

# Consumers, Producers, and the Efficiency of Markets

## Chapter 7

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# 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 is determined 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.

# Welfare Economics

**Equilibrium in the market results in maximum benefits, and therefore maximum total welfare for both the consumers and the producers of the product.**

# Welfare Economics

- **Consumer surplus measures economic welfare from the buyer's side.**
- **Producer surplus measures economic welfare from the seller's side.**

# Consumer Surplus

- **Willingness to pay** is the maximum price that a buyer is willing and able to pay for a good.
- It measures how much the buyer values the good or service.

# Consumer Surplus

**Consumer surplus** is the amount a buyer is willing to pay for a good minus the amount the buyer actually pays for it.



# *Four Possible Buyers' Willingness to Pay...*

<b>Buyer</b>	<b>Willingness to Pay</b>
John	\$100
Paul	80
George	70
Ringo	50



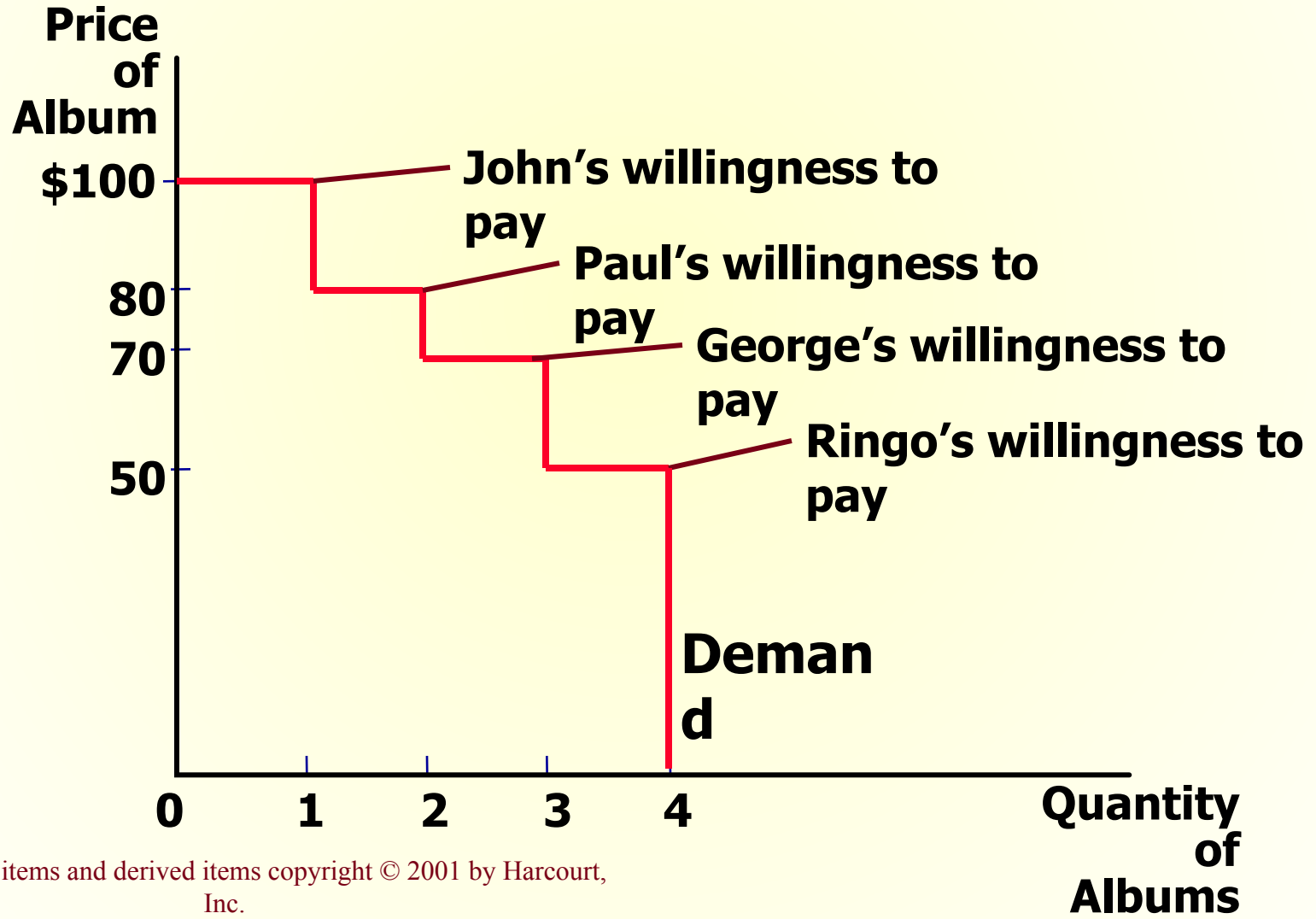
# Consumer Surplus

**The market demand curve depicts the various quantities that buyers would be willing and able to purchase at different prices.**

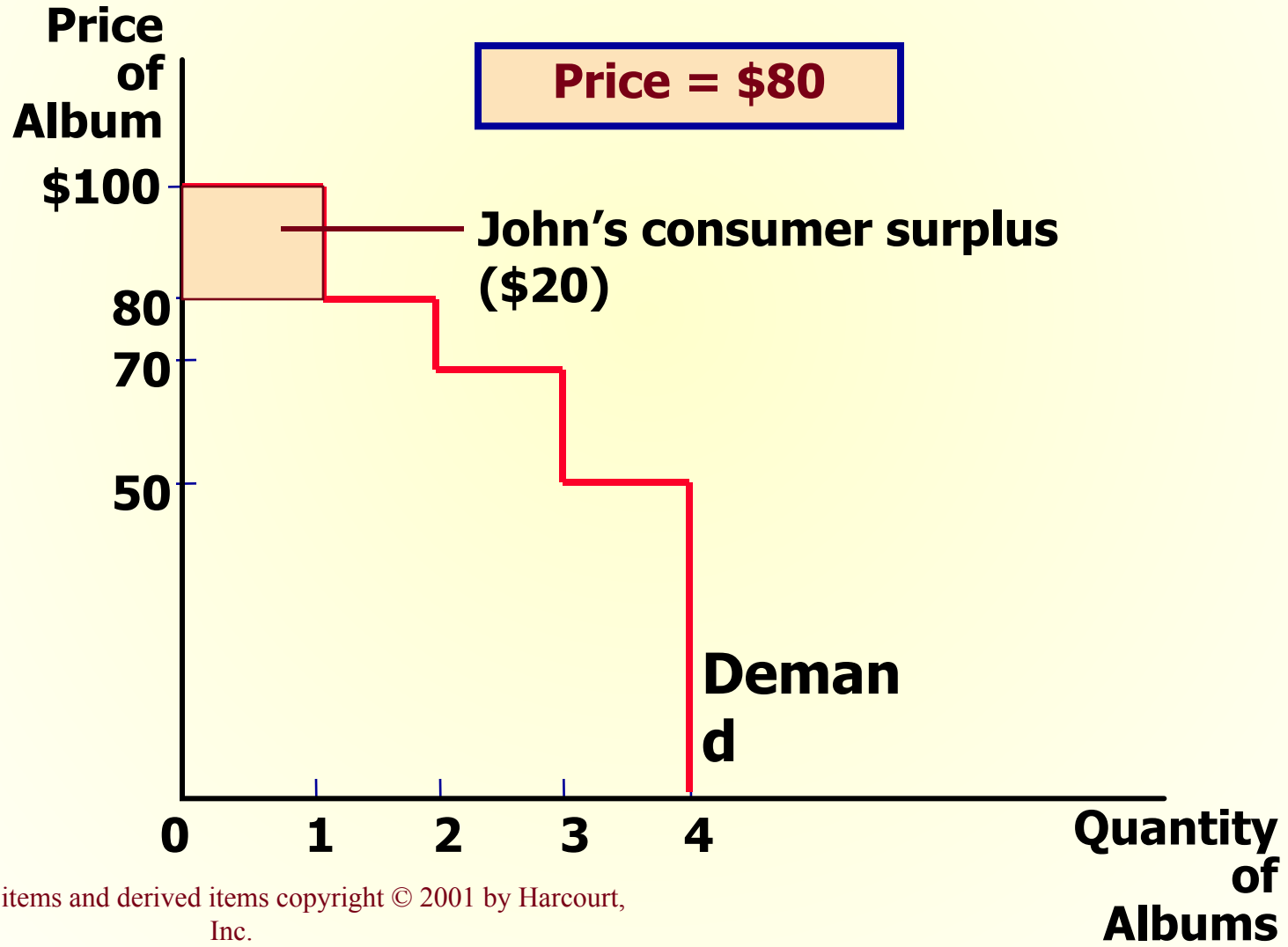
# *Four Possible Buyers' Willingness to Pay...*

<b>Price</b>	<b>Buyer</b>	<b>Quantity Demanded</b>
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	Ringo	4

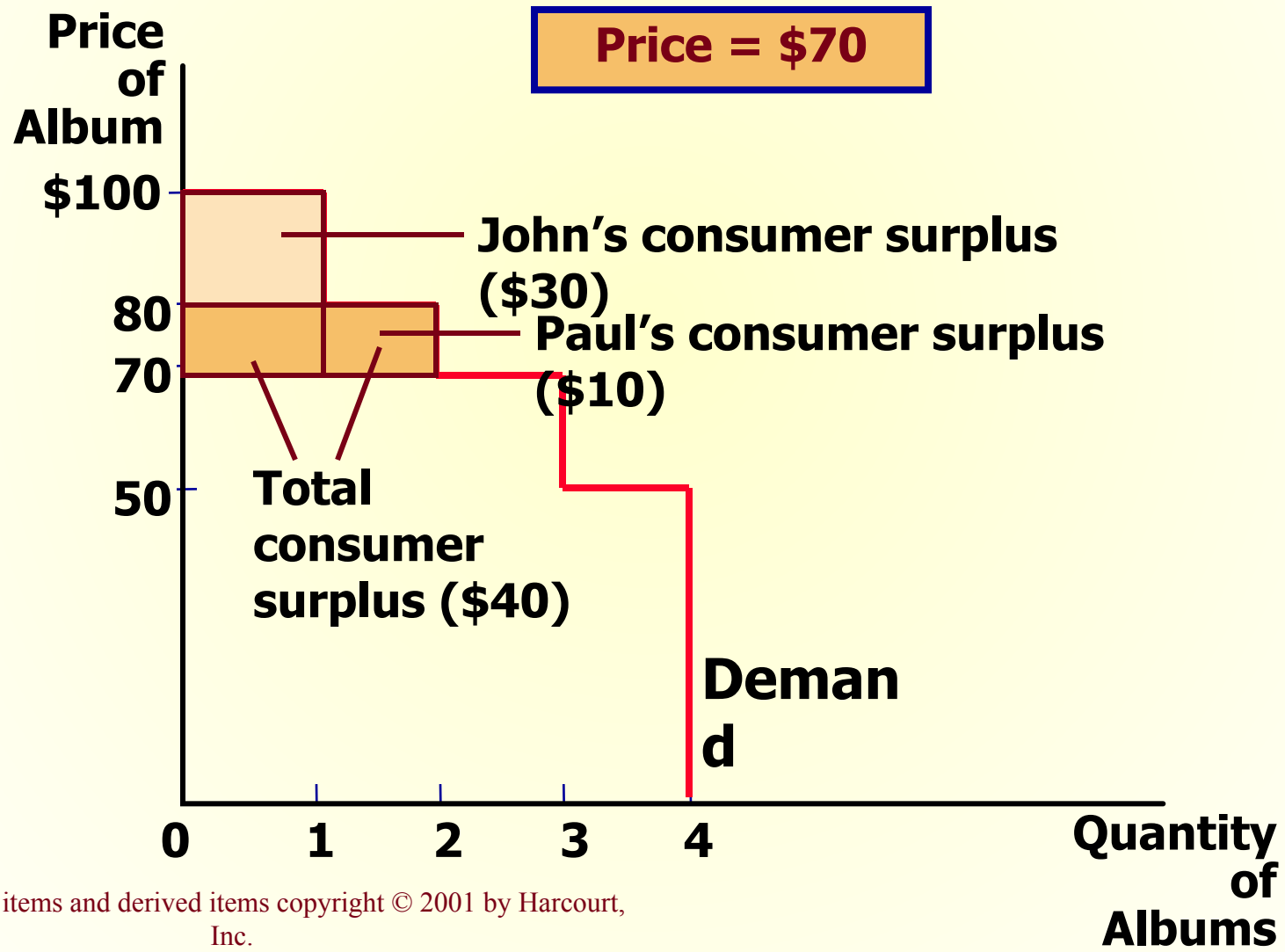
# Measuring Consumer Surplus with the Demand Curve...



# Measuring Consumer Surplus with the Demand Curve...



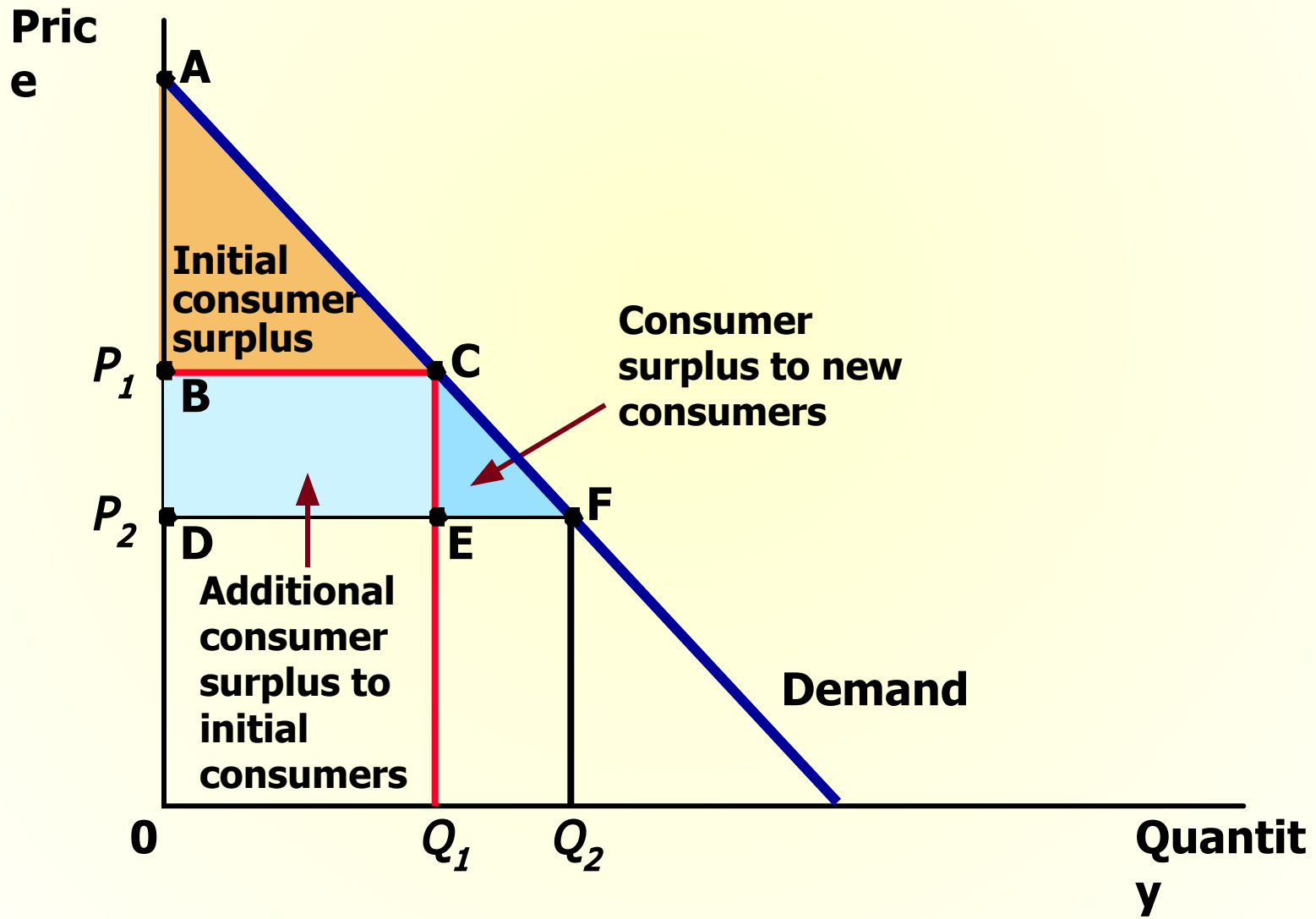
# Measuring Consumer Surplus with the Demand Curve...



# Measuring Consumer Surplus with the Demand Curve

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

# How the Price Affects Consumer Surplus...





# Consumer Surplus and Economic Well-Being

**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 minus the cost of production.
- It measures the benefit to sellers participating in a market.

# *The Costs of Four Possible Sellers...*

<b>Seller</b>	<b>Cost</b>
Mary	\$900
Frida	800
Georgia	600
Grandma	500

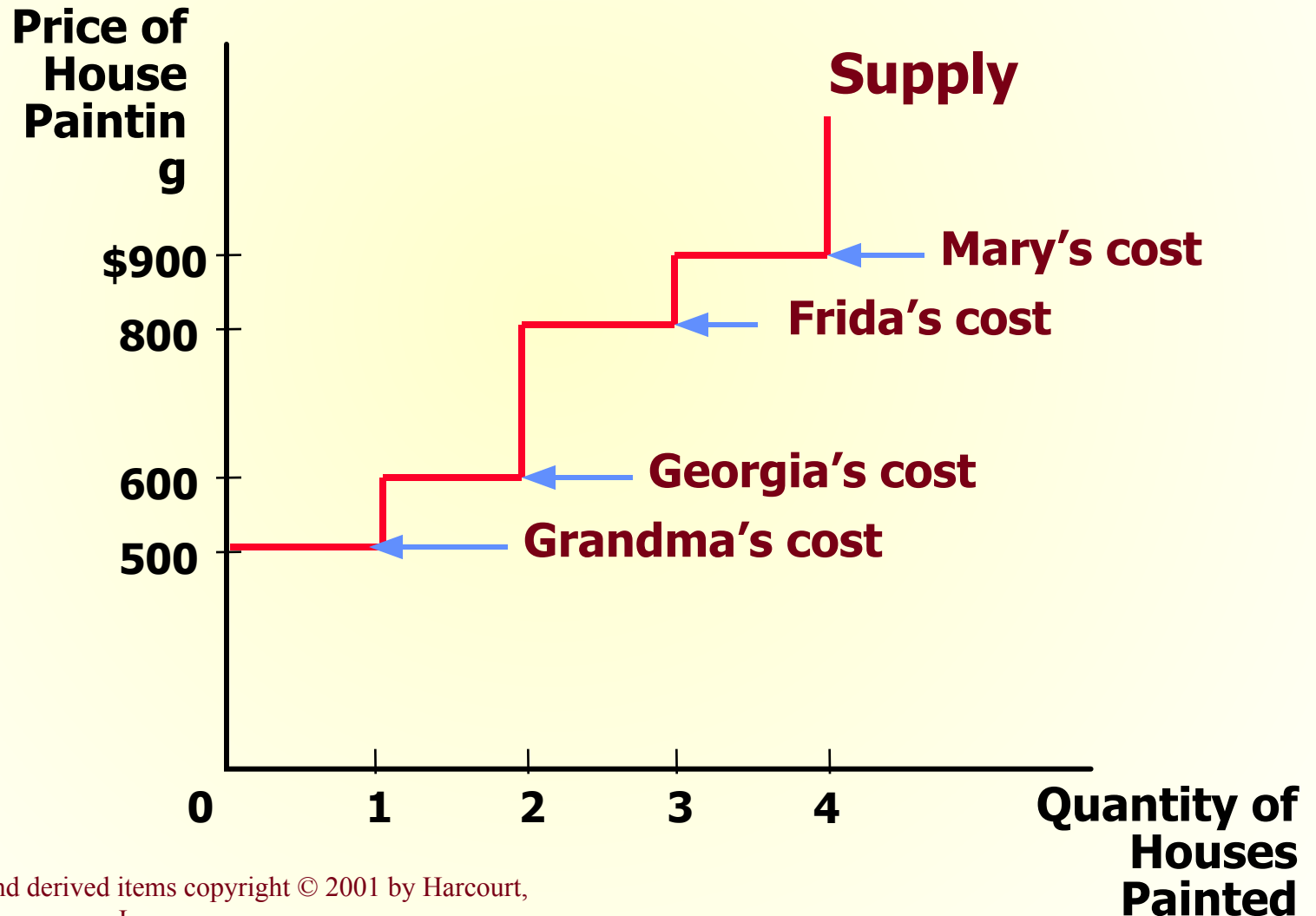
# Producer Surplus and the Supply Curve

- Just as consumer surplus is related to the demand curve, producer surplus is closely related to the supply curve.
- At any quantity, the price given by the supply curve shows the cost of the *marginal seller*, the seller who would leave the market first if the price were any lower.

# *Supply Schedule for the Four Possible Sellers...*

<b>Price</b>	<b>Sellers</b>	<b>Quantity Supplied</b>
\$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

# Producer Surplus and the Supply Curve...

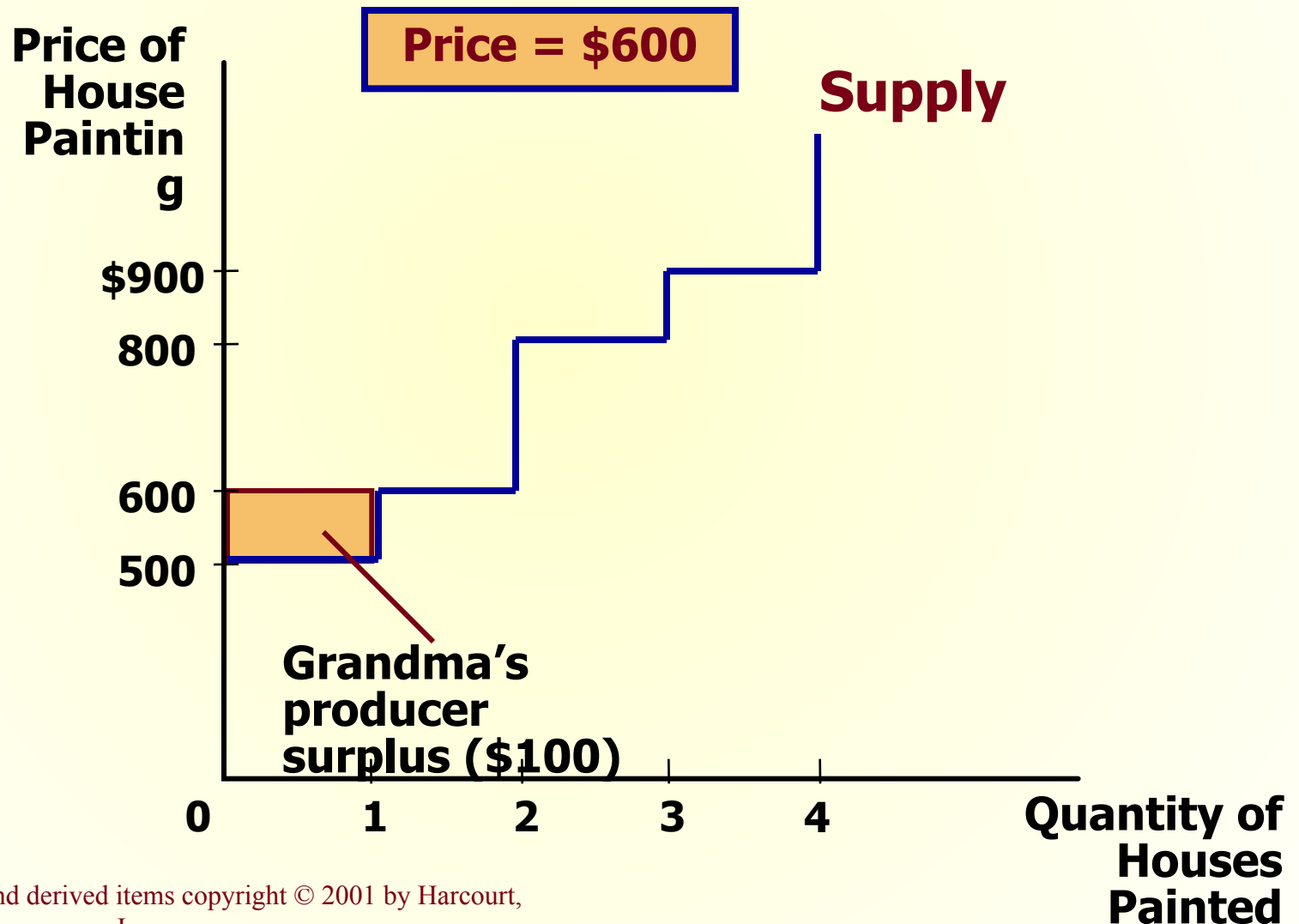


# Producer Surplus and the Supply Curve

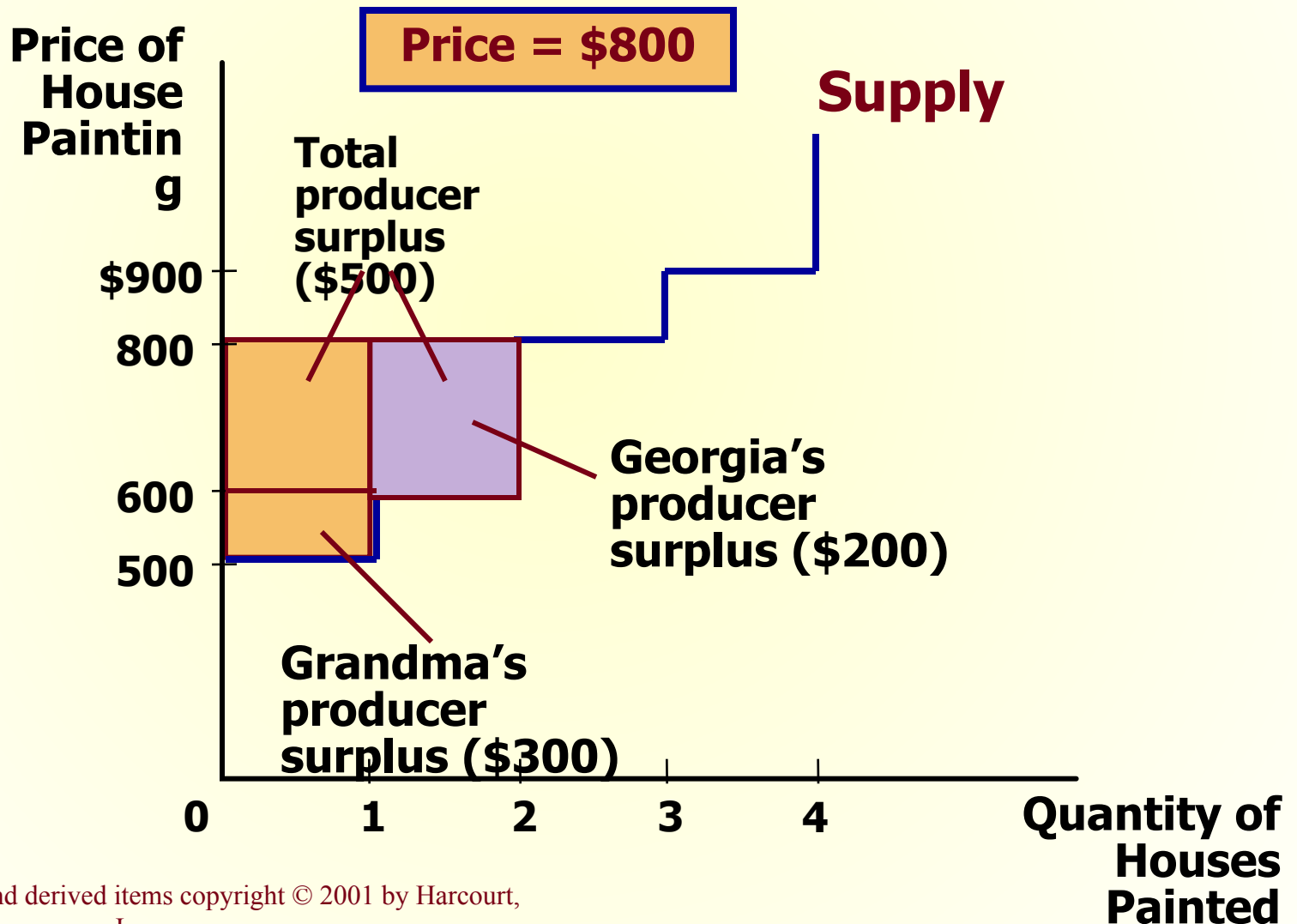
**The area below the price and above the supply curve measures the producer surplus in a market.**



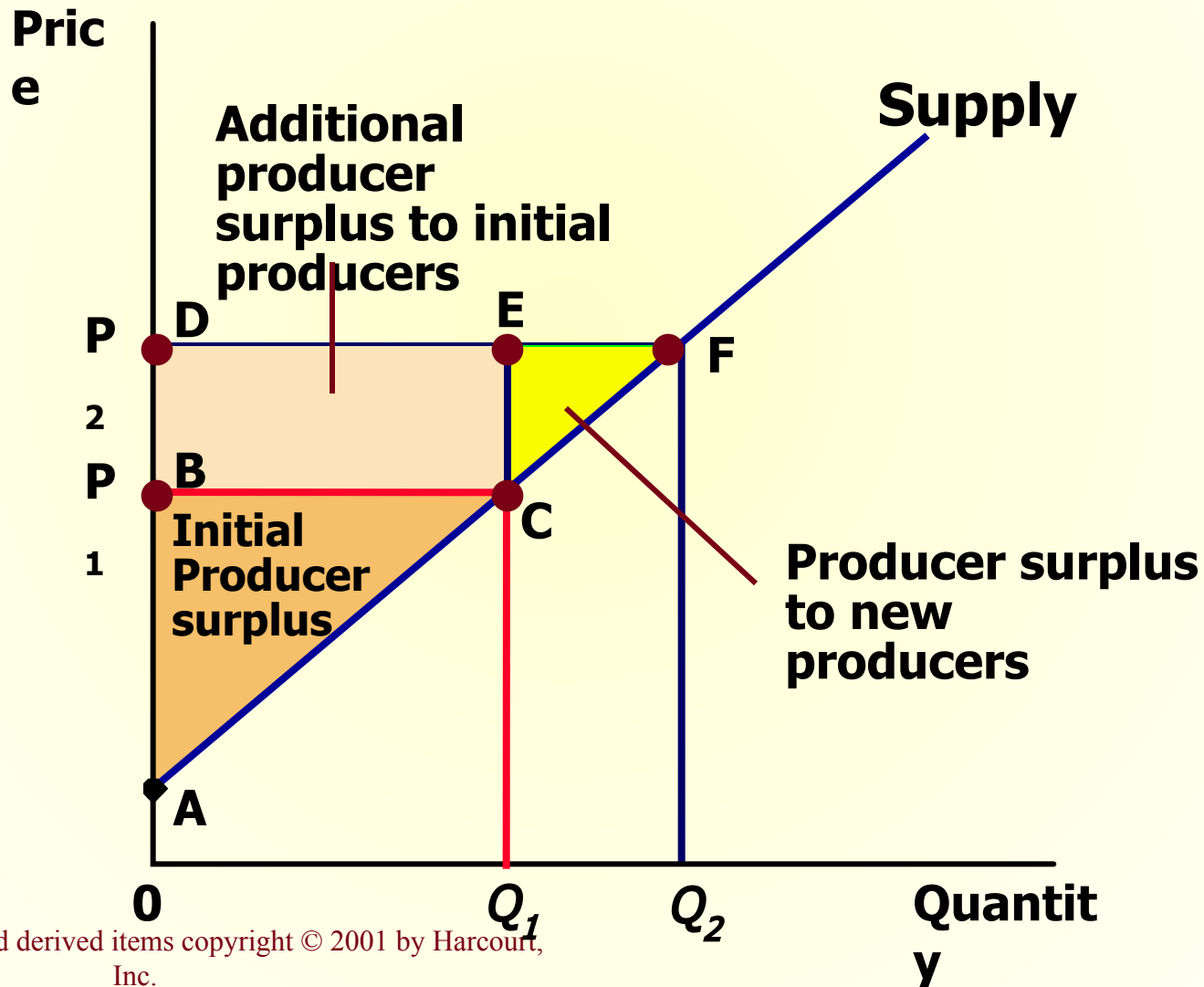
# Measuring Producer Surplus with the Supply Curve...



# Measuring Producer Surplus with the Supply Curve...



# How 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?**

# Economic Well-Being and Total Surplus

**Consumer Surplus = Value to buyers – Amount paid by buyers**

**and**

**Producer Surplus = Amount received by sellers – Cost to sellers**

# Economic Well-Being and Total Surplus

$$\text{Total Surplus} = \text{Consumer Surplus} + \text{Producer Surplus}$$

**or**

$$\text{Total Surplus} = \text{Value to buyers} - \text{Cost to sellers}$$

# Market Efficiency

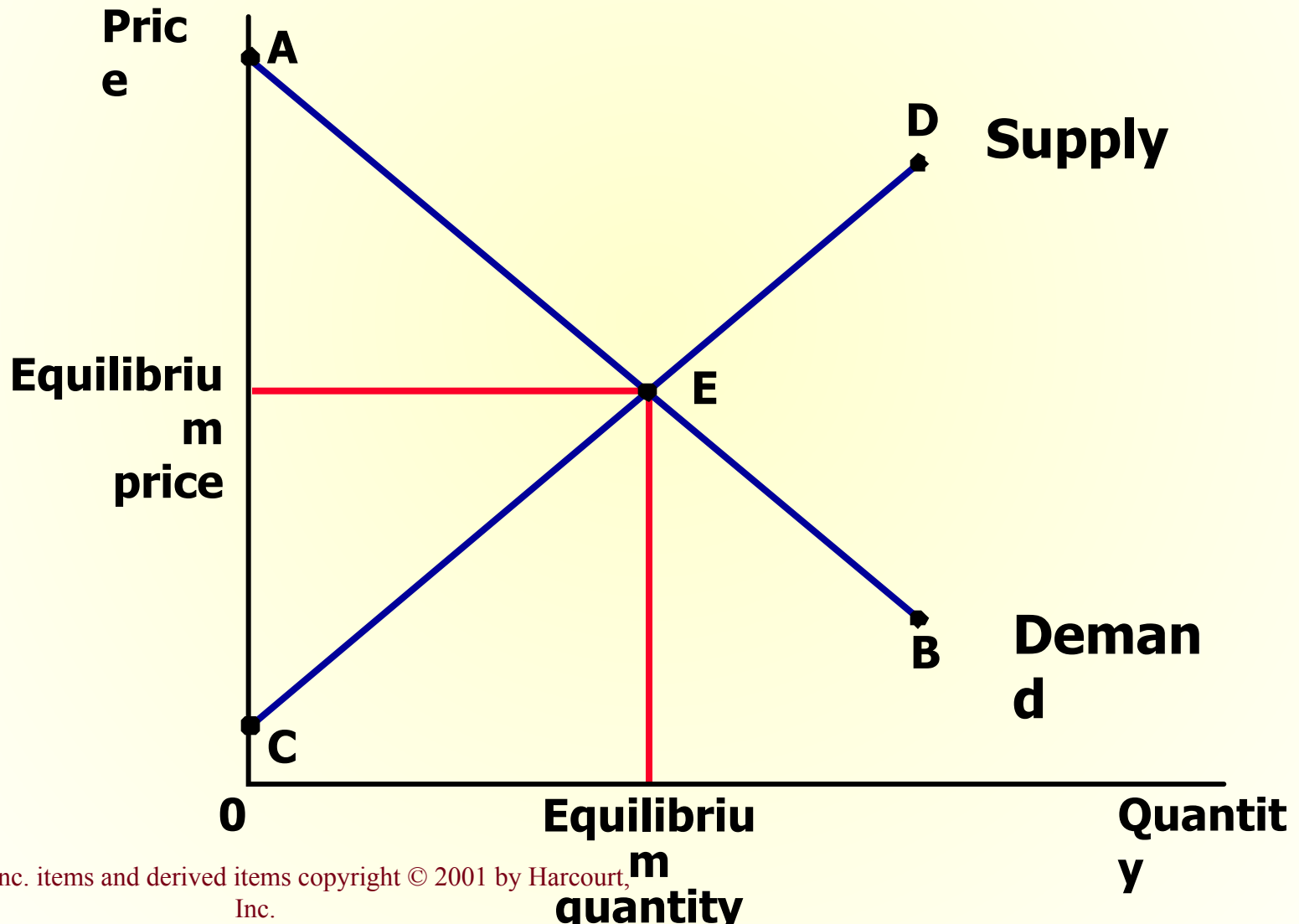
**Market efficiency** is achieved when the allocation of resources maximizes total surplus.



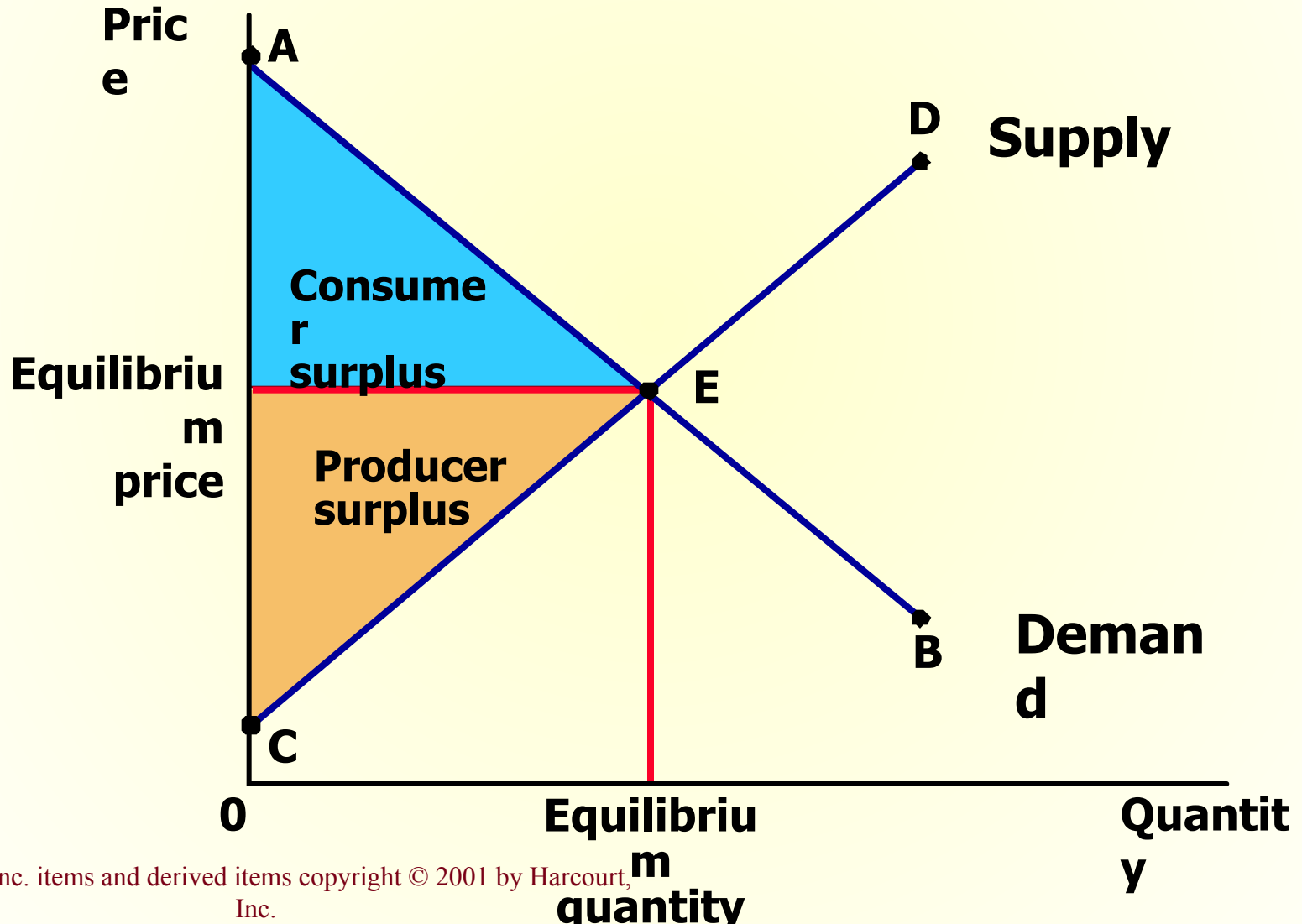
# Market Efficiency

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.

# *Evaluating the Market Equilibrium...*



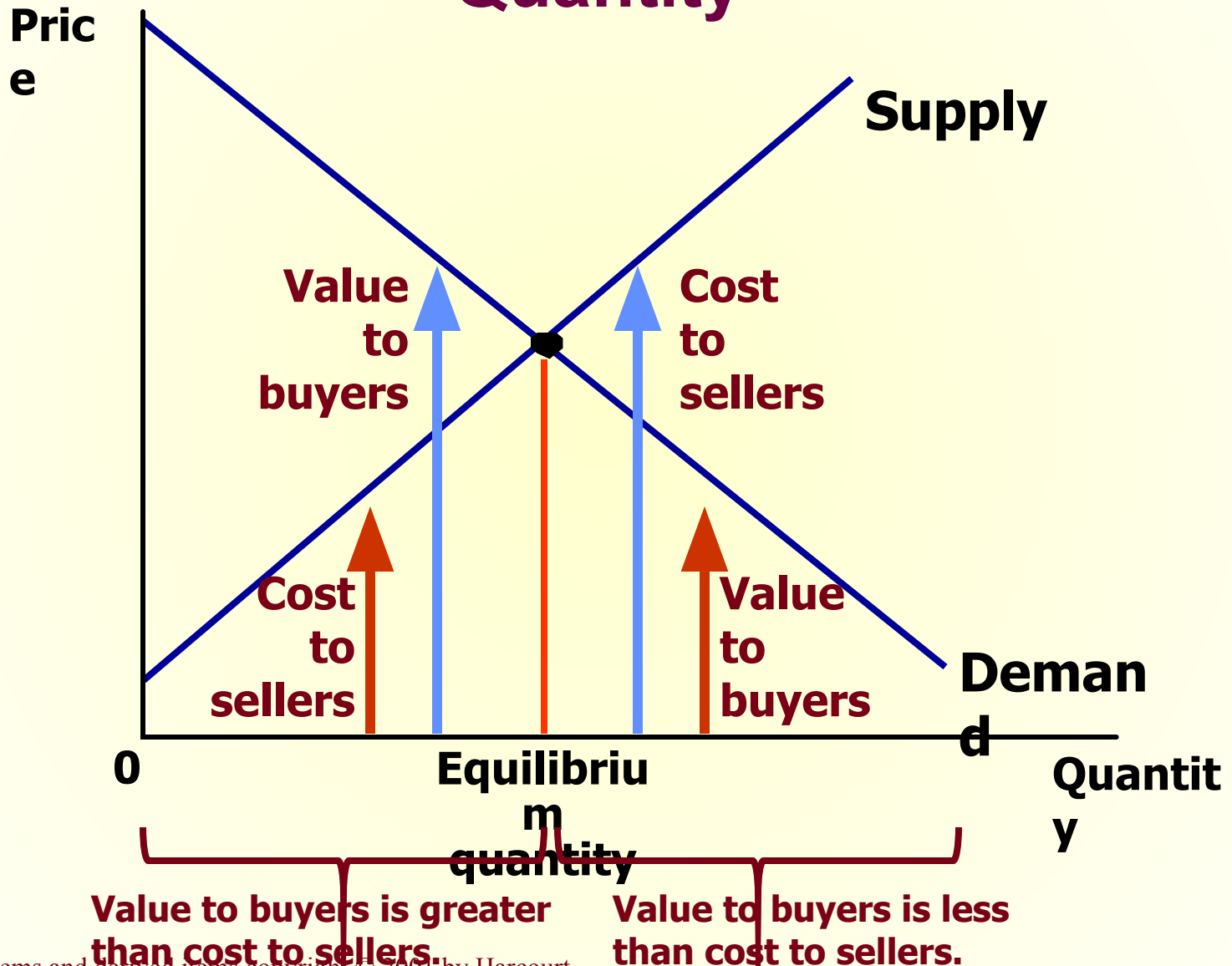
# Consumer and Producer Surplus in the Market Equilibrium...



# Three Insights Concerning Market Outcomes

- **Free markets allocate the supply of goods to the buyers who value them most highly.**
- **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.**

# The Efficiency of the Equilibrium Quantity



# The Efficiency of the Equilibrium Quantity

- 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*.

# 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.



# Externalities

**Externalities** are created when a market outcome affects individuals other than buyers and sellers in that market.

- Externalities 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 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 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

- **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.**

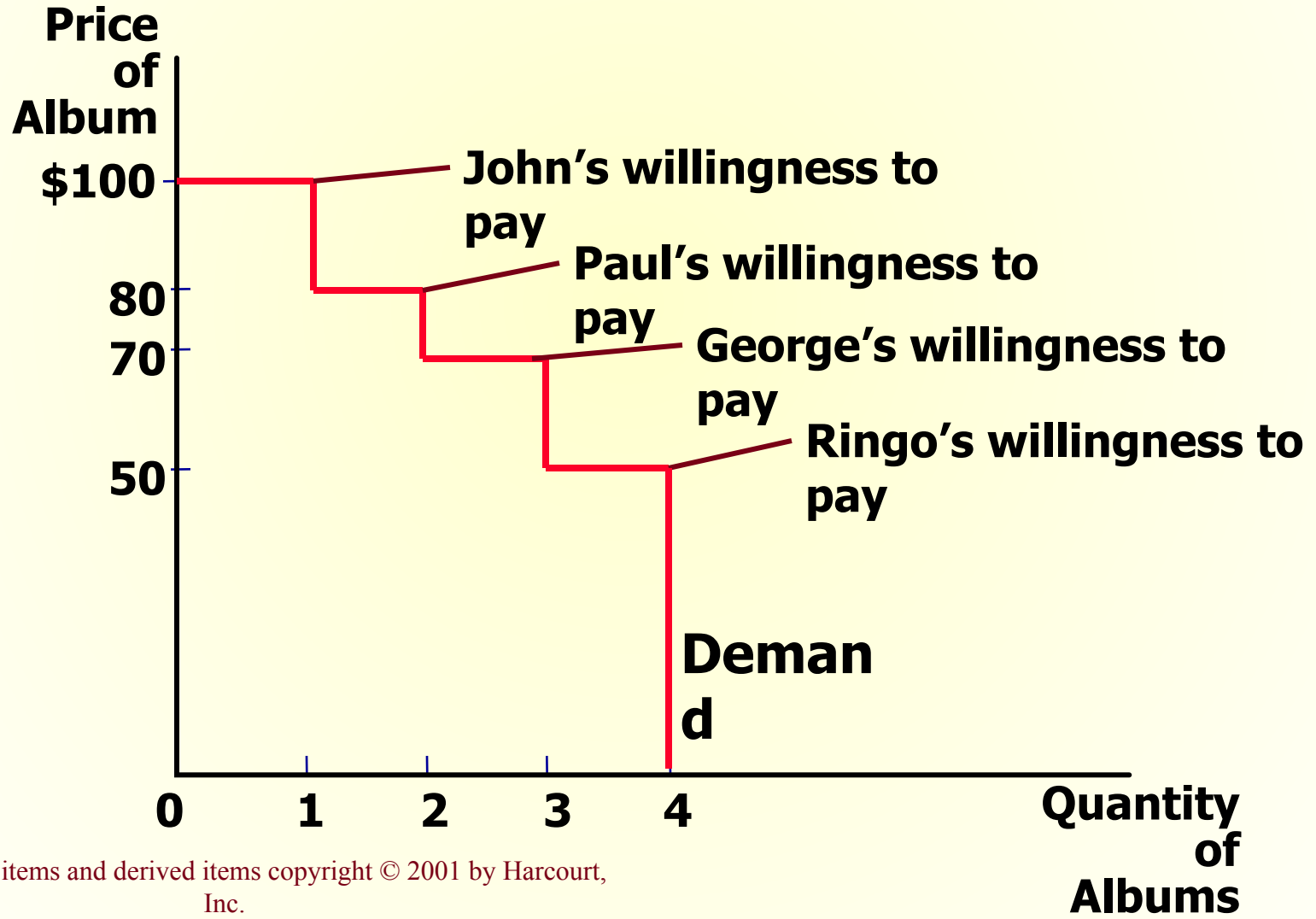
# Summary

- **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.**

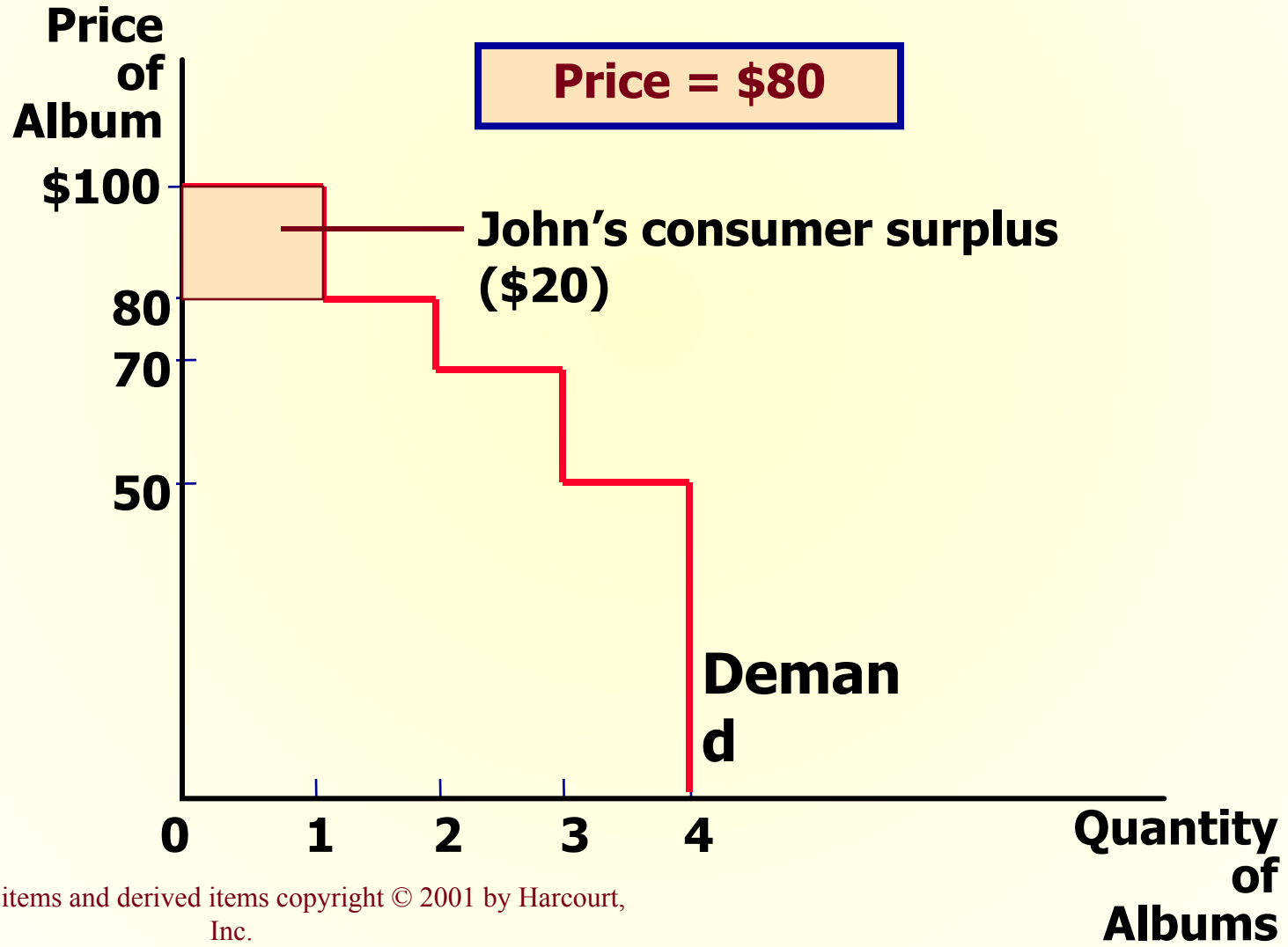


# Graphical Review

# Measuring Consumer Surplus with the Demand Curve...

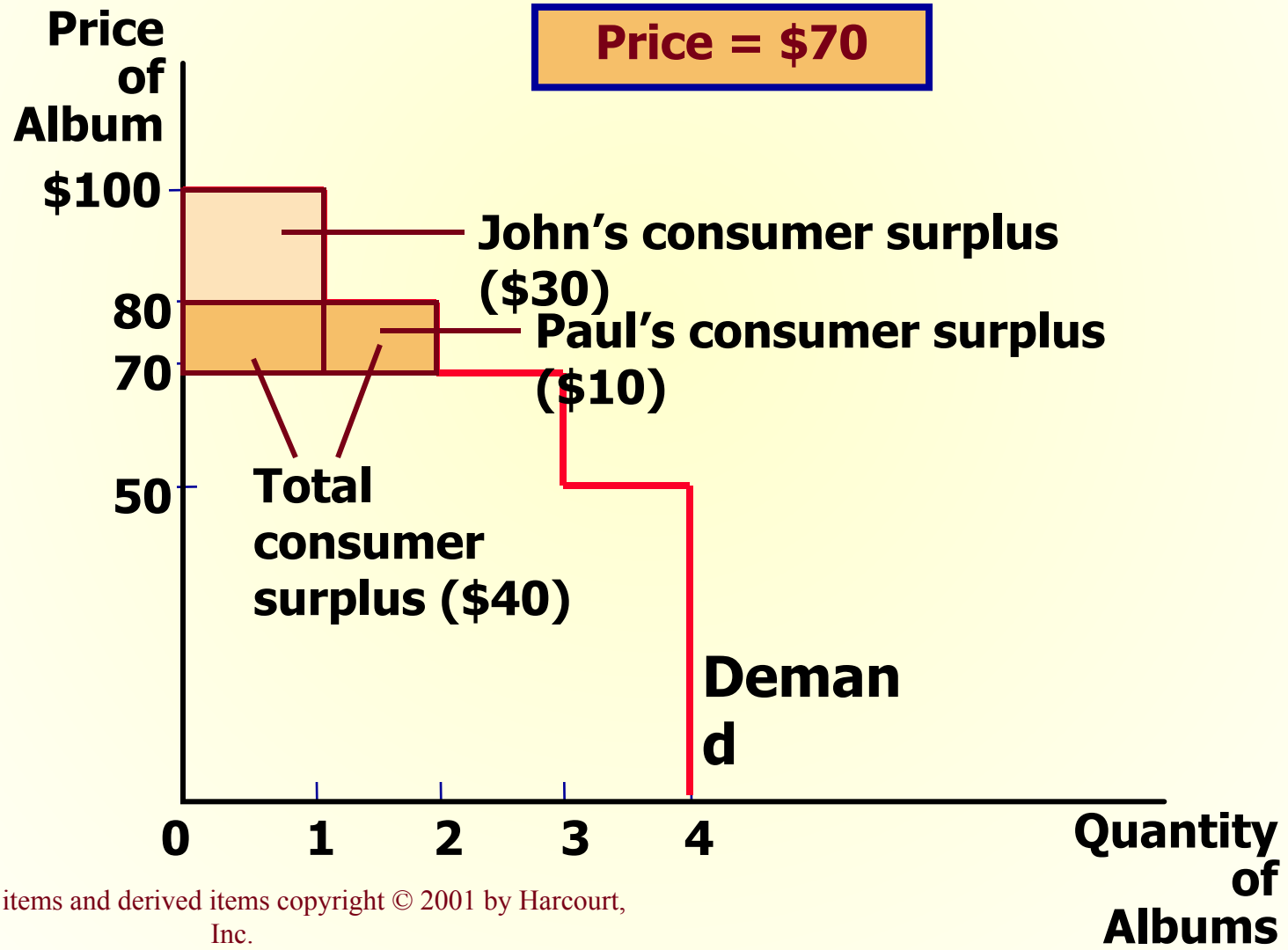


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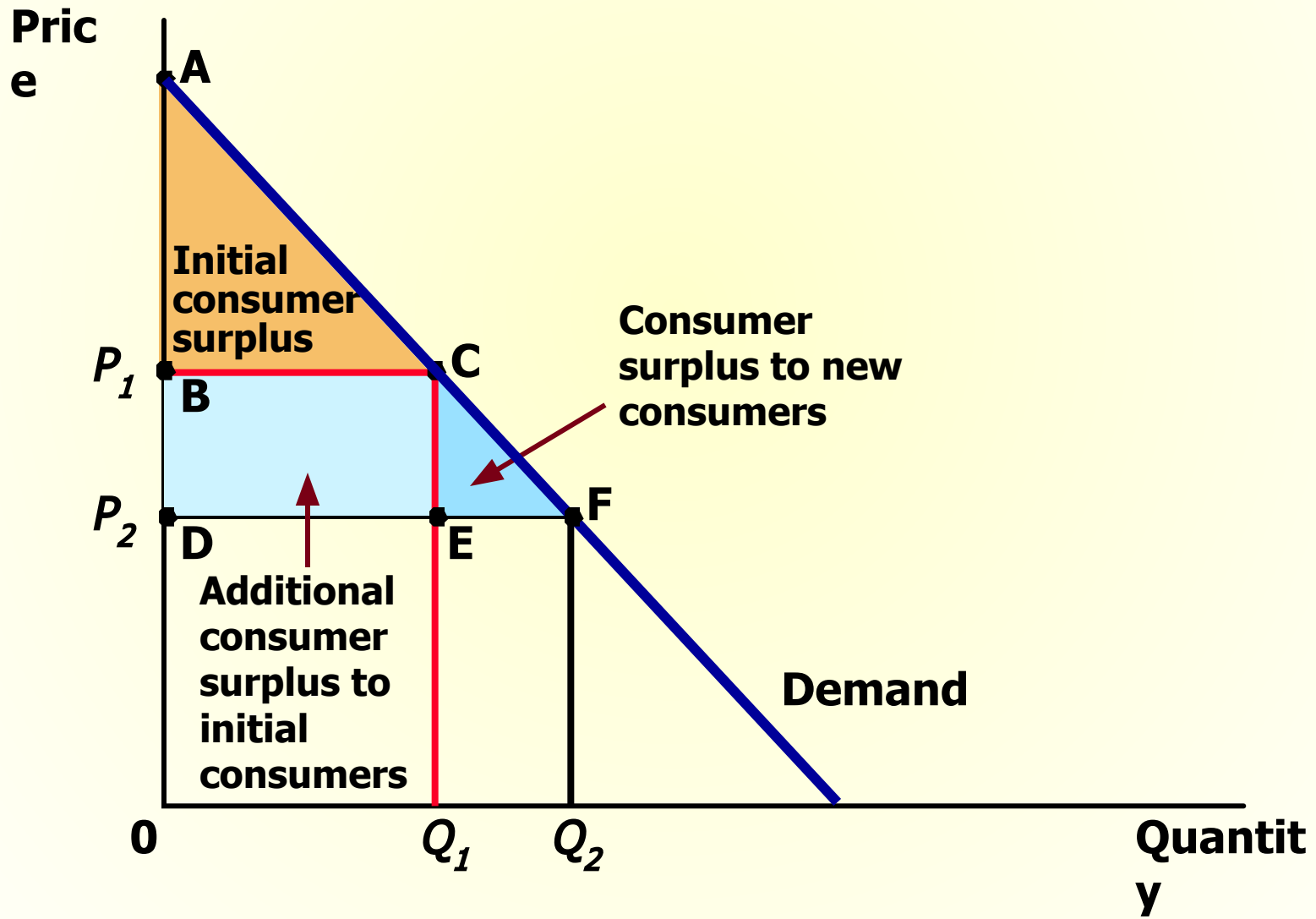




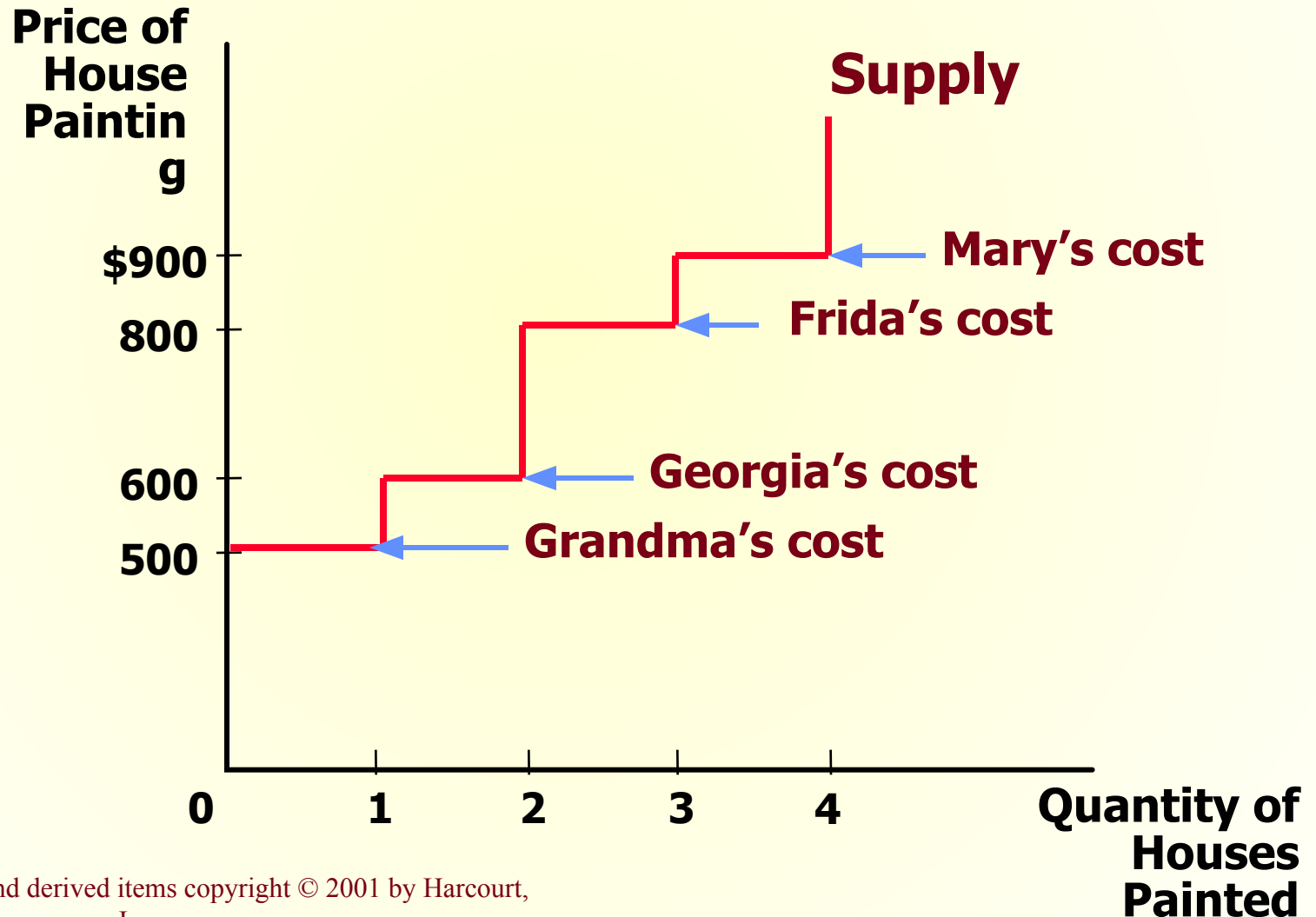
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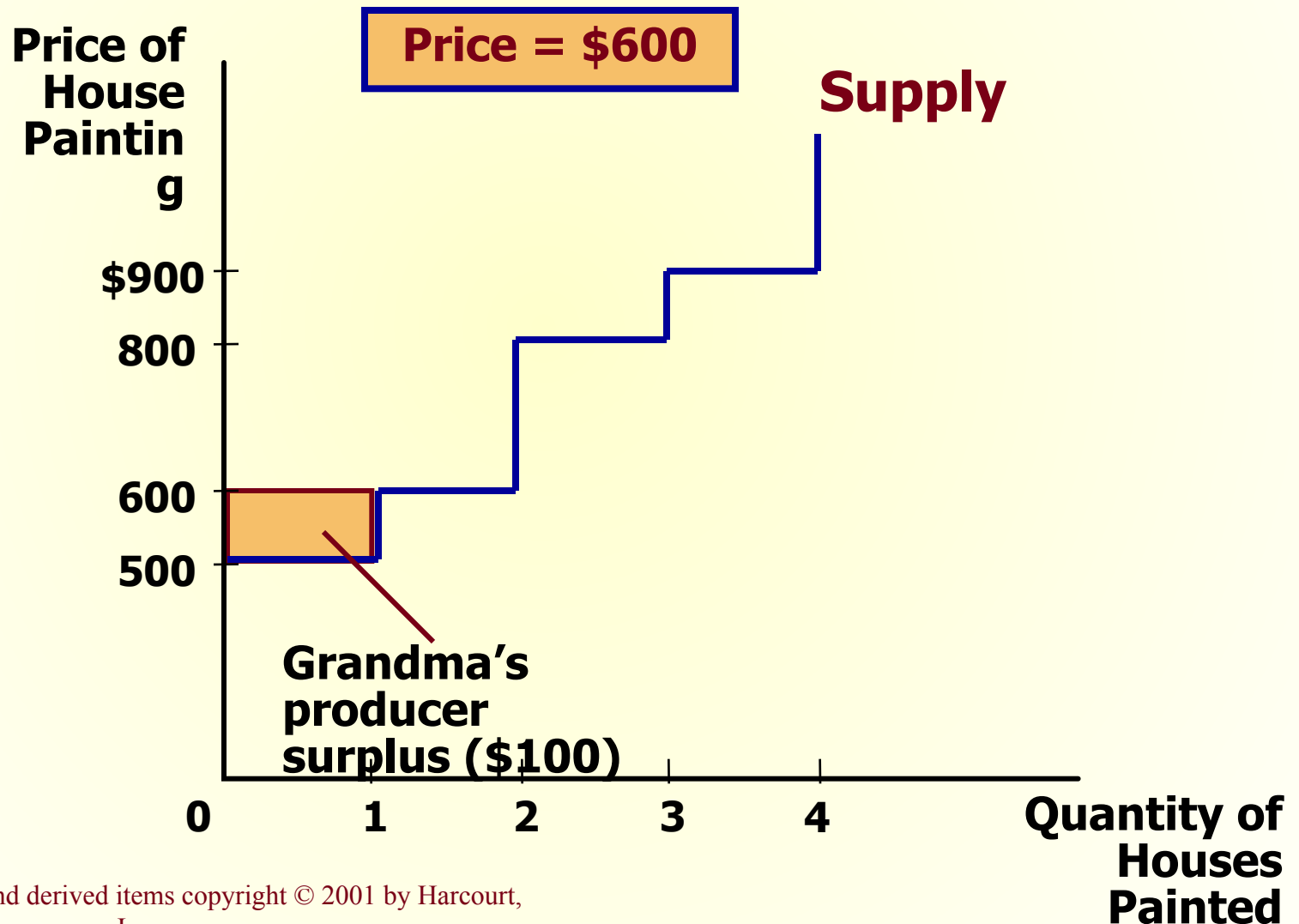
# How the Price Affects Consumer Surplus...



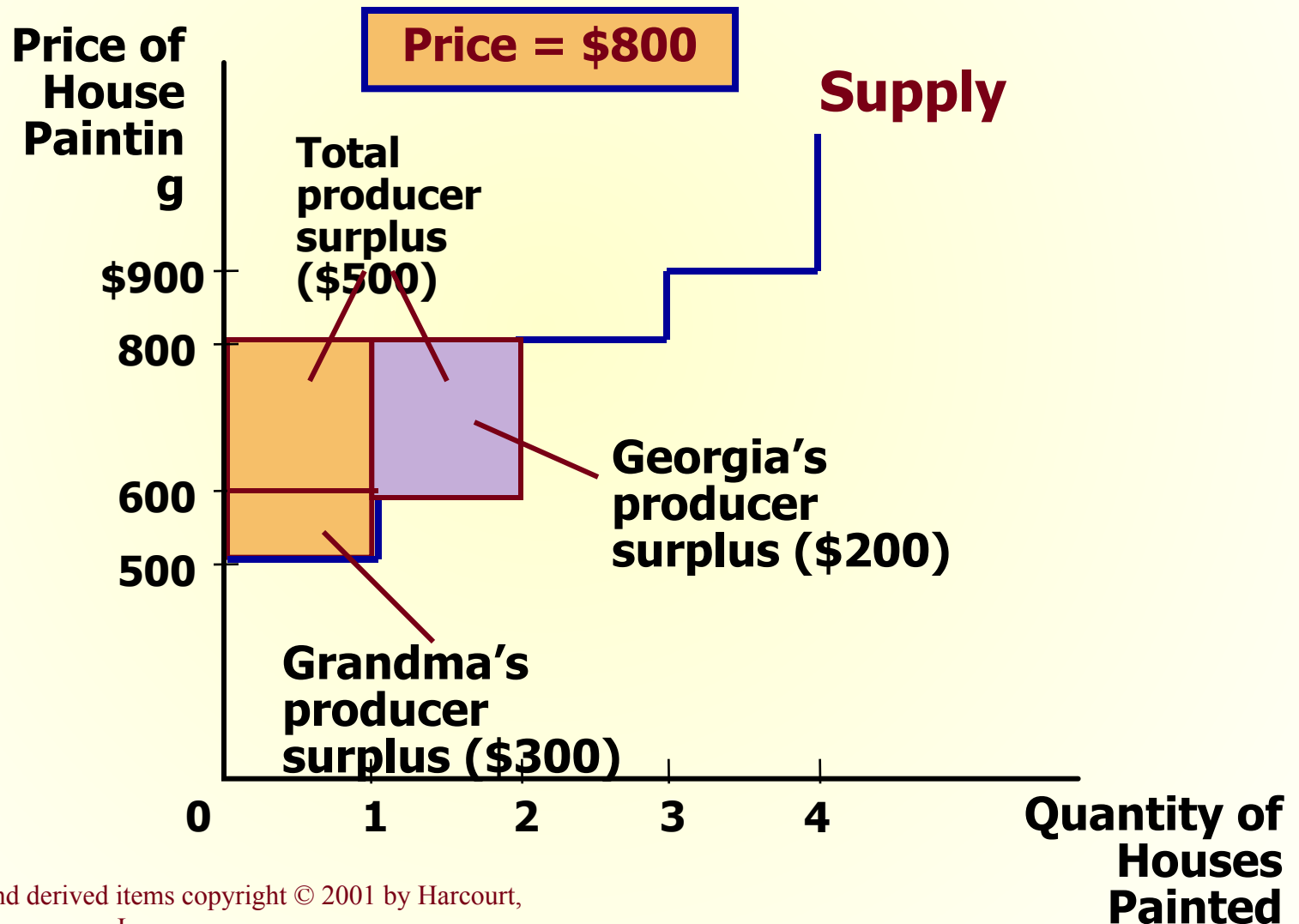
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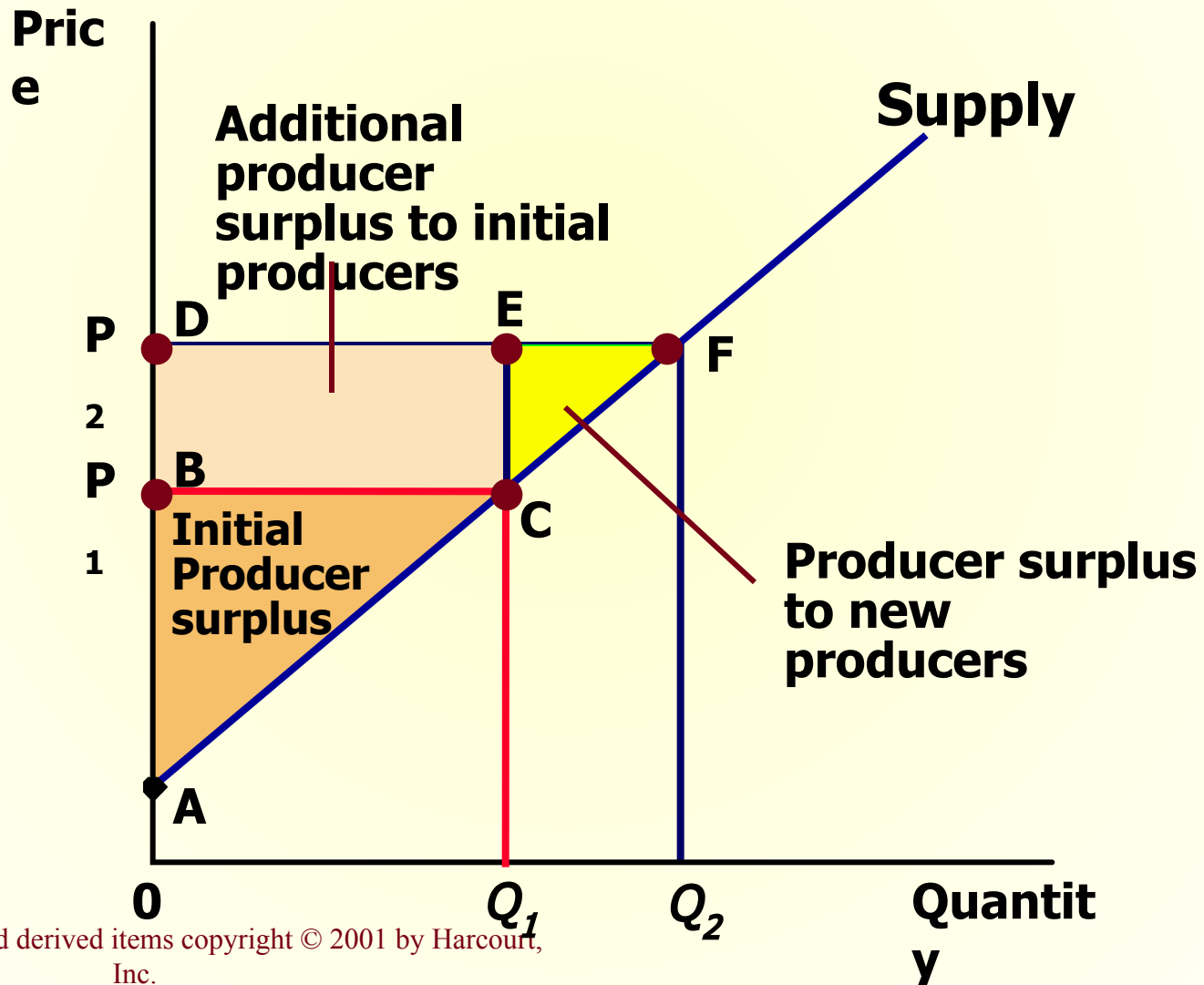
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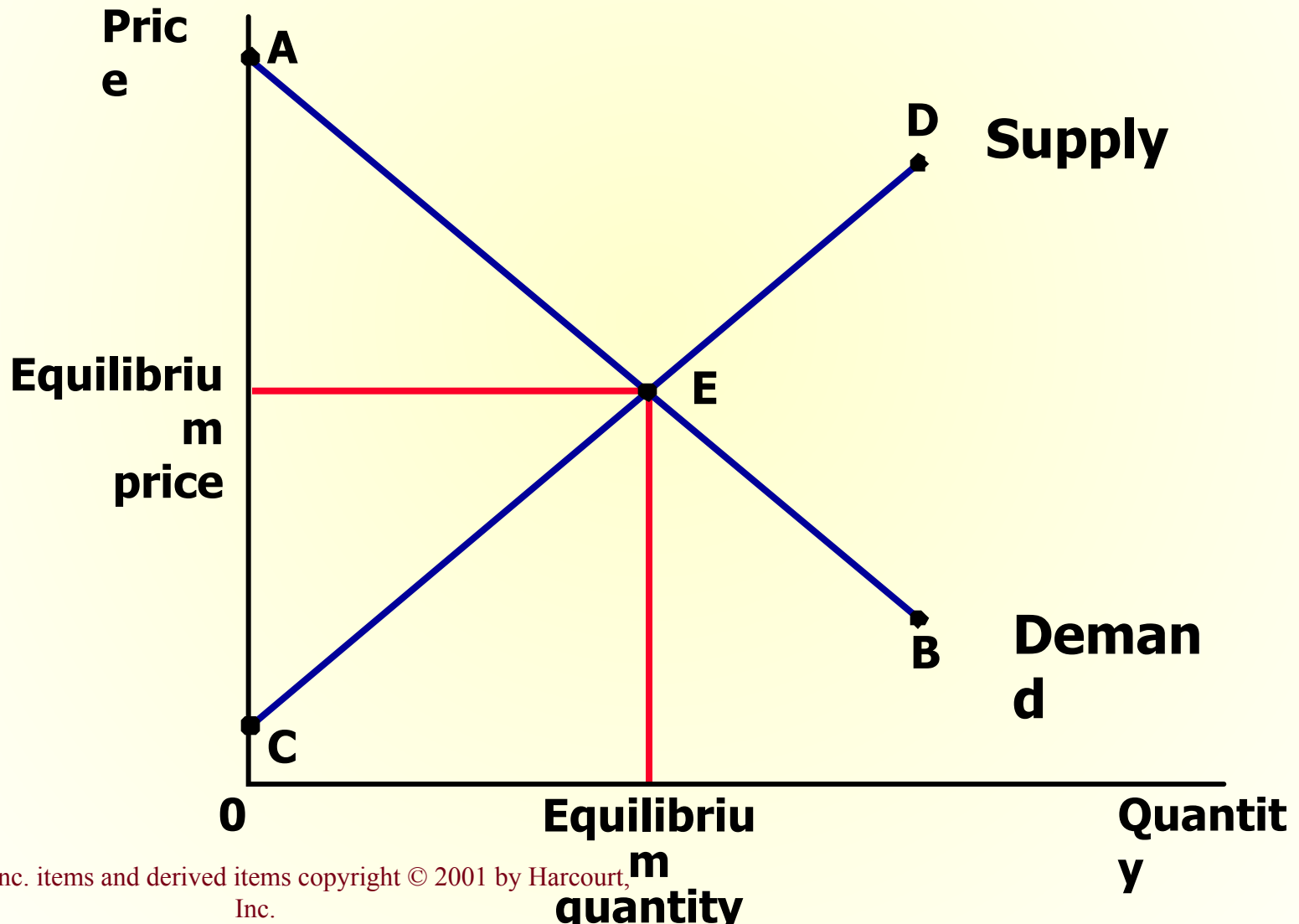
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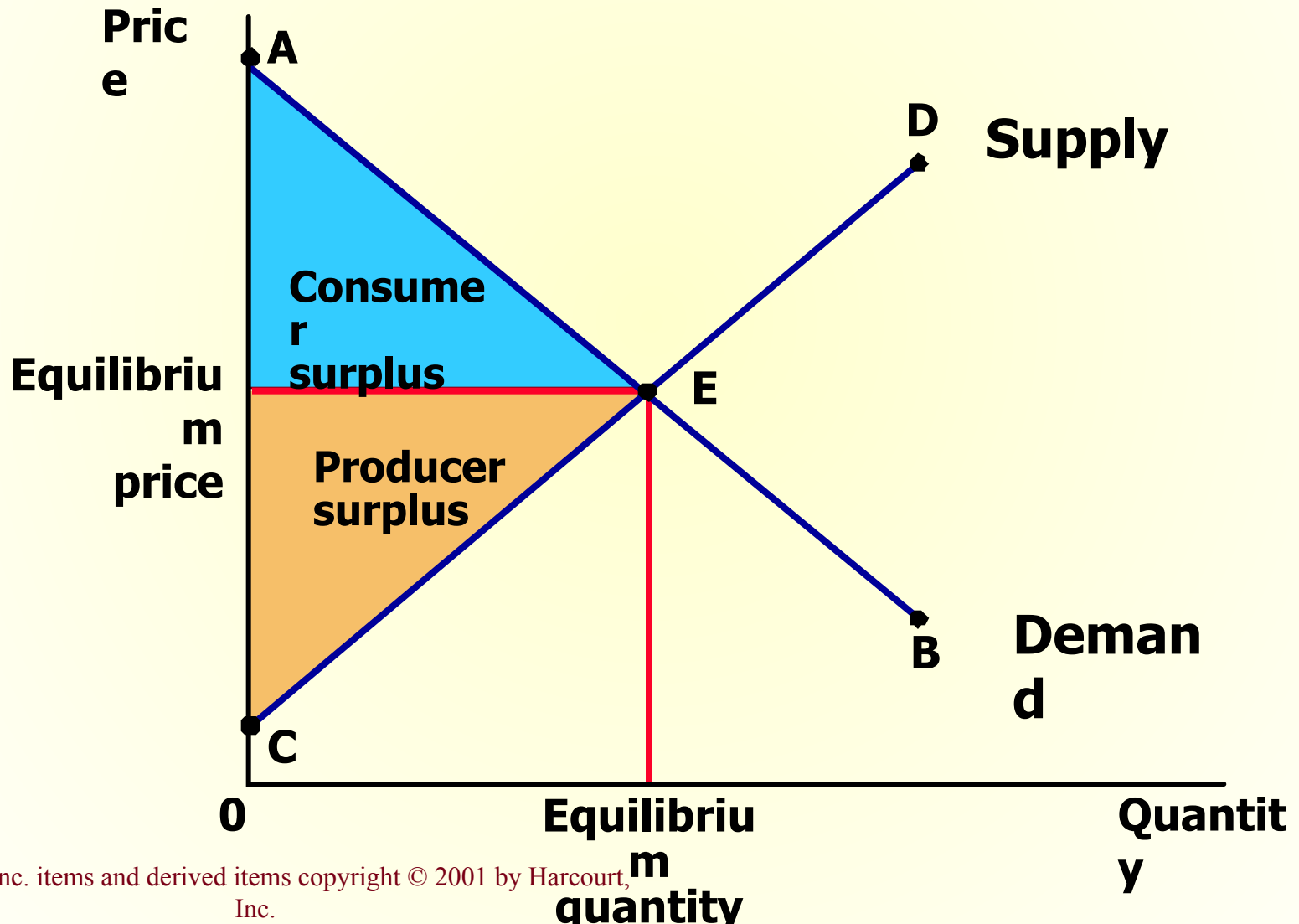
# How Price Affects Producer Surplus...



# *Evaluating the Market Equilibrium...*



# Consumer and Producer Surplus in the Market Equilibrium...





# The Efficiency of the Equilibrium Quantity

