chapter:

4

>> Consumer and Producer Surplus

Krugman/Wells
Economics

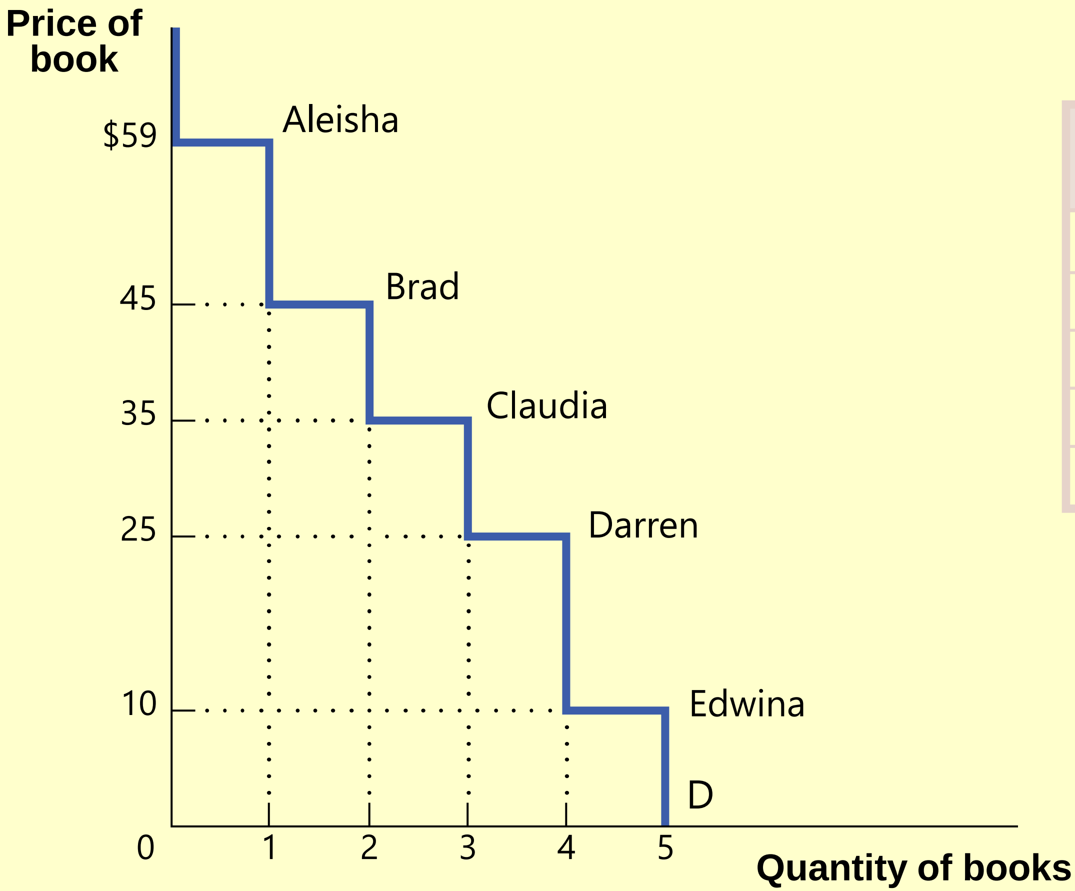
WHAT YOU WILL LEARN IN THIS CHAPTER

- How much benefit do producers and consumers receive from the existence of a market?
- How is the welfare of consumers and producers affected by changes in market prices?
- How are these concepts related to the demand and supply curve?
    - Consumer Surplus
    - Producer Surplus
    - Cost
    - Market Failure

Consumer Surplus and the Demand Curve

- A consumer’s **willingness to pay** for a good is the maximum price at which he or she would buy that good.
- **Individual consumer surplus** is the net gain to an individual buyer from the purchase of a good. It is equal to the difference between the buyer’s willingness to pay and the price paid.

The Demand Curve for Used Textbooks



Potential buyers	Willingness to pay
Aleisha	$59
Brad	45
Claudia	35
Darren	25
Edwina	10

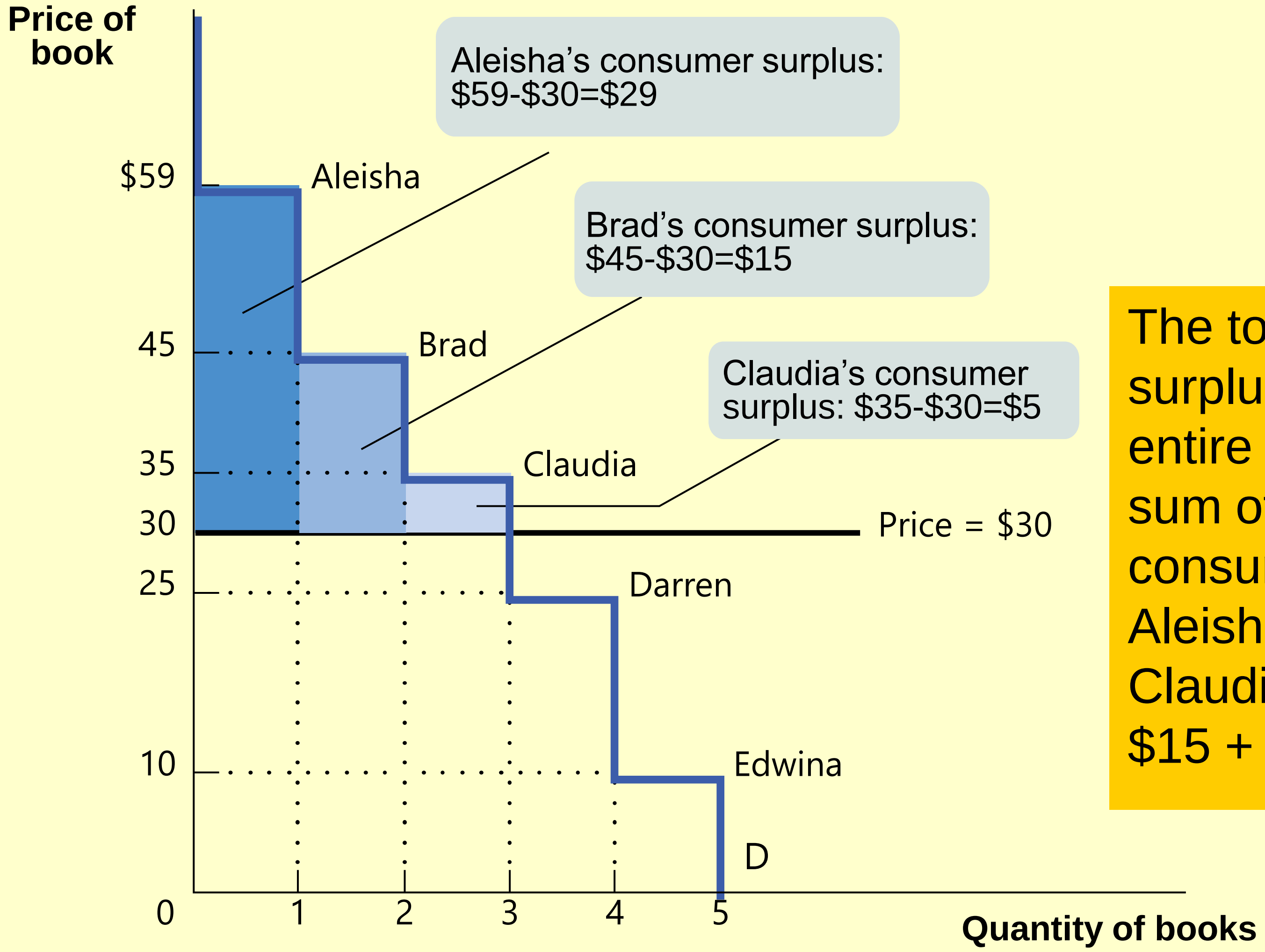
A consumer's willingness to pay for a good is the maximum price at which he or she would buy that good.

Willingness to Pay and Consumer Surplus

- **Total consumer surplus** is the sum of the individual consumer surpluses of all the buyers of a good.

- The term **consumer surplus** is often used to refer to both individual and total consumer surplus.

Consumer Surplus in the Used Textbook Market



The total consumer surplus is given by the entire shaded area - the sum of the individual consumer surpluses of Aleisha, Brad, and Claudia - equal to $29 + $15 + $5 = $49.

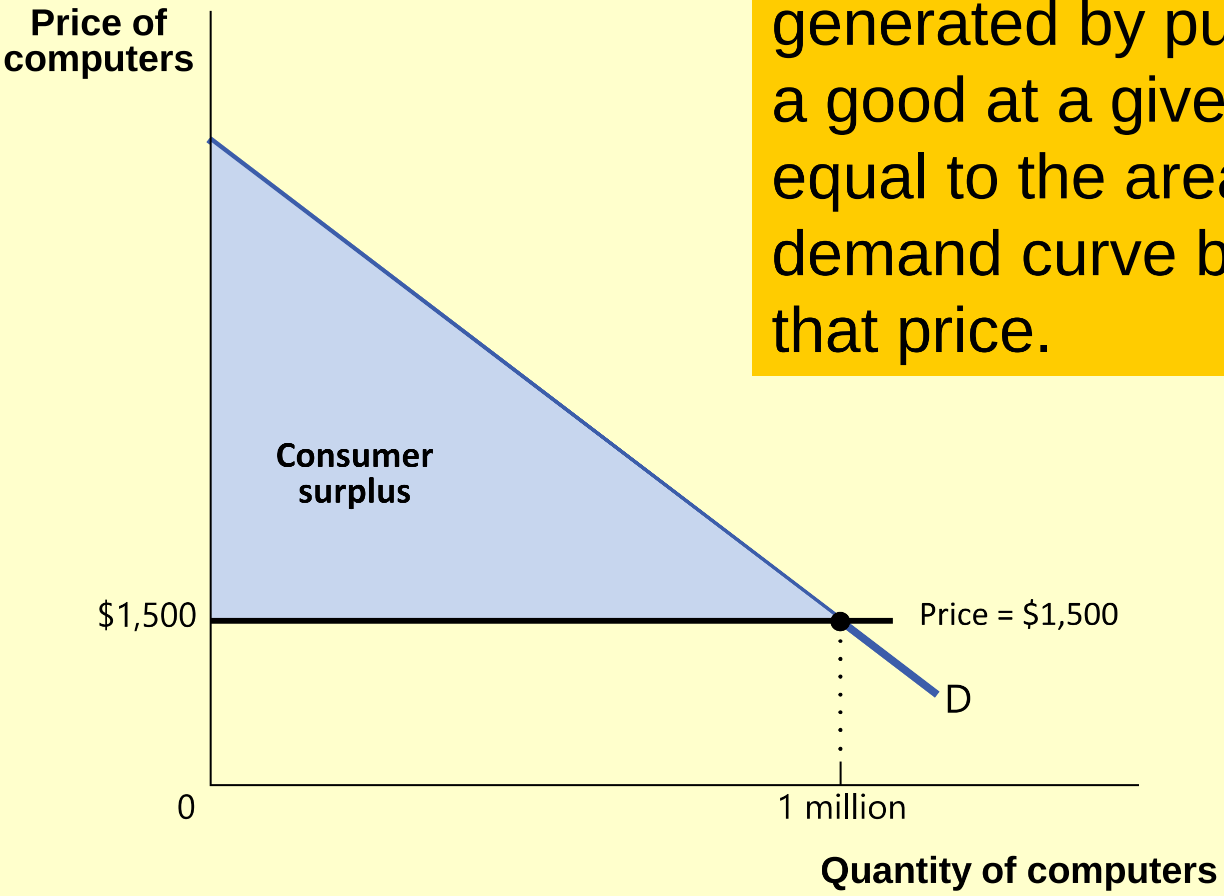
Consumer Surplus in the Used Textbook Market

TABLE 4-1

Consumer Surplus When the Price of a Used Textbook Is $30

Potential buyer	Willingness to pay	Price paid	Individual consumer surplus = Willingness to pay − Price paid
Aleisha	$59	$30	$29
Brad	45	30	15
Claudia	35	30	5
Darren	25	—	—
Edwina	10	—	—
All buyers			**Total consumer surplus = $49**

Consumer Surplus

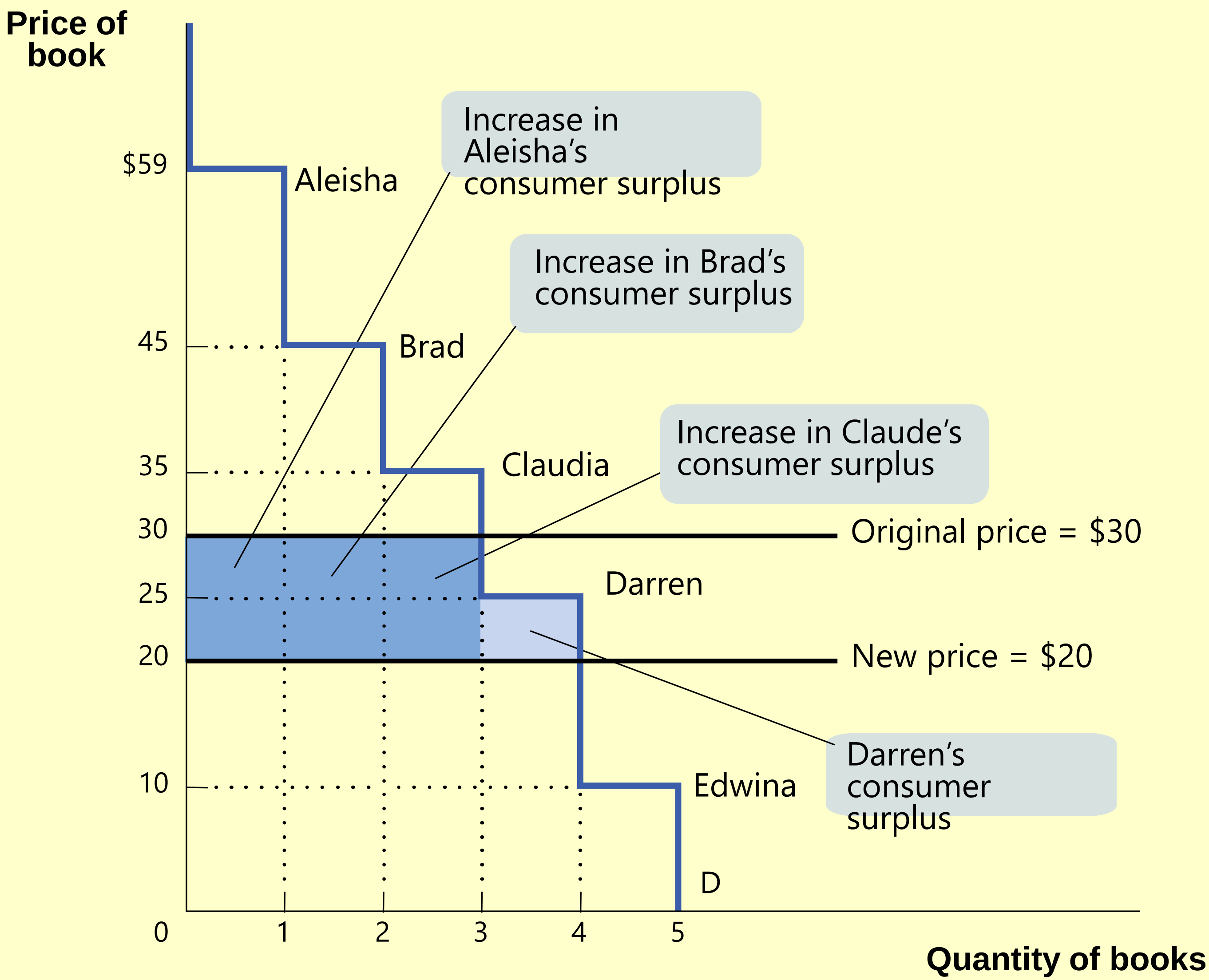


The total consumer surplus generated by purchases of a good at a given price is equal to the area below the demand curve but above that price.

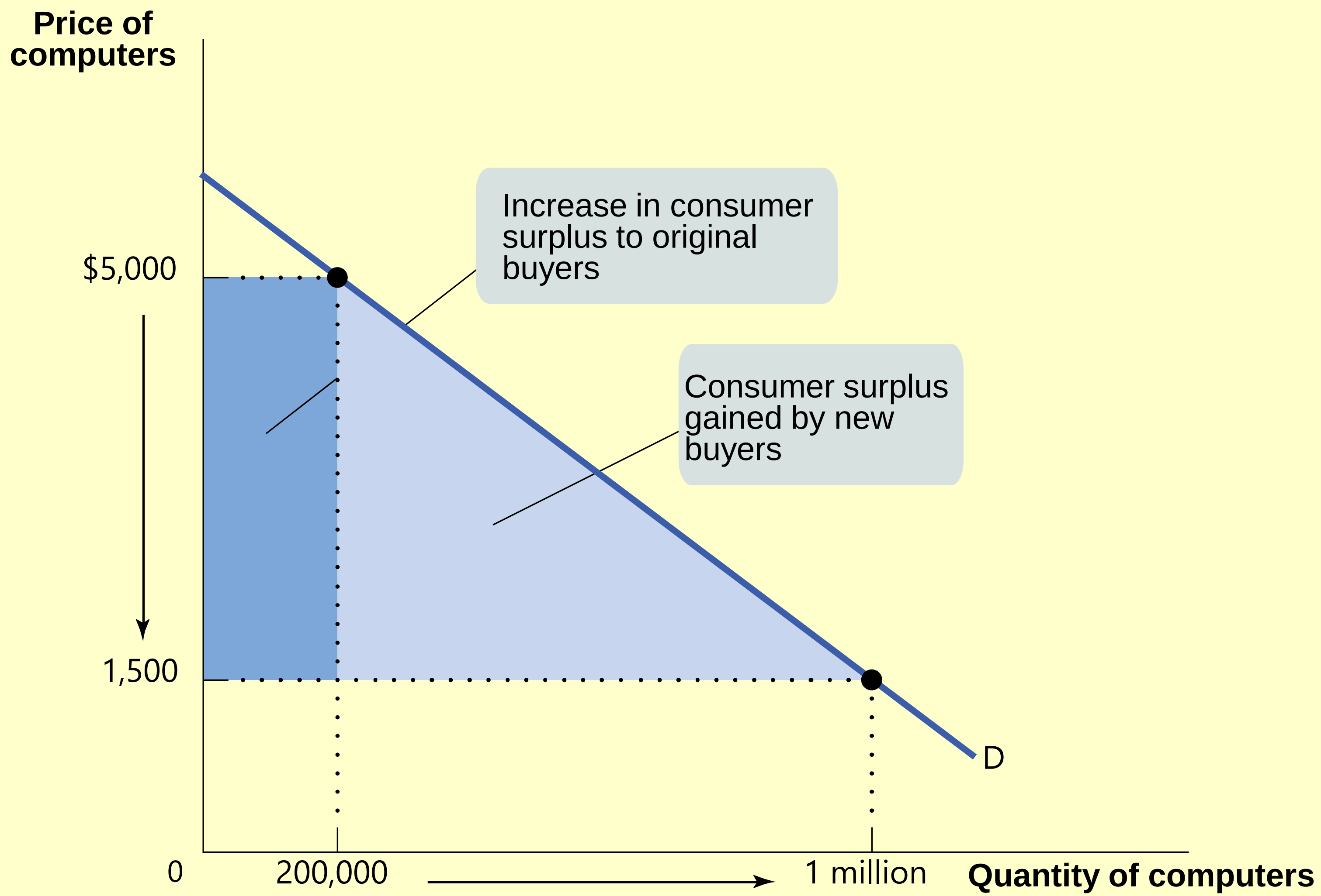
How Changing Prices Affect Consumer Surplus

- A fall in the price of a good increases consumer surplus through two channels:
  - A gain to consumers who would have bought at the original price and
  - A gain to consumers who are persuaded to buy by the lower price.

Consumer Surplus and a Fall in the Price of Used Textbooks



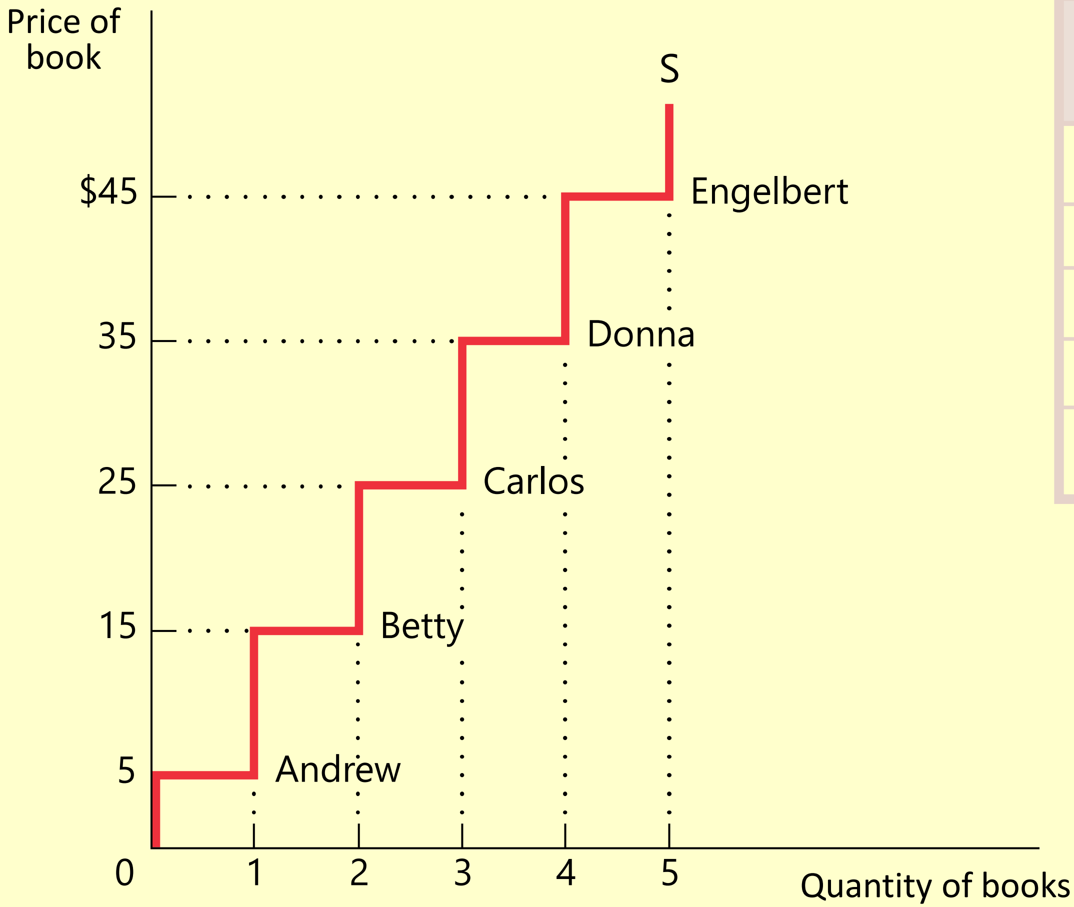
A Fall in the Market Price Increases Consumer Surplus



Producer Surplus and the Supply Curve

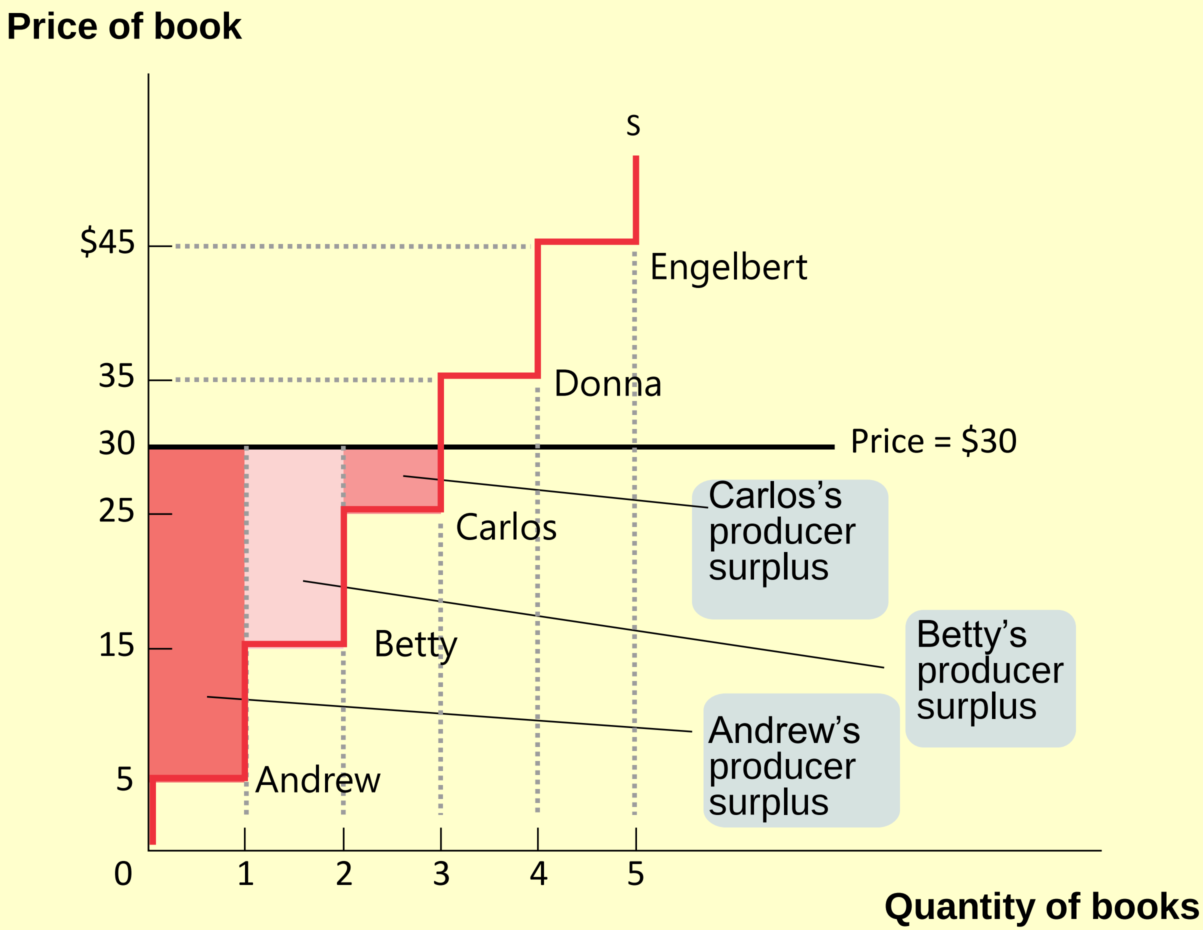
- A potential seller's **cost** is the lowest price at which he or she is willing to sell a good.
- **Individual producer surplus** is the net gain to a seller from selling a good. It is equal to the difference between the price received and the seller's cost.
- **Total producer surplus** in a market is the sum of the individual producer surpluses of all the sellers of a good.

The Supply Curve for Used Textbooks



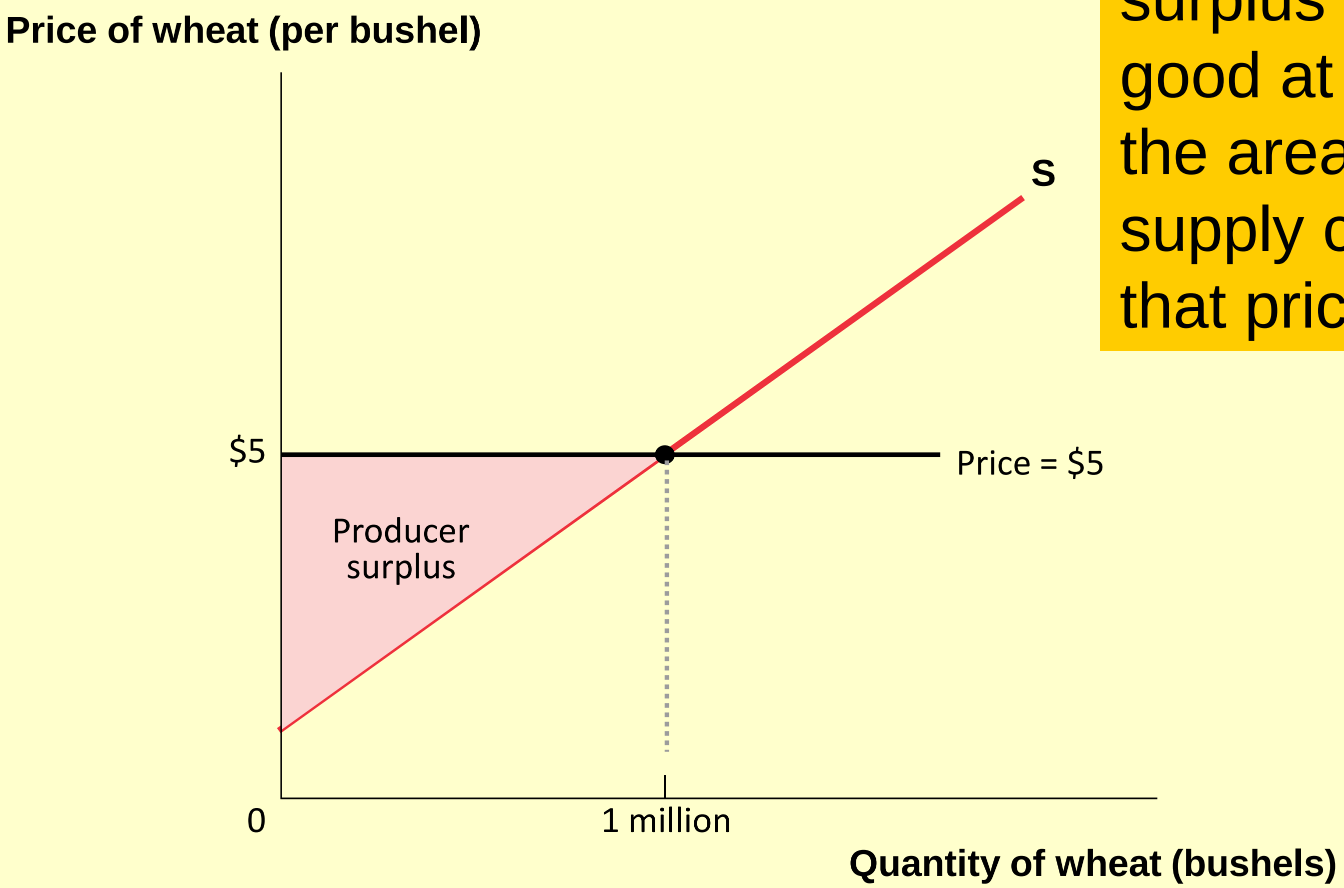
Potential sellers	Cost
Engelbert	$5
Donna	15
Carlos	25
Bett y	35
Andrew	45

Producer Surplus in the Used Textbook Market



Producer Surplus

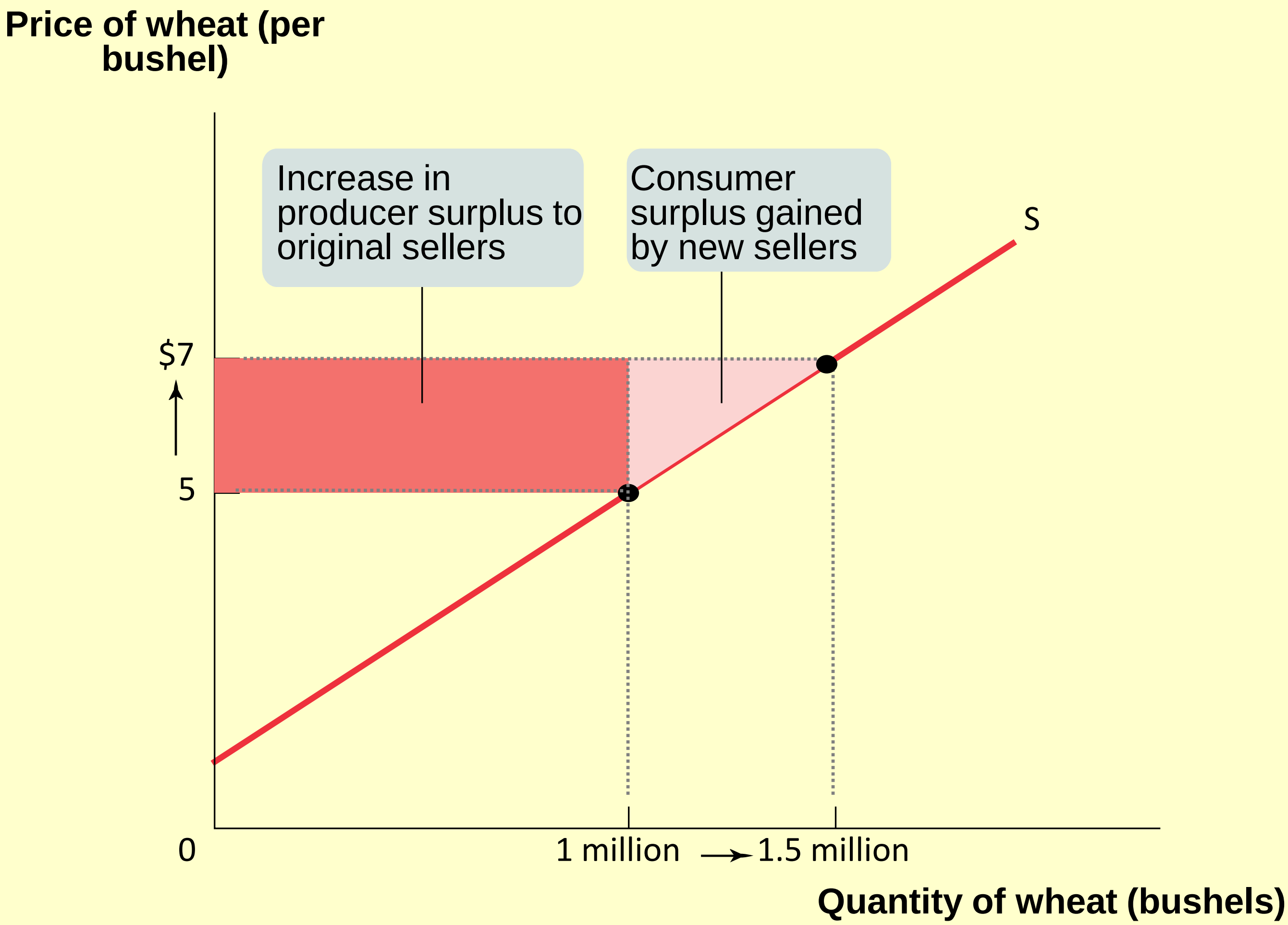
The total producer surplus from sales of a good at a given price is the area above the supply curve but below that price.



Changes in Producer Surplus

- When the price of a good rises, producer surplus increases through two channels:
  - The gains of those who would have supplied the good even at the original, lower price and
  - The gains of those who are induced to supply the good by the higher price.

A Rise in the Price Increases Producer Surplus

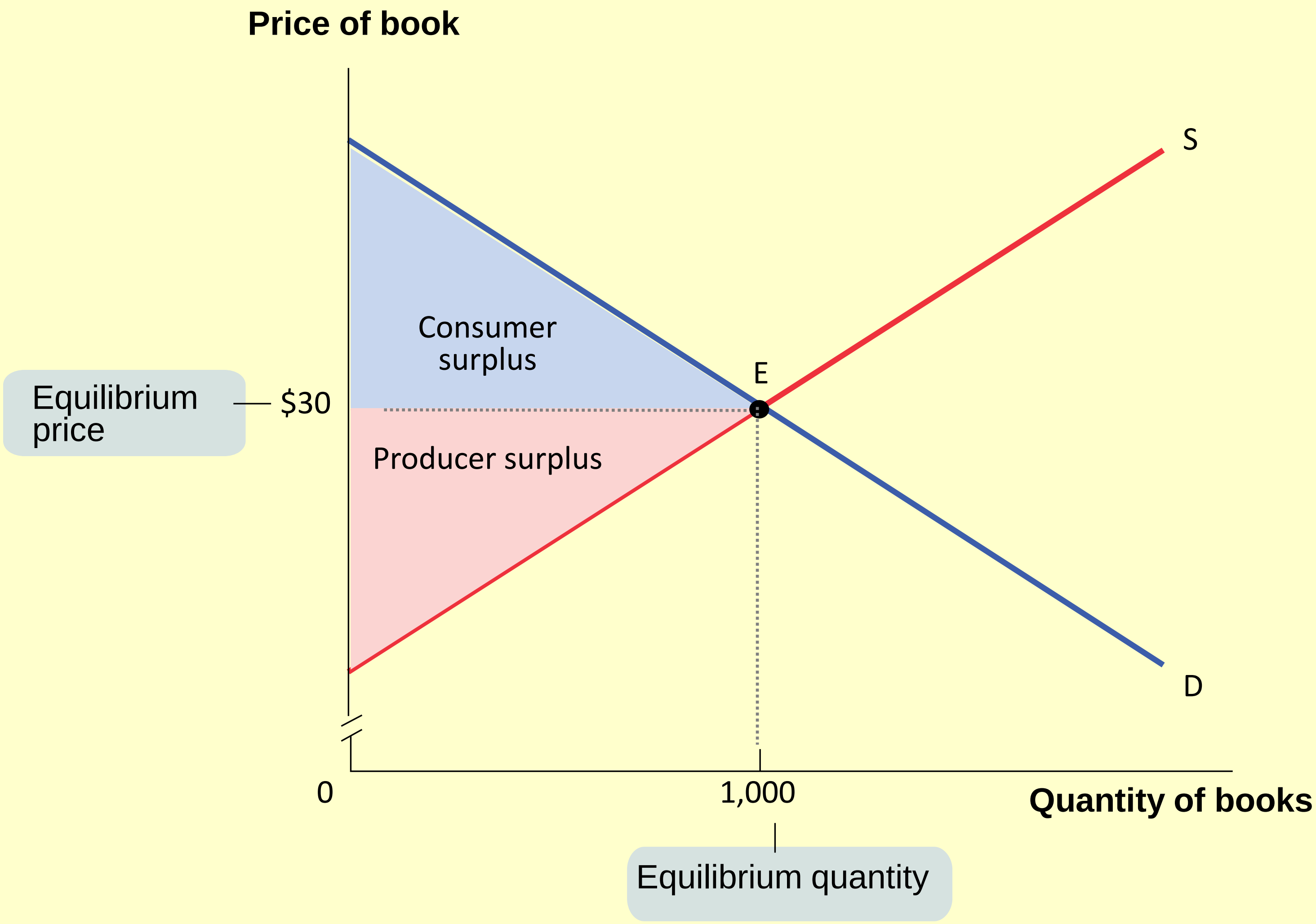


Putting It Together: Total Surplus

- The **total surplus** generated in a market is the total net gain to consumers and producers from trading in the market. It is the sum of the producer and the consumer surplus.

- The concepts of consumer surplus and producer surplus can help us understand why markets are an effective way to organize economic activity.

Total Surplus



Consumer Surplus, Producer Surplus, and the Gains from Trade

- The previous graph shows that both consumers and producers are better off because there is a market in this good, i.e. there are *gains from trade*.
- These gains from trade are the reason everyone is better off participating in a market economy than they would be if each individual tried to be self-sufficient.
- But are we as well off as we could be? This brings us to the question of the efficiency of markets.

The Efficiency of Markets: A Preliminary View

- **Claim**: The maximum possible total surplus is achieved at market equilibrium.
- The market equilibrium allocates the consumption of the good among potential consumers and sales of the good among potential sellers in a way that achieves the highest possible gain to society.
- By comparing the total surplus generated by the consumption and production choices in the market equilibrium to the surplus generated by a different set of production and consumption choices, we can show that any change from the market equilibrium reduces total surplus.

Market Equilibrium Maximizes Total Surplus

1. It allocates consumption of the good to the potential buyers who value it the most, as indicated by the fact that they have the highest willingness to pay.
2. It allocates sales to the potential sellers who most value the right to sell the good, as indicated by the fact that they have the lowest cost.
3. It ensures that every consumer who makes a purchase values the good more than every seller who makes a sale, so that all transactions are mutually beneficial.
4. It ensures that every potential buyer who doesn't make a purchase values the good less than every potential seller who doesn't make a sale, so that no mutually beneficial transactions are missed.

Why Markets Typically Work So Well

- Economists have written volumes about why markets are an effective way to organize an economy.

- In the end, well-functioning markets owe their effectiveness to two powerful features: ***property rights*** and the role of prices as ***economic signals***.

Why Markets Typically Work So Well

- **Property rights** are the rights of owners of valuable items, whether resources or goods, to dispose of those items as they choose.

- An **economic signal** is any piece of information that helps people make better economic decisions.

A Caveat

- It’s important to realize that although the market equilibrium maximizes the total surplus, this does not mean that it is the best outcome for every individual consumer and producer.

- For instance, a price floor that kept the price up would benefit some sellers.

- But in the market equilibrium there is no way to make some people better off without making others worse off - and that’s the definition of efficiency.

A Few Words of Caution

- A market or an economy is **inefficient** if there are missed opportunities: some people could be made better off without making other people worse off.

- Under certain conditions, ***market failure*** occurs and the market produces an inefficient outcome.

- The three principal sources are:
  - externalities
  - problems in the nature of the goods themselves (e.g. public goods)
  - market power