Economics

6th edition

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Chapter 4

Economic Efficiency, Government Price Setting, and Taxes

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Microeconomics

SIXTH EDITION

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Consumer Surplus and Producer Surplus

Economists use the idea of "surplus" to refer to the benefit that people derive from engaging in market transactions.

- **Consumer surplus** is the difference between the highest price a consumer is willing to pay for a good or service and the actual price the consumer pays.

- **Producer surplus** is the difference between the lowest price a firm would be willing to accept for a good or service and the price it actually receives.
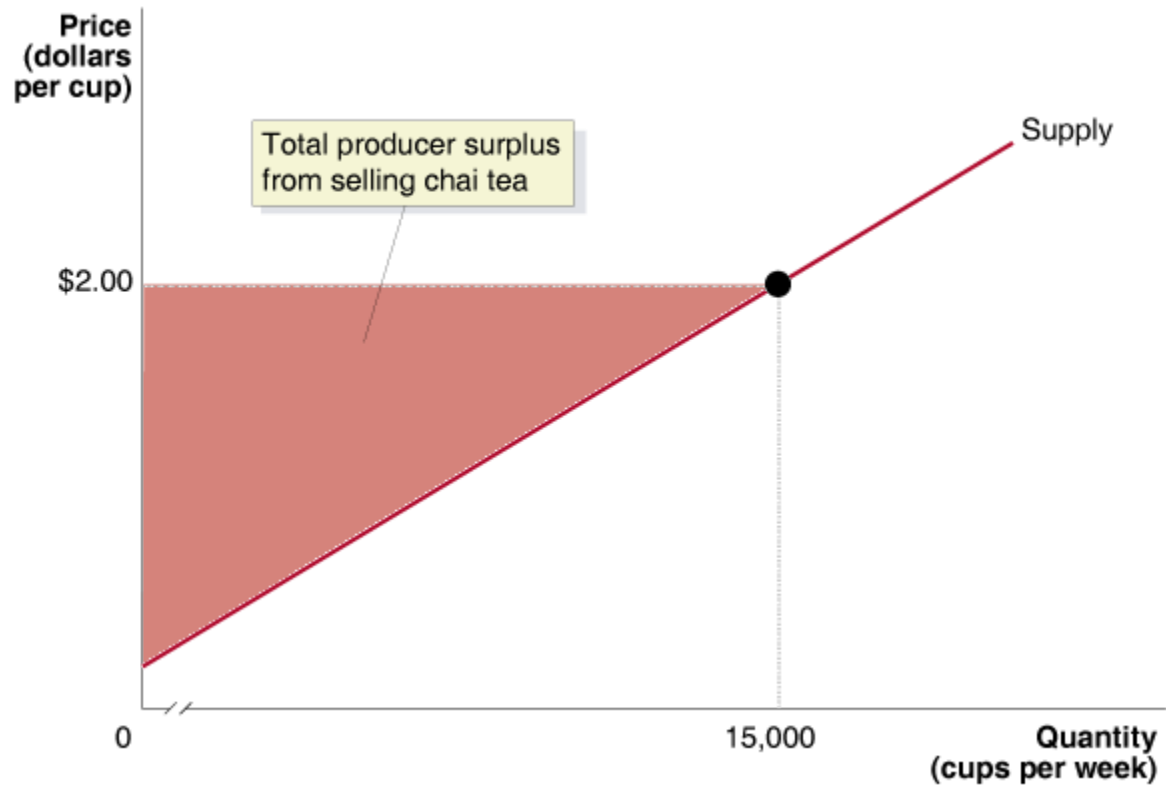
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Consumer surplus in the market for chai tea
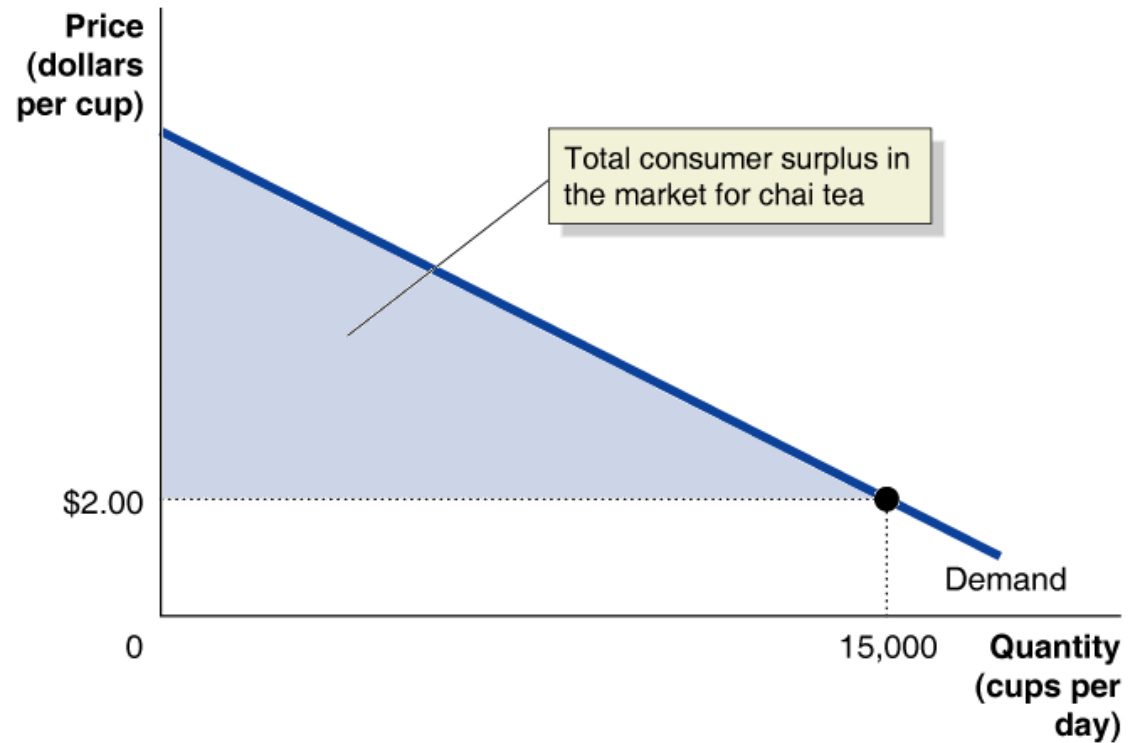
The graph shows consumer surplus if price is $2.00.

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Producer surplus in the market for chai tea

The graph shows producer surplus if price is $2.00.

(b) Total producer surplus in the market for chai tea

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**Economic surplus** equals the sum of consumer surplus and producer surplus.

The figure shows the economic surplus (the sum of consumer and producer surplus) in the market for chai tea.

At the competitive equilibrium quantity, the economic surplus is maximized.

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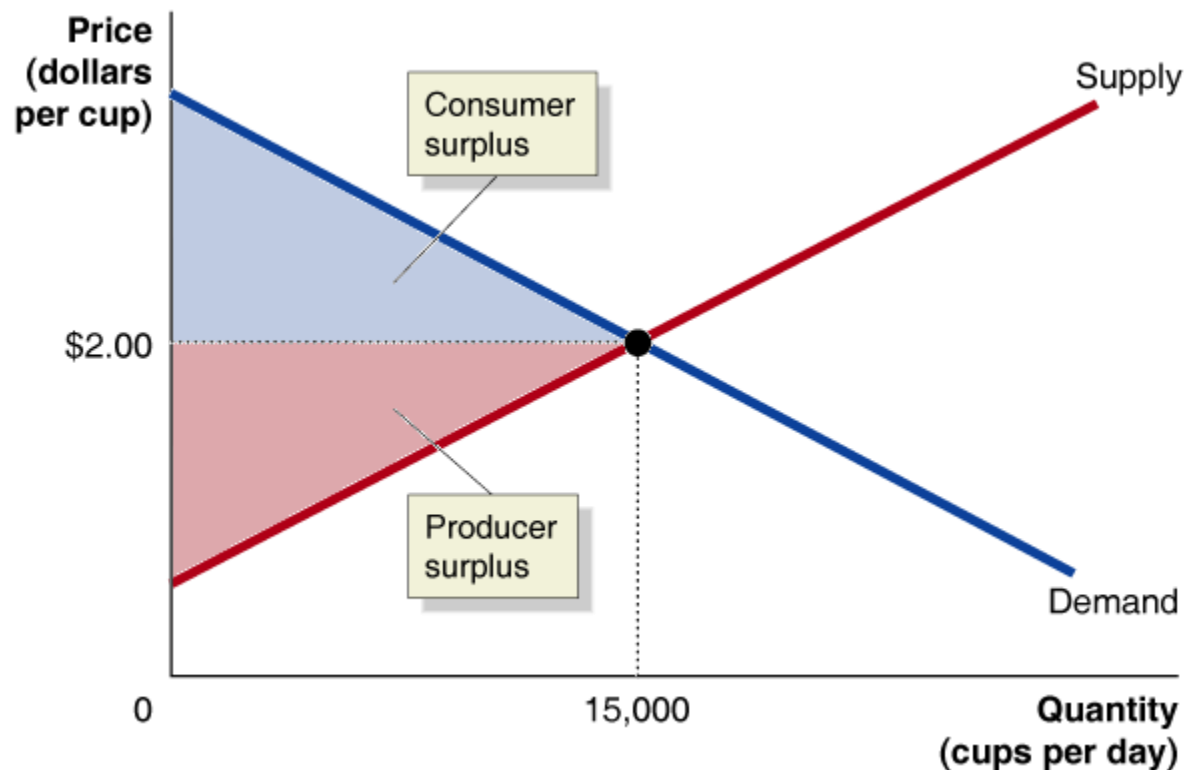
When a market is not in equilibrium, there is a deadweight loss.

	At Competitive Equilibrium	At a Price of $2.20
Consumer Surplus	A + B + C	A
Producer Surplus	D + E	B + D
Deadweight Loss	None	C + E
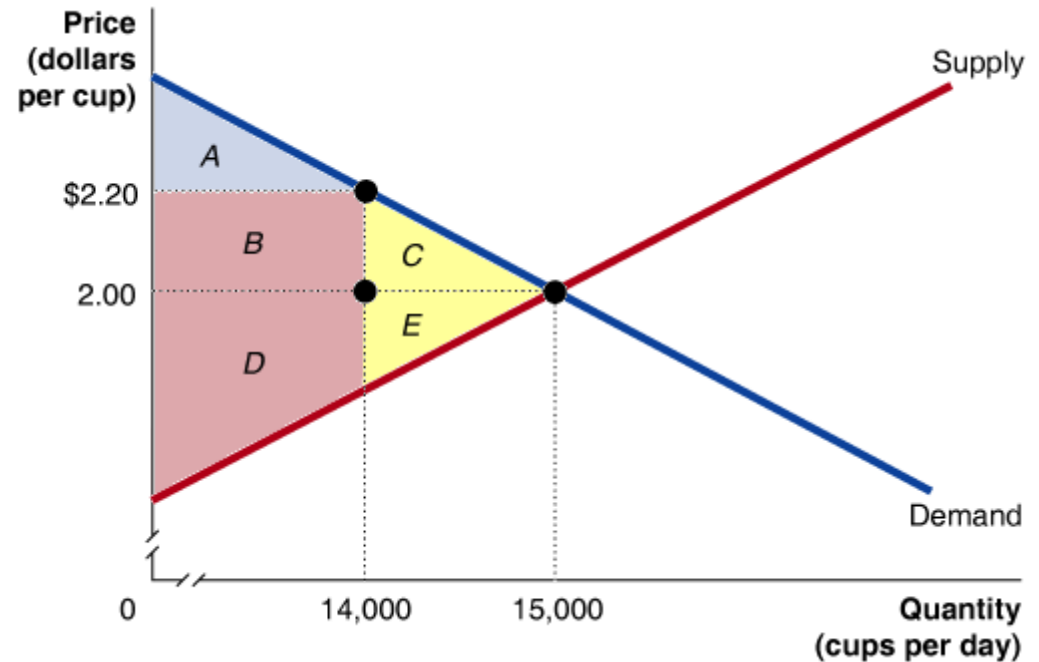
The reduction in economic surplus resulting from a market not being in competitive equilibrium is known as **deadweight loss**.

Deadweight loss can be thought of as the amount of inefficiency in a market. In competitive equilibrium, deadweight loss is zero.

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Government Intervention in the Market: Price Floors and Price Ceilings

One option a government has for affecting a market is the imposition of a *price ceiling* or a *price floor*.

- **Price floor**: A legally determined minimum price that sellers may receive.

- **Price ceiling**: A legally determined maximum price that sellers can charge.

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Example: The economic effect of a price floor in the wheat market.

The equilibrium price in the market for wheat is $6.50 per bushel; 2.0 billion bushels are traded at this price.

If wheat farmers convince the government to impose a price floor of $8.00 per bushel, quantity traded falls to 1.8 billion.

Area *A* is the surplus transferred from consumers to producers.

Economic surplus is reduced by area *B* + *C*, the deadweight loss.

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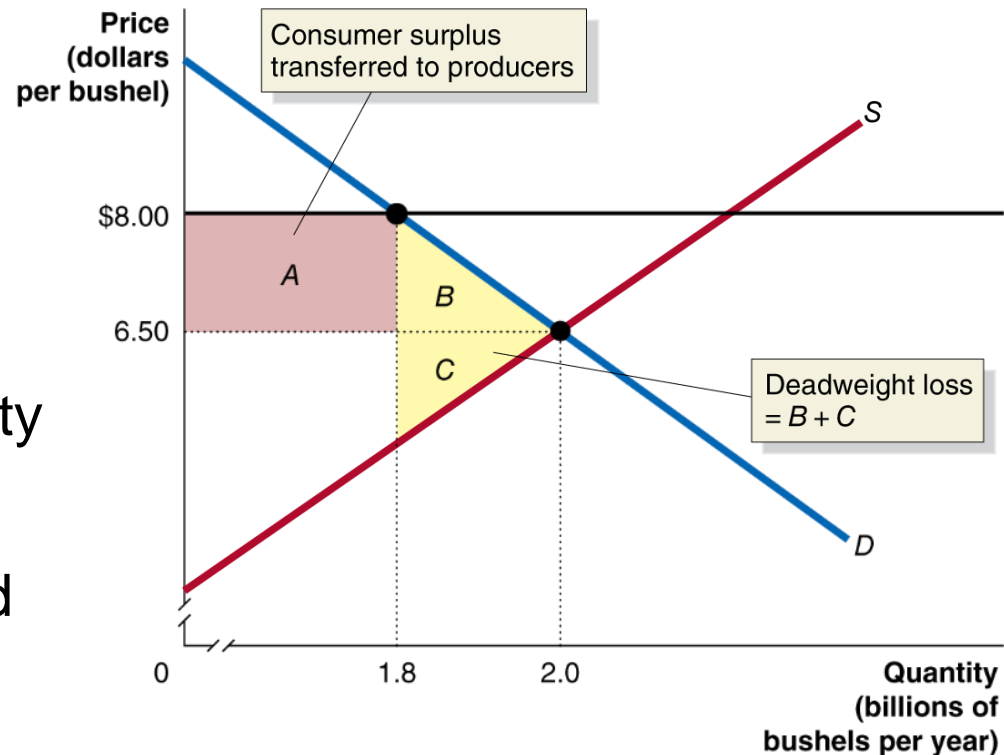
Example: The economic effect of a rent ceiling

Without rent control, the equilibrium rent is $2,500 per month. At that price, 2,000,000 apartments would be rented.

If the government imposes a rent ceiling of $1,500, the quantity of apartments supplied falls to 1,900,000, and the quantity of apartments demanded increases to 2,100,000, resulting in a shortage of 200,000 apartments.
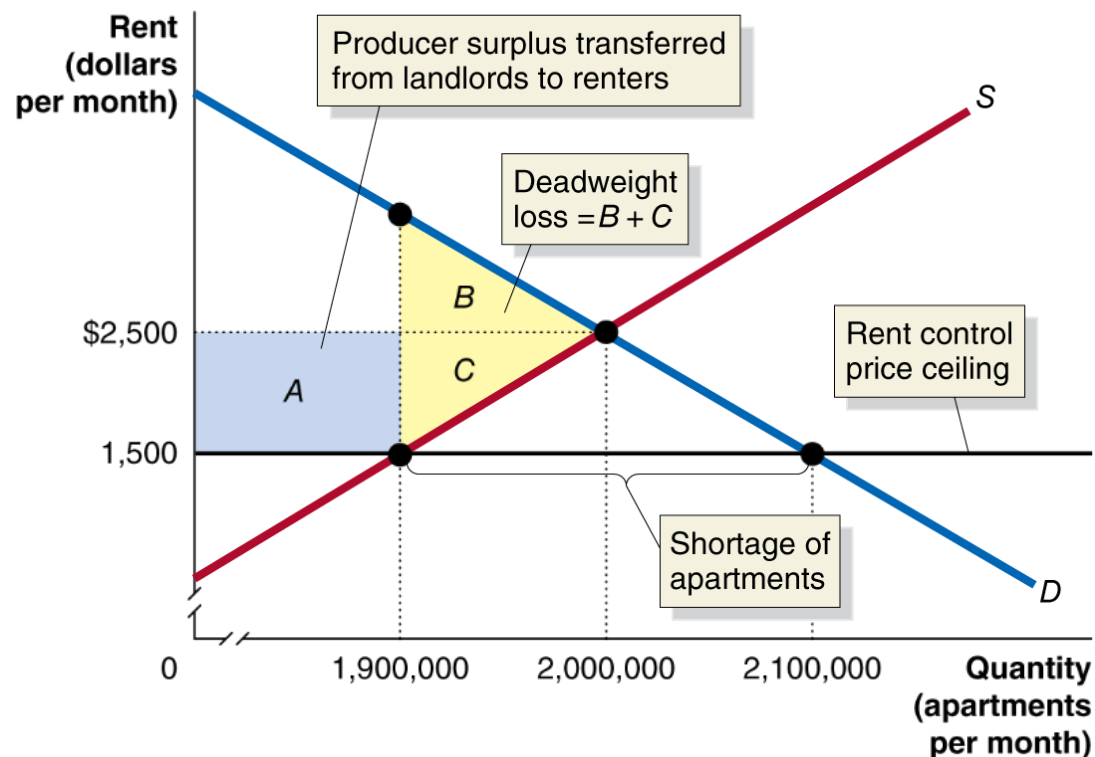
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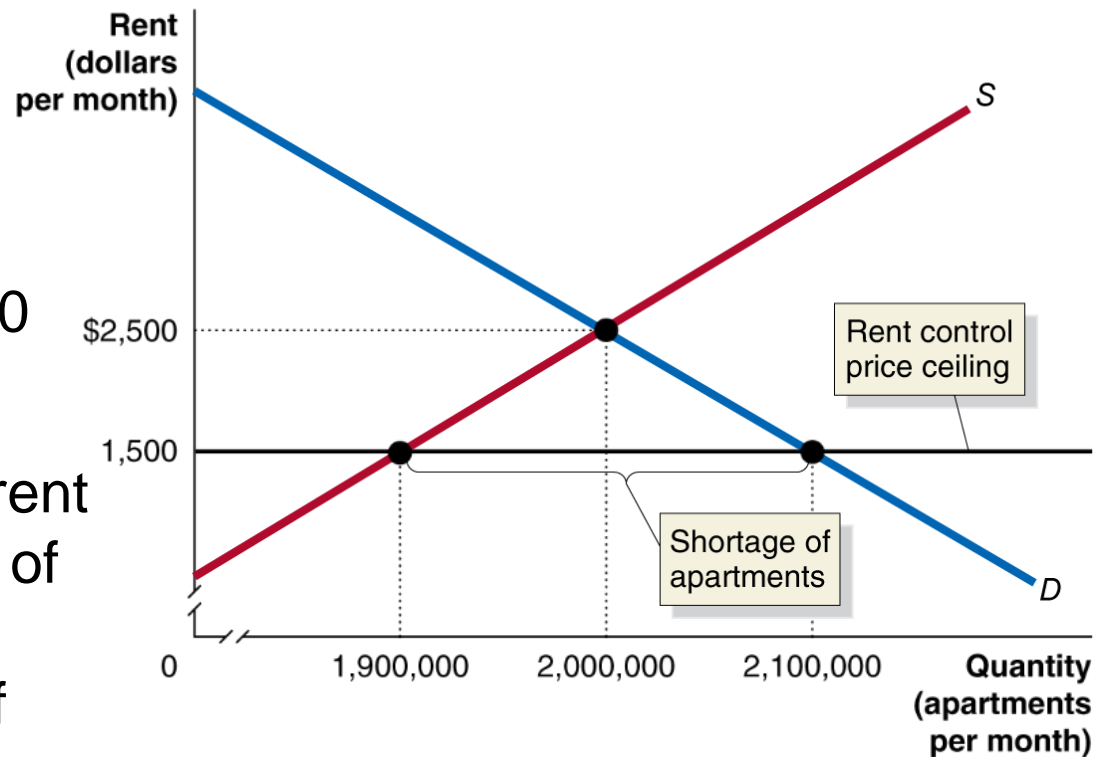
The economic effect of a rent ceiling

Producer surplus equal to the area of the blue rectangle *A* is transferred from landlords to renters.

There is a deadweight loss equal to the areas of yellow triangles *B* and *C*.

This deadweight loss corresponds to the surplus that would have been derived from apartments that are no longer rented.

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The results of government price controls

It is clear that when a government imposes price controls,

- Some people are made better off,
- Some people are made worse off, and
- The economy generally suffers, as deadweight loss will generally occur.

Economists seldom recommend price controls, with the possible exception of minimum wage laws. Why minimum wage laws?

- Price controls might be justified if there are strong equity effects to override the efficiency loss.
- The people benefitting from minimum wage laws are generally poor.

Graphing supply and demand equations

Calculate estimated consumer and producer surplus, using the triangle area formula:

Area = ½ (base)(height)

CS = ½(2.25)(4,750–2,500)

    = $2531.25 million

PS = ½(2.25)(2,500–769)

    = $947.375 million

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