Consumers, Producers, and the Efficiency of Markets

REVISITING THE MARKET EQUILIBRIUM

- Do the equilibrium price and quantity maximize the total welfare of buyers and sellers?
- Market equilibrium reflects the way markets allocate scarce resources.
- Whether the market allocation is desirable can be addressed by welfare economics.

Welfare Economics

- *Welfare economics* is the study of how the allocation of resources affects economic well-being.
- Buyers and sellers receive benefits from taking part in the market.
- The equilibrium in a market maximizes the total welfare of buyers and sellers.

CONSUMER SURPLUS

- *Willingness to pay* is the maximum amount that a buyer will pay for a good.
- It measures how much the buyer values the good or service.

CONSUMER SURPLUS

- *Consumer surplus* is the buyer’s willingness to pay for a good minus the amount the buyer actually pays for it.

Table 1 Four Possible Buyers' Willingness to Pay

Buyer	Willingness to Pay
John	$100
Paul	80
George	70
Ringo	50

The Demand Schedule and the Demand Curve

Price	Buyers	Quantity Demanded
More than $100	None	0
$80 to $100	John	1
$70 to $80	John, Paul	2
$50 to $70	John, Paul, George	3
$50 or less	John, Paul, George, Ringo	4

Figure 1 The Demand Schedule and the Demand Curve

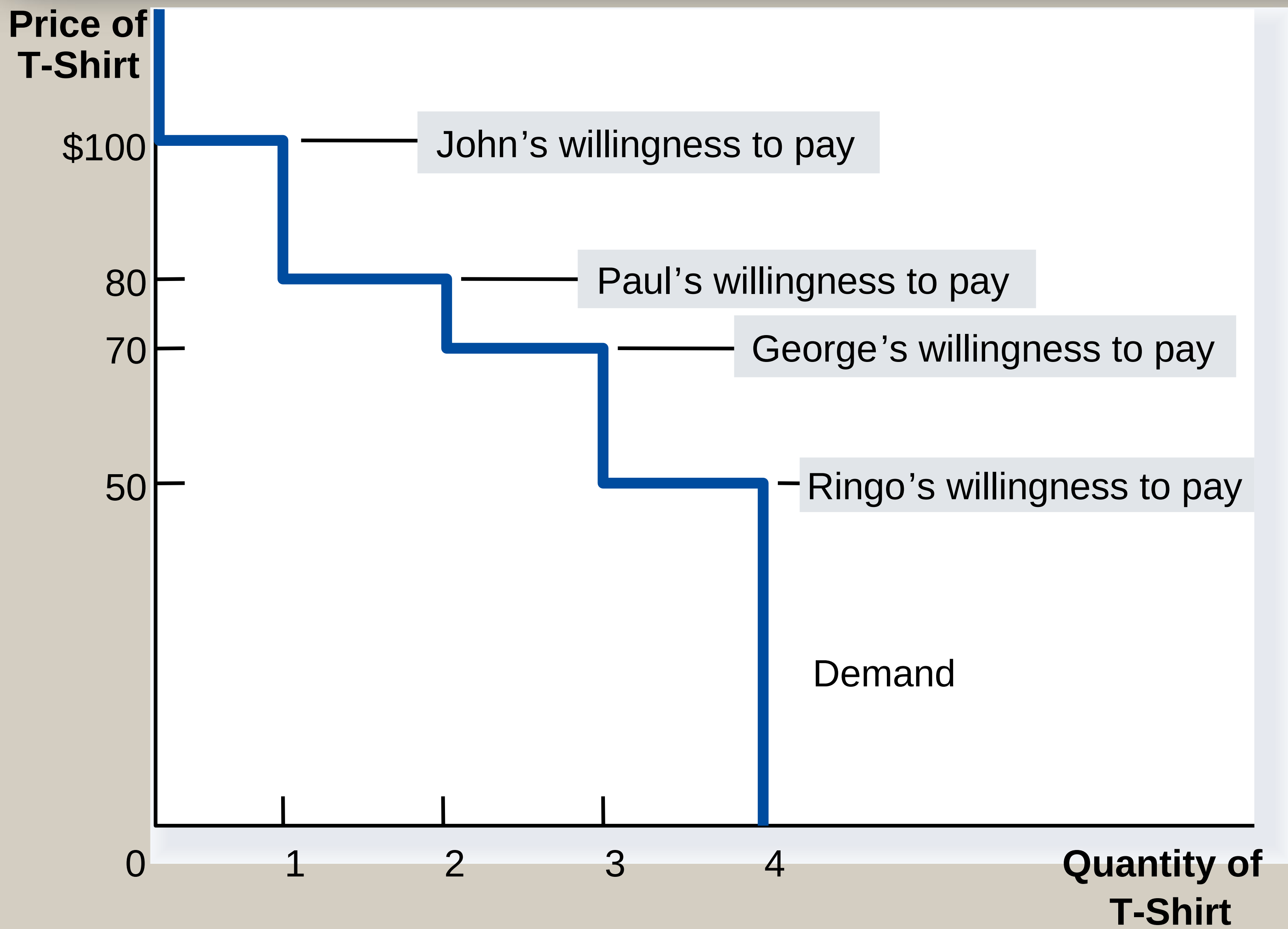


Figure 2 Measuring Consumer Surplus with the Demand Curve

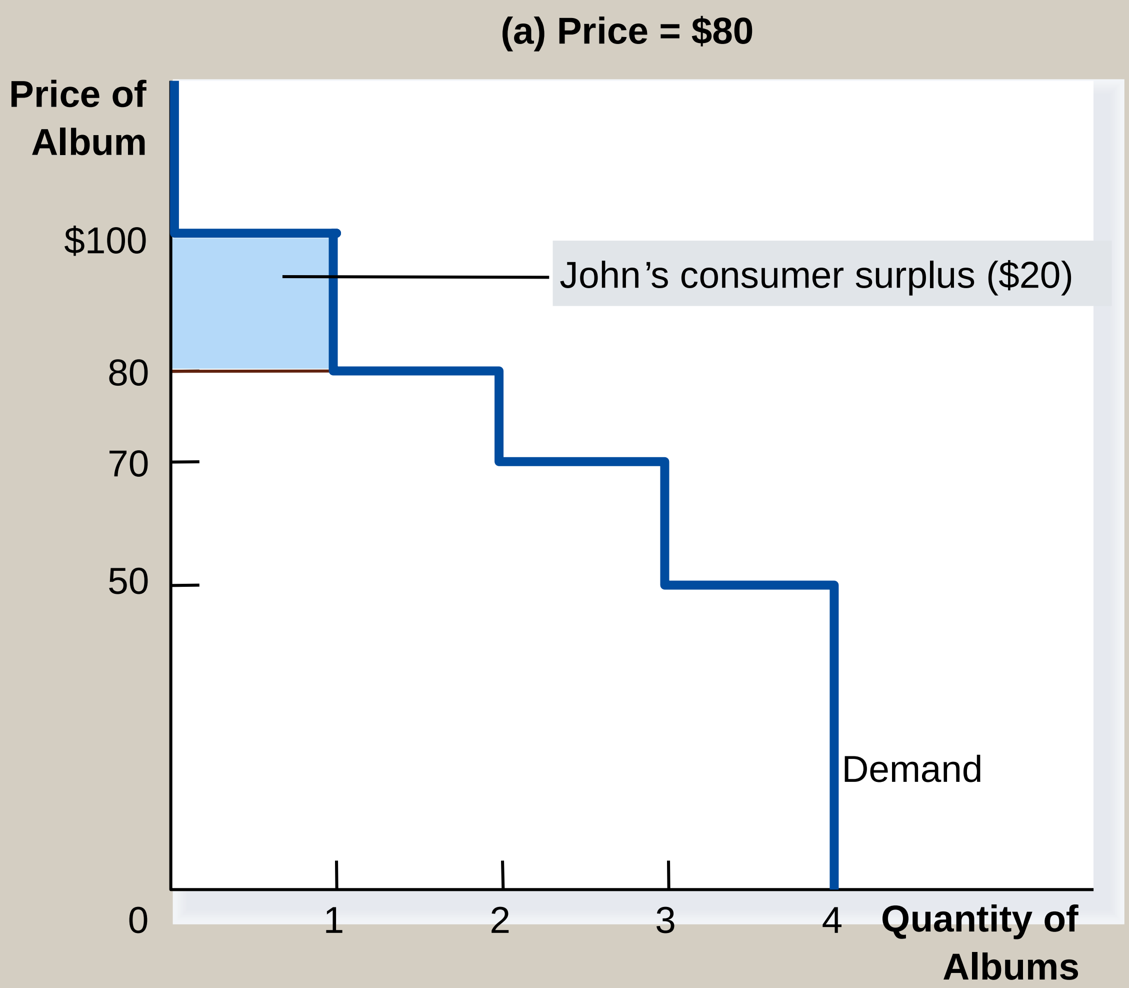
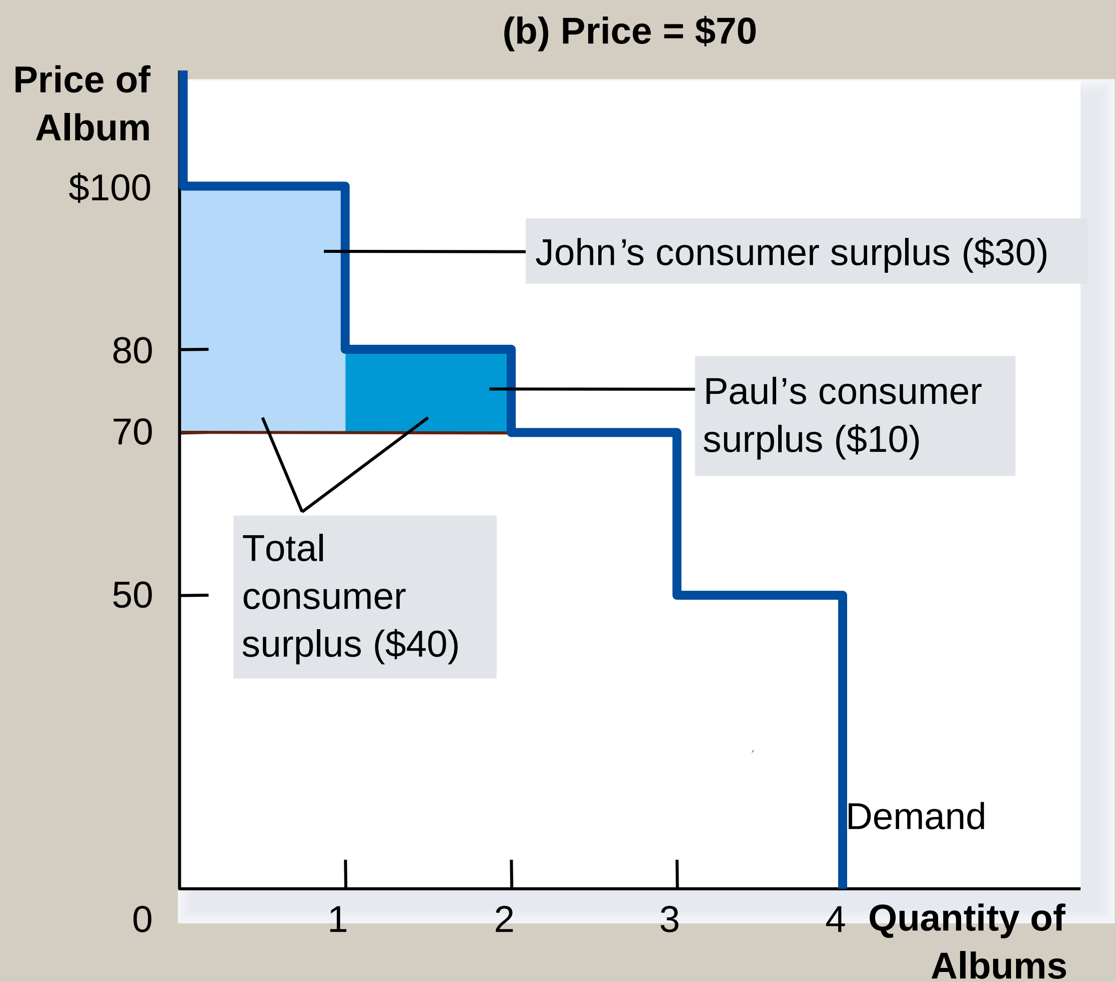


Figure 2 Measuring Consumer Surplus with the Demand Curve



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.

Figure 3 How the Price Affects Consumer Surplus

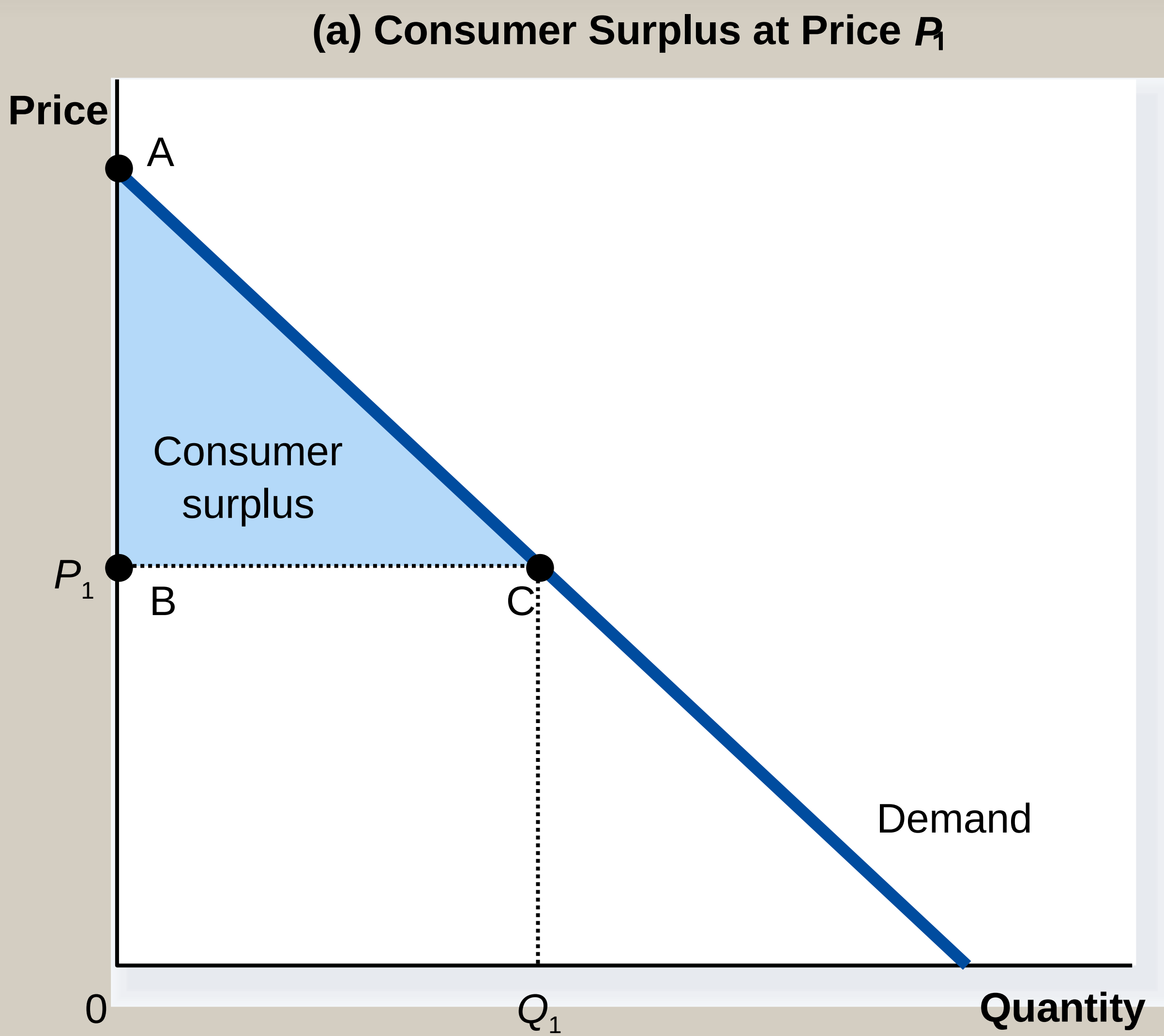
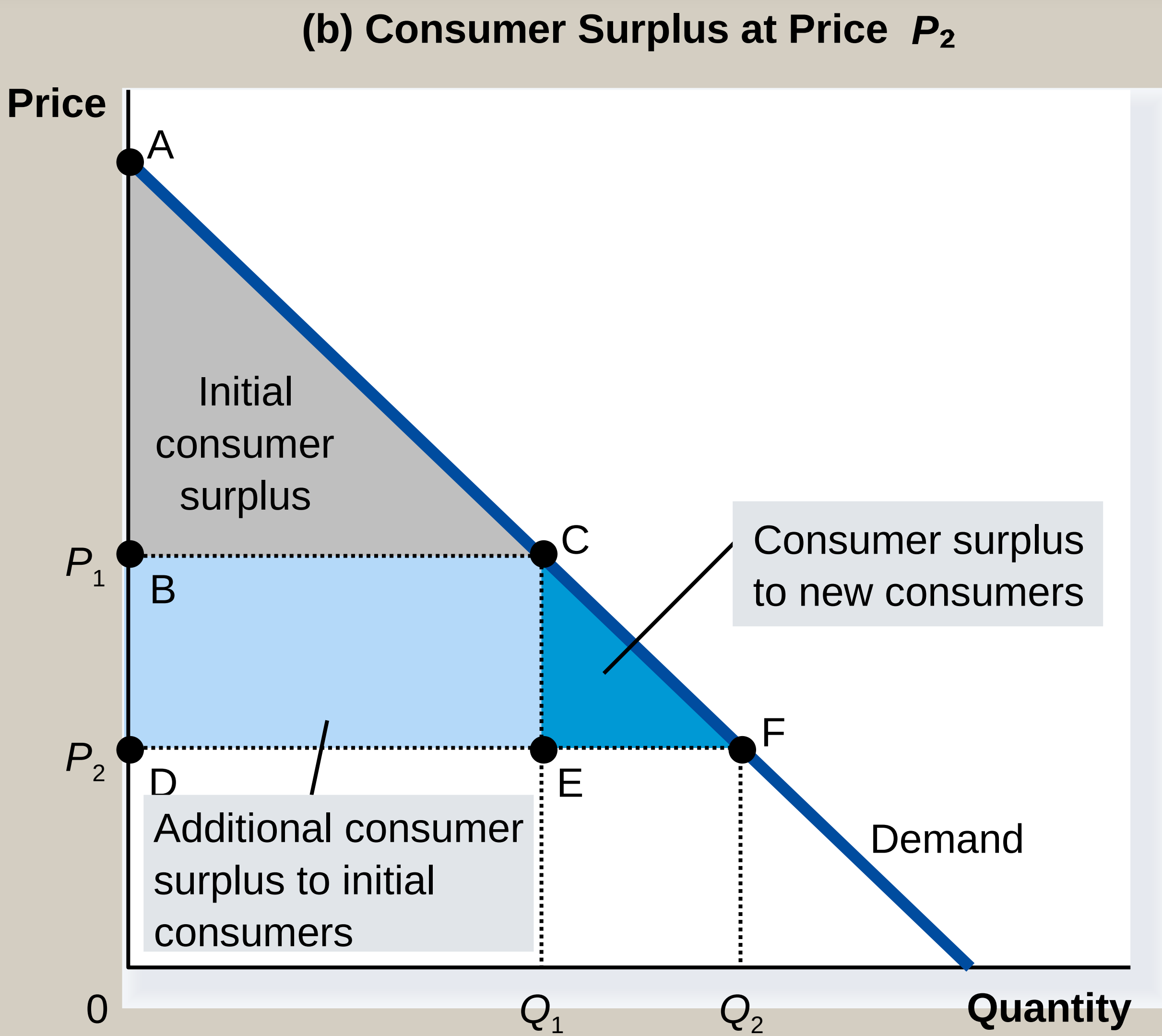


Figure 3 How the Price Affects Consumer Surplus



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

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

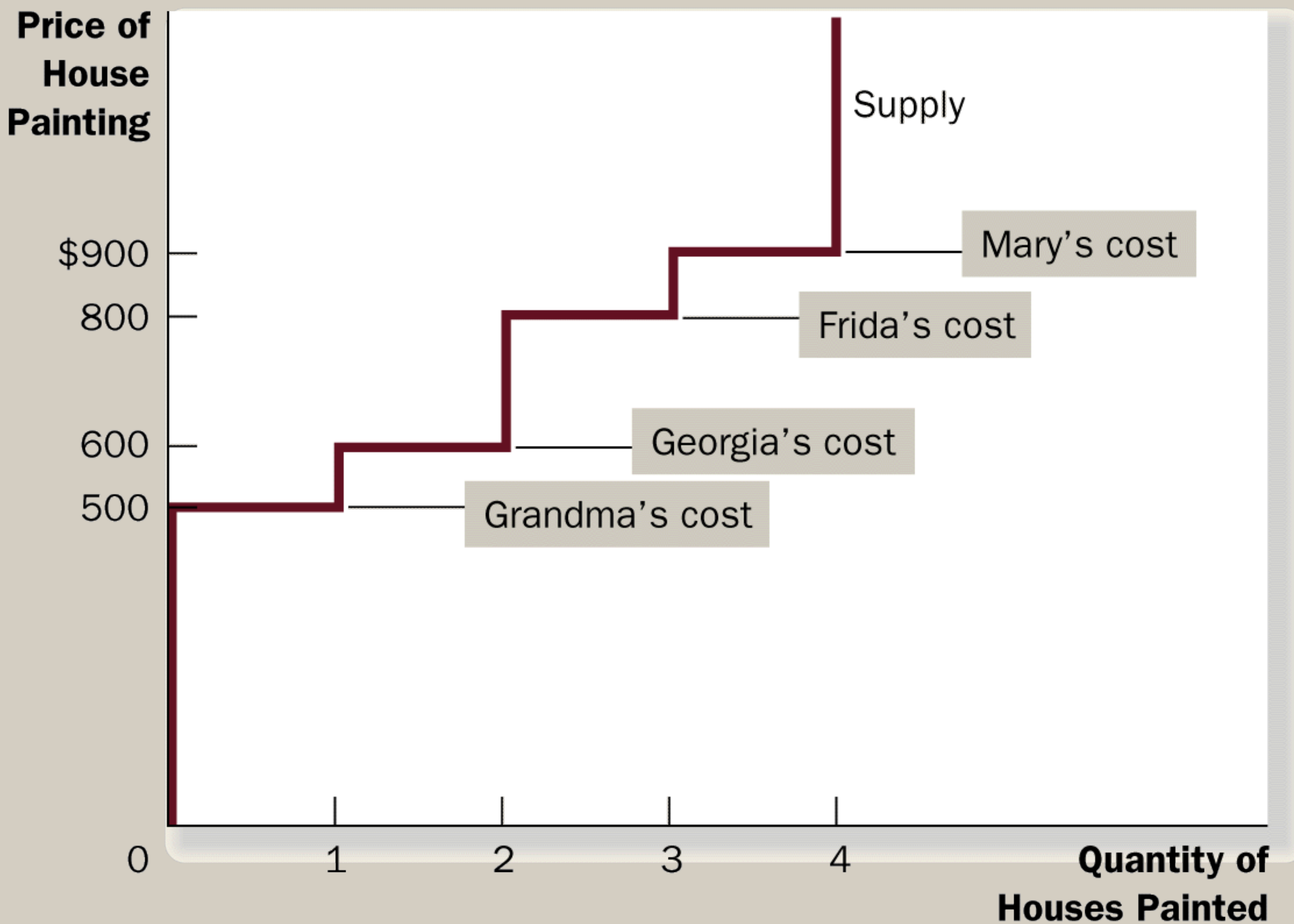


Figure 5 Measuring Producer Surplus with the Supply Curve

(a) Price = $600

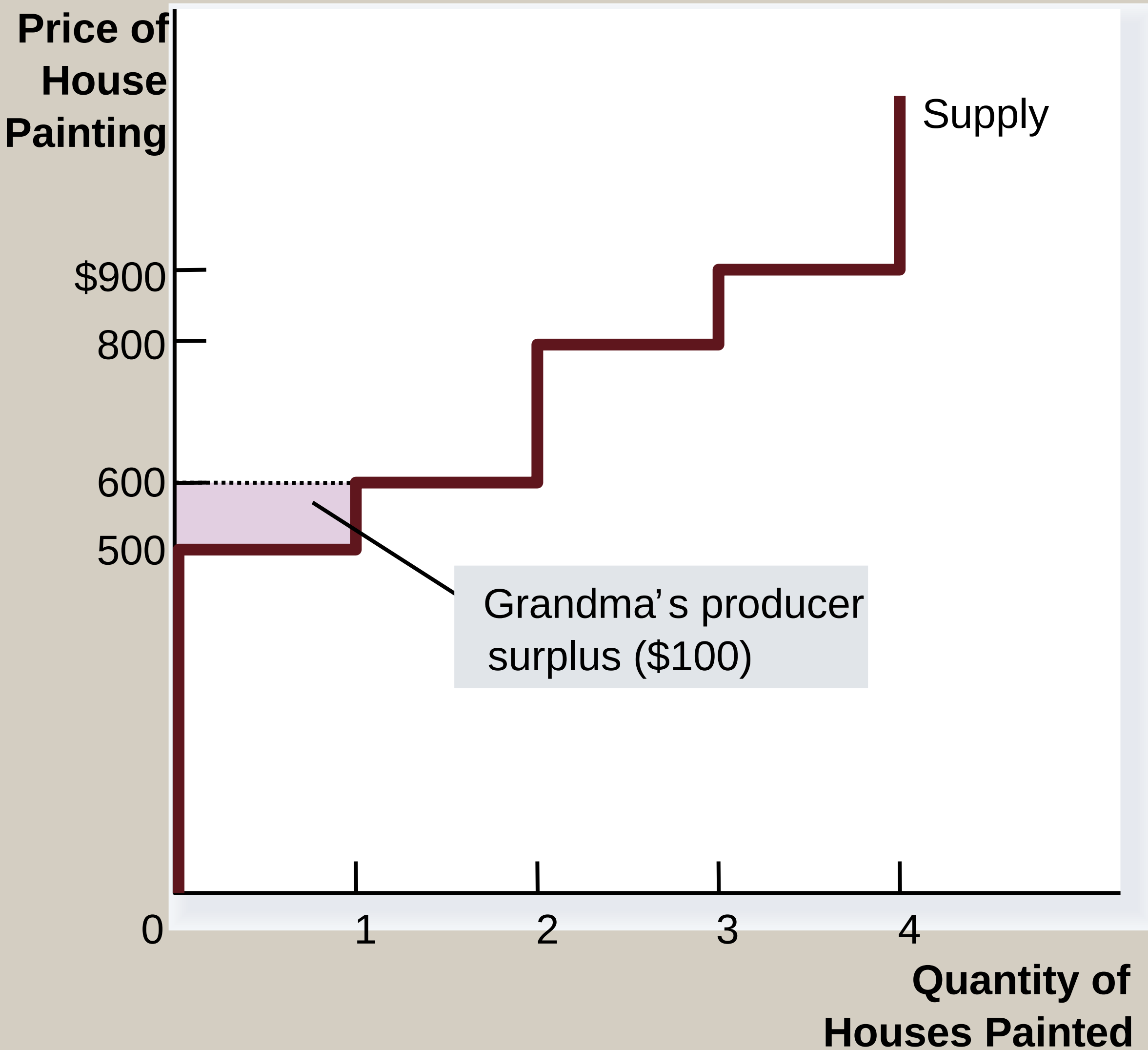


Figure 5 Measuring Producer Surplus with the Supply Curve

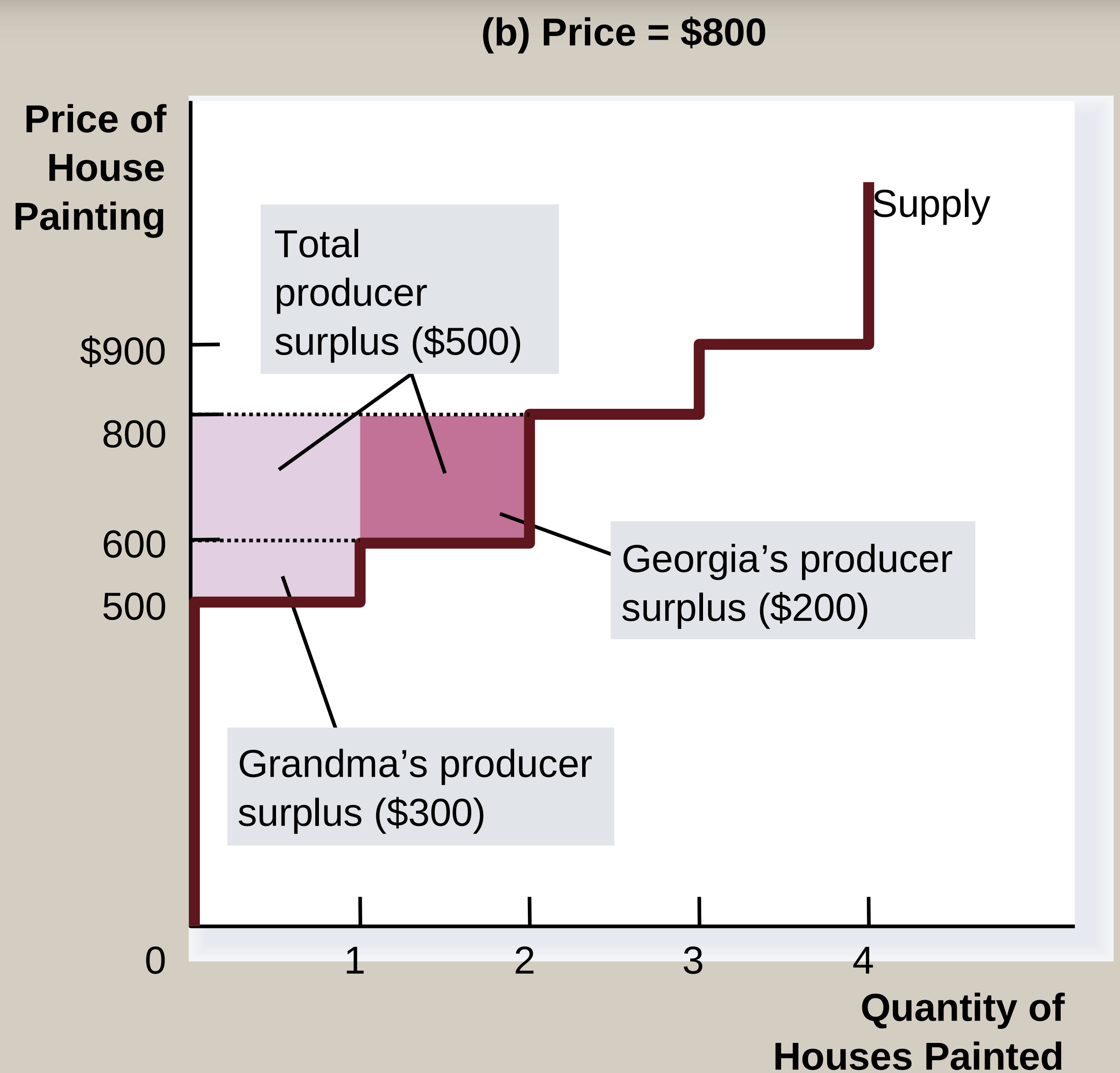


Figure 6 How the Price Affects Producer Surplus

(a) Producer Surplus at Price P_1

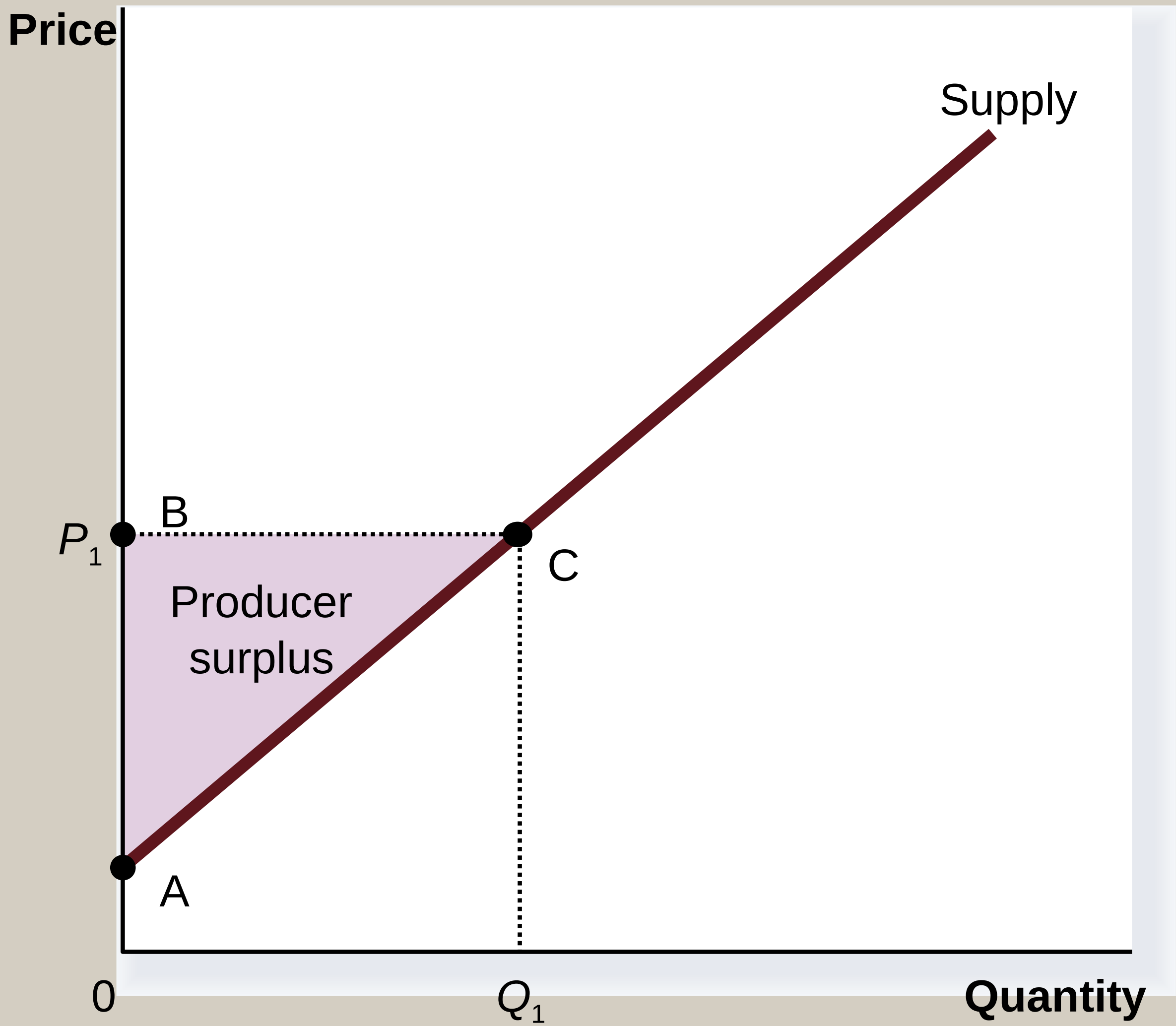
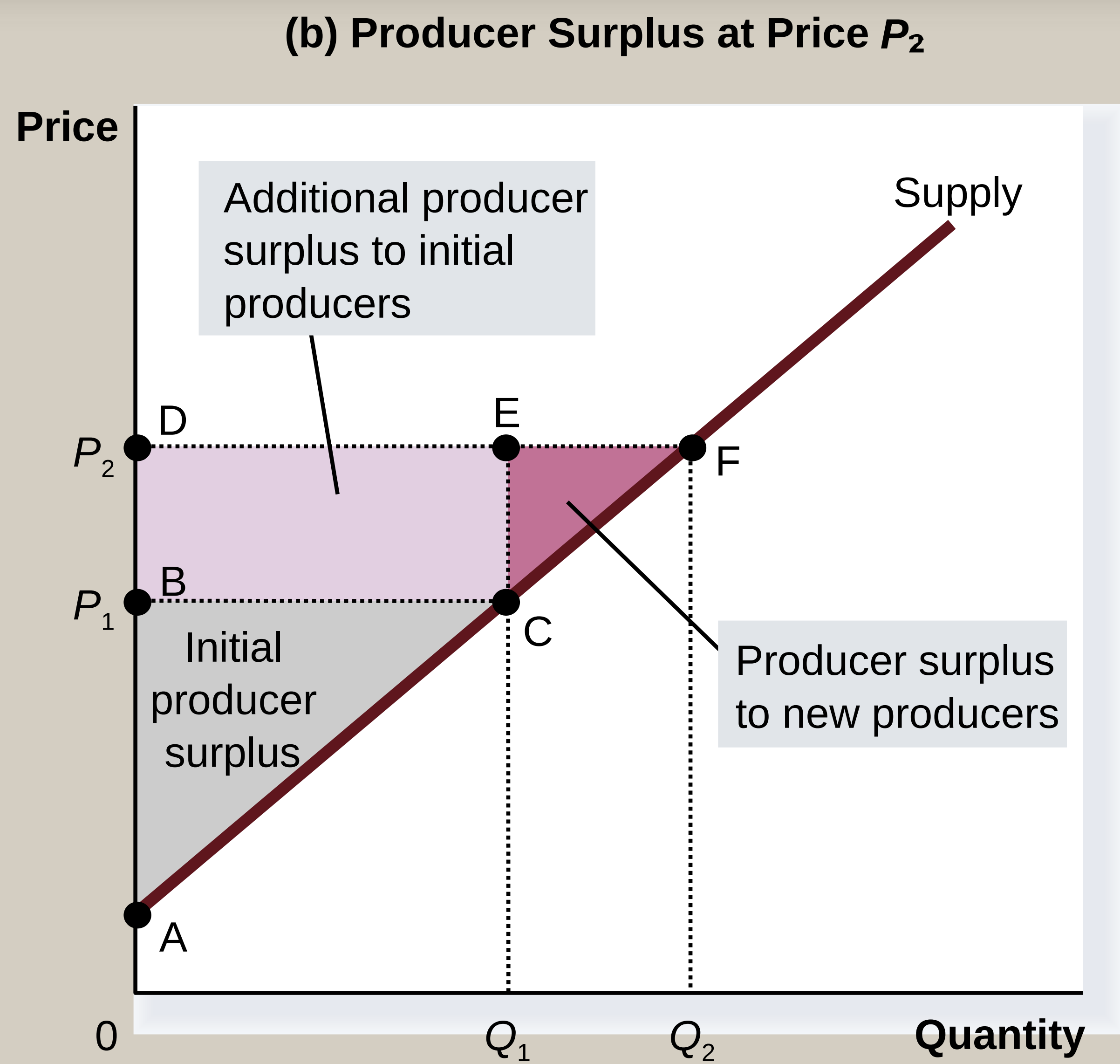


Figure 6 How the Price Affects Producer Surplus



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?

MARKET EFFICIENCY

Consumer Surplus

= Value to buyers – Amount paid by buyers

and

Producer Surplus

= Amount received by sellers – Cost to sellers

MARKET EFFICIENCY

Total surplus

= Consumer surplus + Producer surplus

or

Total surplus

= Value to buyers – Cost to sellers

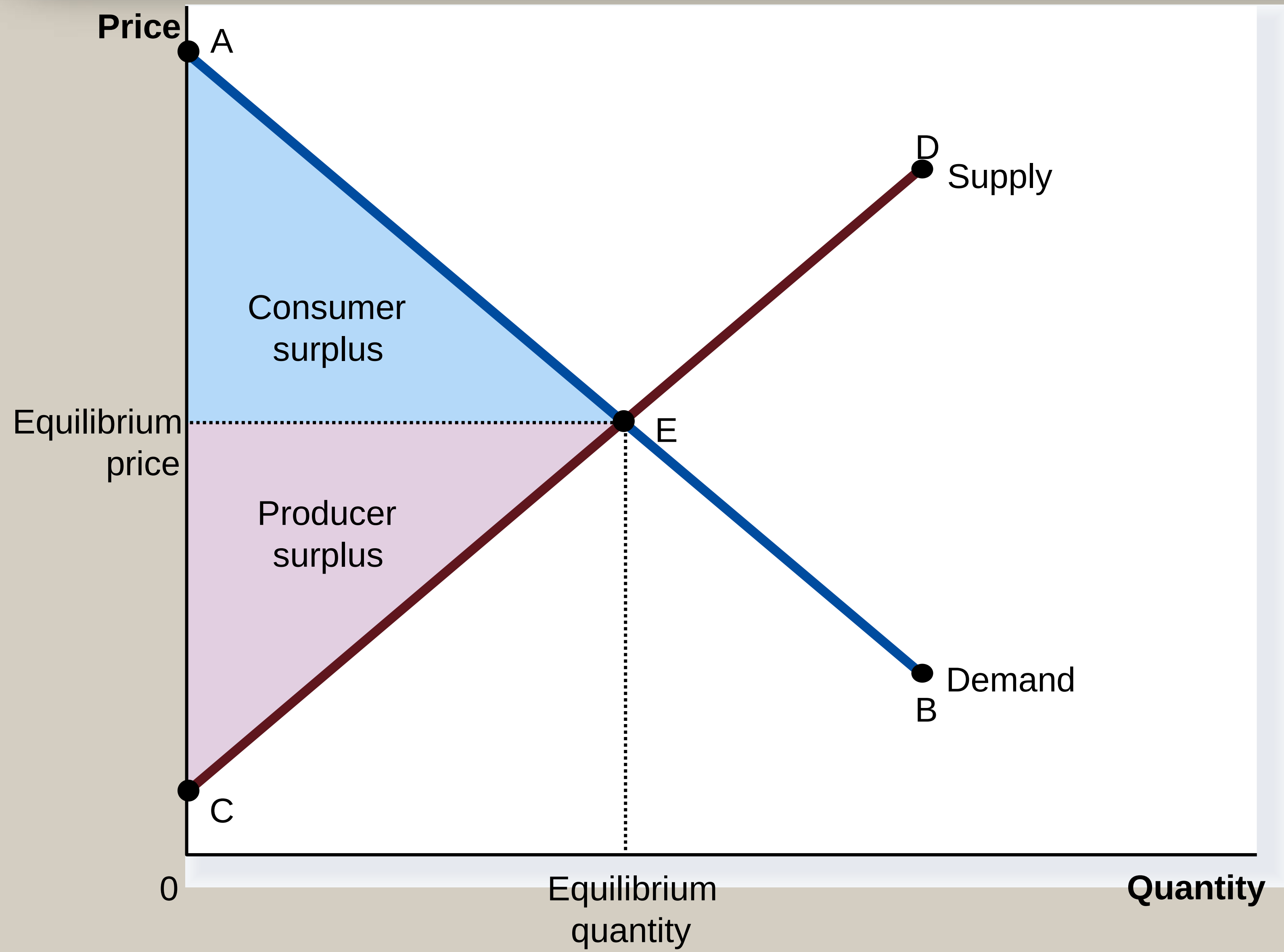
MARKET EFFICIENCY

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

MARKET EFFICIENCY

- 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.

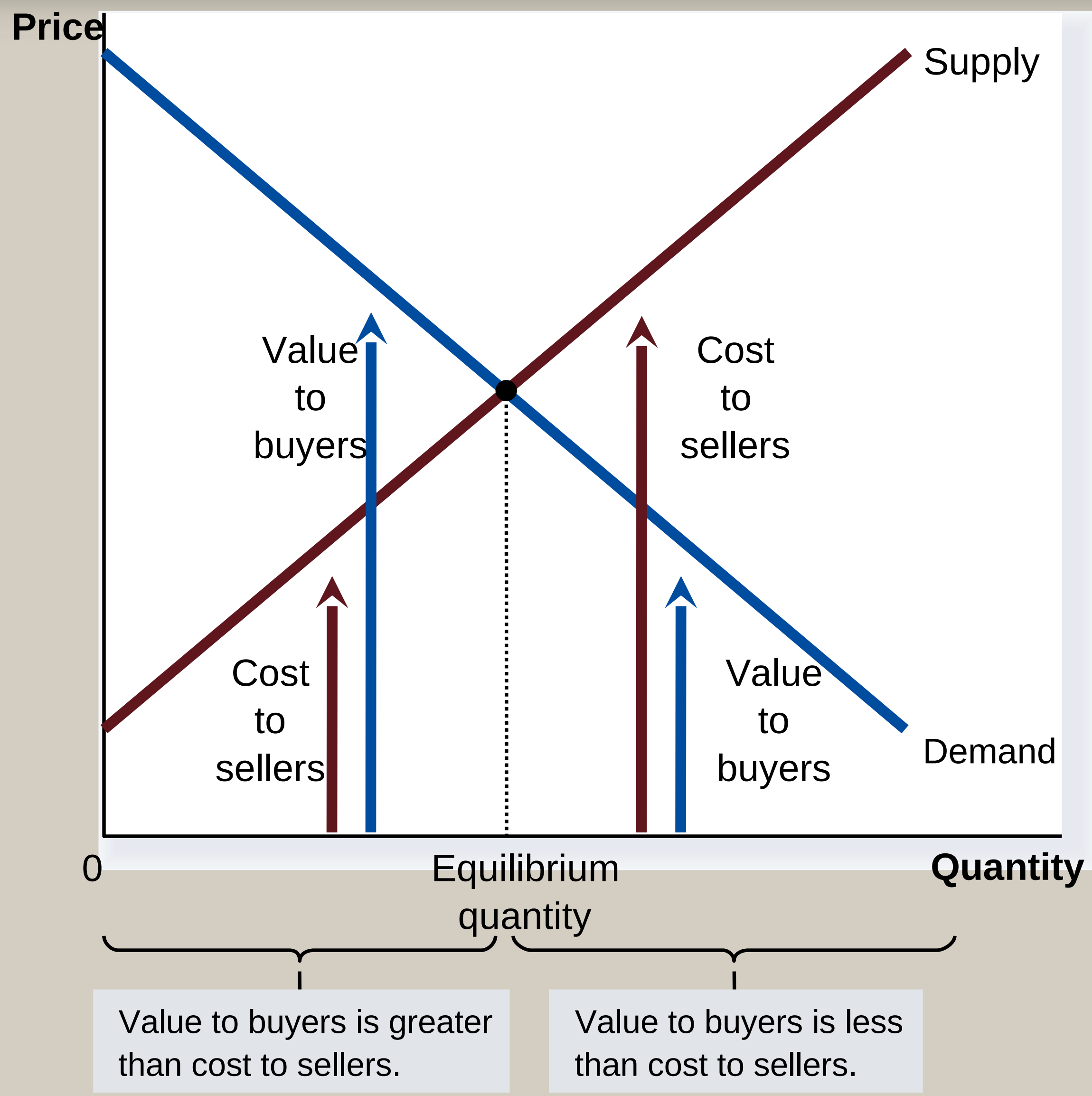
Figure 7 Consumer and Producer Surplus in the Market Equilibrium



MARKET EFFICIENCY

- Three Insights Concerning Market Outcomes
  - 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.

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.