supply of goods to the buyers who value them most highly, as measured by their willingness to pay.
  - Free markets allocate the demand for goods to the sellers who can produce them at least cost.
  - Free markets produce the quantity of goods that maximizes the sum of consumer and producer surplus.

Figure 8 The Efficiency of the Equilibrium Quantity



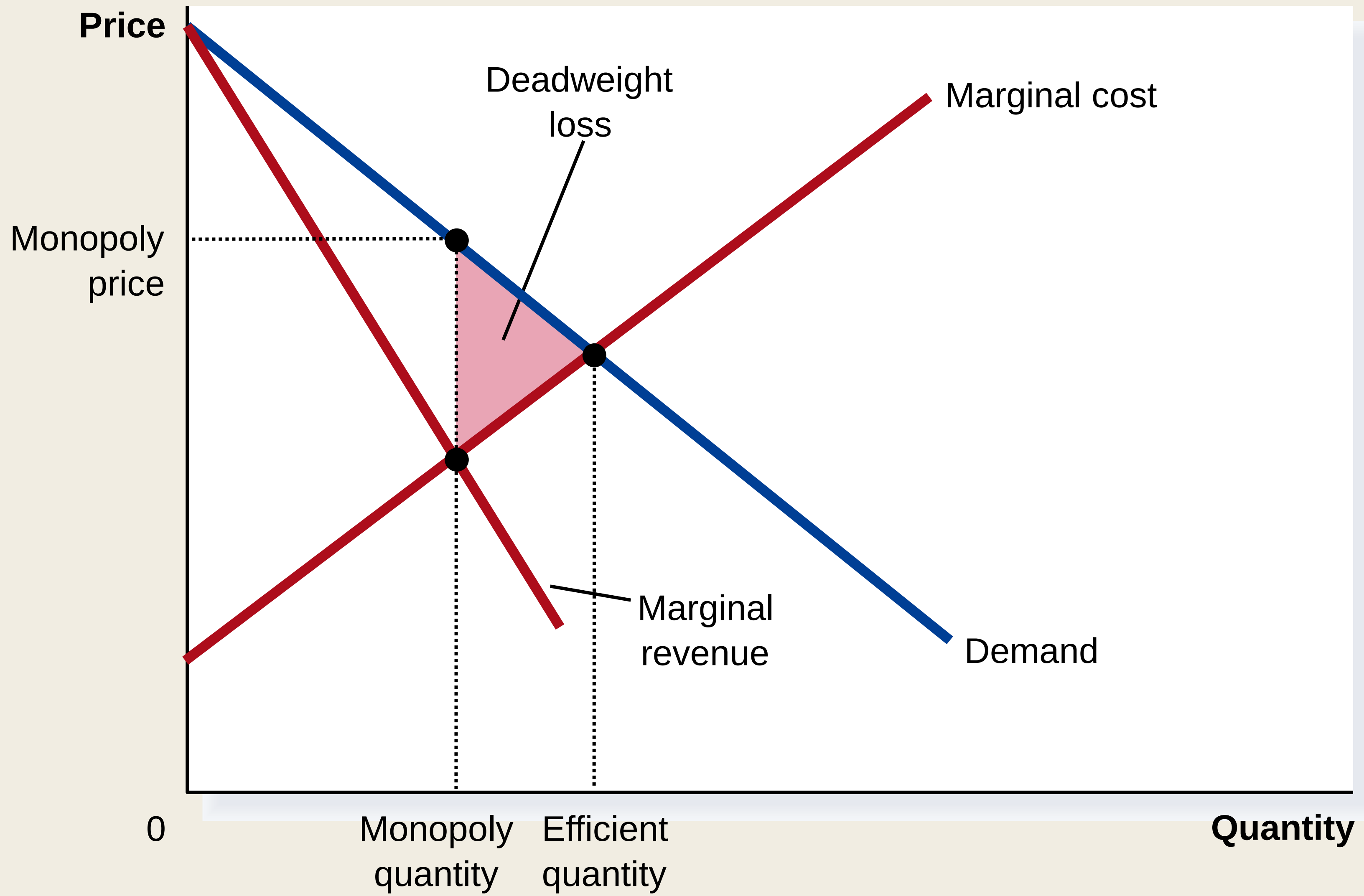
Evaluating the Market Equilibrium

- Because the equilibrium outcome is an efficient allocation of resources, the social planner can leave the market outcome as he/she finds it.
- This policy of leaving well enough alone goes by the French expression *laissez faire*.

Evaluating the Market Equilibrium

- Market Power
  - If a market system is not perfectly competitive, market power may result.
    - Market power is the ability to influence prices.
    - Market power can cause markets to be inefficient because it keeps price and quantity from the equilibrium of supply and demand.

Figure 8 The Inefficiency of Monopoly



Evaluating the Market Equilibrium

- Externalities
  - created when a market outcome affects individuals other than buyers and sellers in that market.
  - cause welfare in a market to depend on more than just the value to the buyers and cost to the sellers.
- When buyers and sellers do not take externalities into account when deciding how much to consume and produce, the equilibrium in the market can be inefficient.

Summary

- Consumer surplus equals buyers' willingness to pay for a good minus the amount they actually pay for it.
- Consumer surplus measures the benefit buyers get from participating in a market.
- Consumer surplus can be computed by finding the area below the demand curve and above the price.

Summary

- Producer surplus equals the amount sellers receive for their goods minus their costs of production.
- Producer surplus measures the benefit sellers get from participating in a market.
- Producer surplus can be computed by finding the area below the price and above the supply curve.

Summary

- An allocation of resources that maximizes the sum of consumer and producer surplus is said to be efficient.
- Policymakers are often concerned with the efficiency, as well as the equity, of economic outcomes.

Summary

- The equilibrium of demand and supply maximizes the sum of consumer and producer surplus.
- This is as if the invisible hand of the marketplace leads buyers and sellers to allocate resources efficiently.
- Markets do not allocate resources efficiently in the presence of market failures.