

# CHAPTER 6 Supply, Demand, and Government Policies

Wolpelt/Stone (1991)

## Government Policies That Alter the Private Market Outcome

- Price controls
  - ( ): a legal maximum on the price of a good or service *Example: rent control*
  - ( ): a legal minimum on the price of a good or service *Example: minimum wage*
- Taxes
  - The govt can make buyers or sellers pay a specific amount on each unit.

We will use the supply/demand model to see how each policy affects the market outcome (the price buyers pay, the price sellers receive, and eq'm quantity).

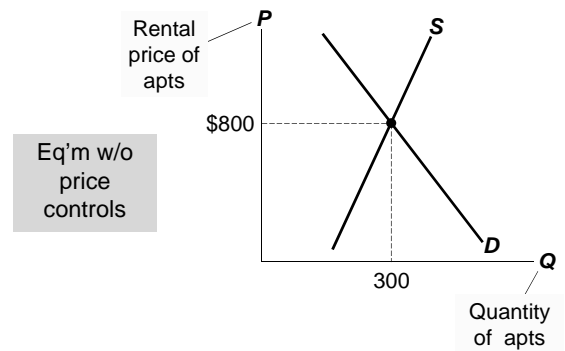
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### Rent Control

- The city council of Chuncheon decides to regulate rents in order to reduce student living expenses. Suppose the average annual market-clearing rent for a one-bedroom apartment is \$400 per month. The city council limits rents to \$200 per month.
- Will the policy benefit all KNU students? Why or why not?

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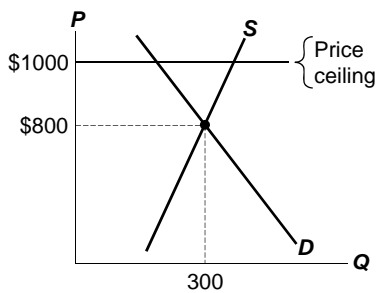
### EXAMPLE 1: The Market for Apartments



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### How Price Ceilings Affect Market Outcomes

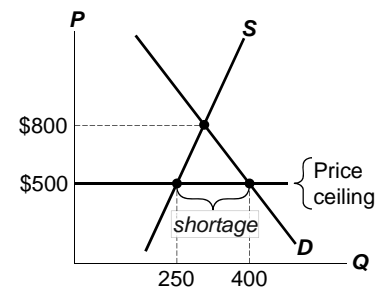
A price ceiling above the eq'm price is **not binding**—has no effect on the market outcome.



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### How Price Ceilings Affect Market Outcomes

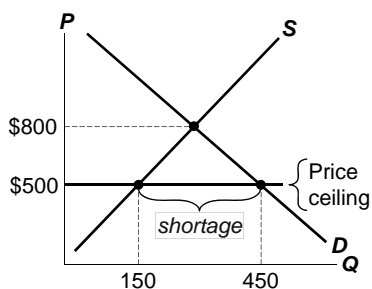
The eq'm price (\$800) is above the ceiling and therefore illegal. The ceiling is a **binding constraint** on the price, causes a shortage.



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## How Price Ceilings Affect Market Outcomes

In the long run, supply and demand are more price-elastic. So, the shortage is larger.



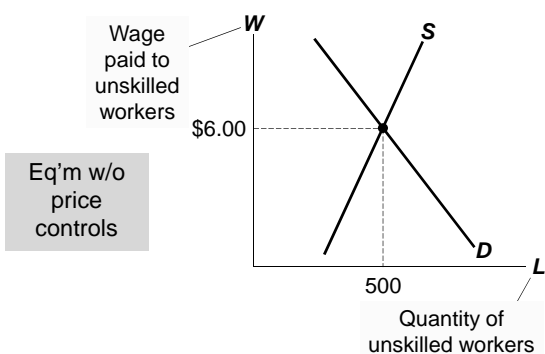
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## Shortages and Rationing

- With a shortage, sellers must ration the goods among buyers.
- Some rationing mechanisms: (1) Long lines (2) Discrimination according to sellers' biases
- These mechanisms are often unfair, and inefficient: the goods do not necessarily go to the buyers who value them most highly.
- In contrast, when prices are not controlled, the rationing mechanism is efficient (the goods go to the buyers that value them most highly) and impersonal (and thus fair).

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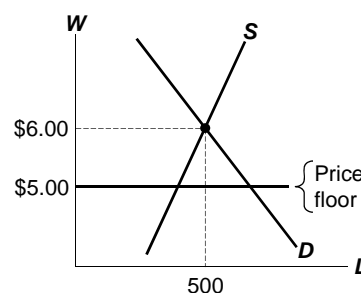
## EXAMPLE 2: The Market for Unskilled Labor



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## How Price Floors Affect Market Outcomes

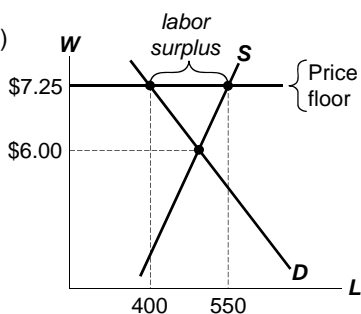
A price floor below the eq'm price is **not binding** – has no effect on the market outcome.



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## How Price Floors Affect Market Outcomes

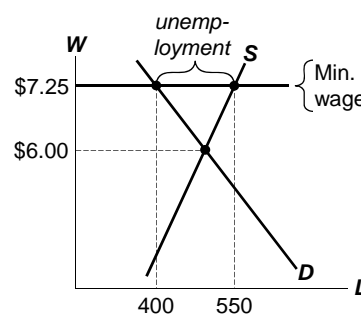
The eq'm wage (\$6) is below the floor and therefore illegal. The floor is a **binding constraint** on the wage, causes a surplus (i.e., unemployment).



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## The Minimum Wage

Min wage laws do not affect highly skilled workers. They do affect teen workers. Studies: A 10% increase in the min wage raises teen unemployment by 1–3%.



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## Evaluating Price Controls

- Recall one of the Ten Principles from Chapter 1: **Markets are usually a good way to organize economic activity.**
- Prices are the signals that guide the allocation of society's resources. This allocation is altered when policymakers restrict prices.
- Price controls often intended to help the poor, but often hurt more than help.

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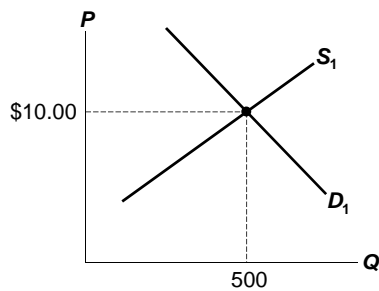
## Taxes

- The govt levies taxes on many goods & services to raise revenue to pay for national defense, public schools, etc.
- The govt can make buyers or sellers pay the tax.
- The tax can be a % of the good's price, or a specific amount for each unit sold.
  - For simplicity, we analyze per-unit taxes only.

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### EXAMPLE 3: The Market for Pizza

Eq'm  
w/o tax



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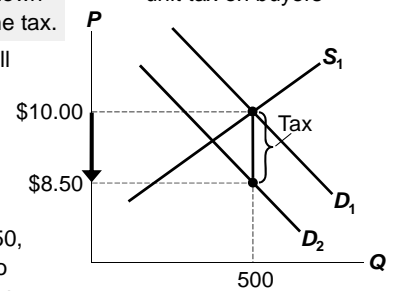
### A Tax on Buyers

Hence, a tax on buyers shifts the  $D$  curve down by the amount of the tax.

$P$  would have to fall by \$1.50 to make buyers willing to buy same  $Q$  as before.

E.g., if  $P$  falls from \$10.00 to \$8.50, buyers still willing to purchase 500 pizzas.

Effects of a \$1.50 per unit tax on buyers



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### A Tax on Buyers

New eq'm:

$Q = 450$

Sellers receive

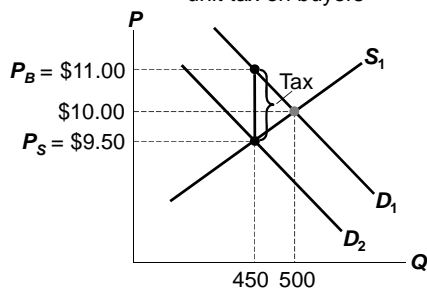
$P_S = \$9.50$

Buyers pay

$P_B = \$11.00$

Difference between them = \$1.50 = tax

Effects of a \$1.50 per unit tax on buyers



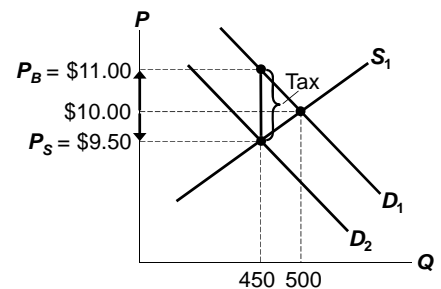
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### The Incidence of a Tax:

how the burden of a tax is shared among market participants

In our example,

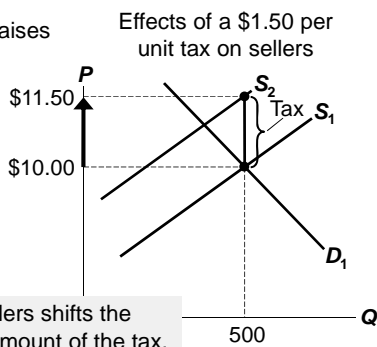
buyers pay \$1.00 more, sellers get \$0.50 less.



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## A Tax on Sellers

The tax effectively raises sellers' costs by \$1.50 per pizza. Sellers will supply 500 pizzas only if  $P$  rises to \$11.50, to compensate for this cost increase.



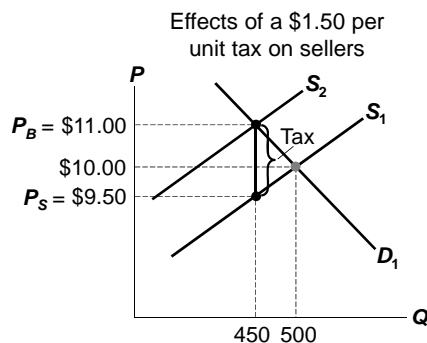
Hence, a tax on sellers shifts the  $S$  curve up by the amount of the tax.

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## A Tax on Sellers

New eq'm:

$Q = 450$   
Buyers pay  $P_B = \$11.00$   
Sellers receive  $P_S = \$9.50$   
Difference between them = \$1.50 = tax

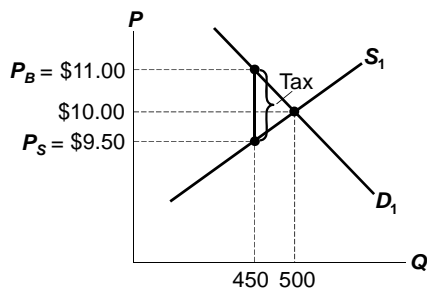


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## The Outcome Is the Same in Both Cases!

The effects on  $P$  and  $Q$ , and the tax incidence are the same whether the tax is imposed on buyers or sellers!

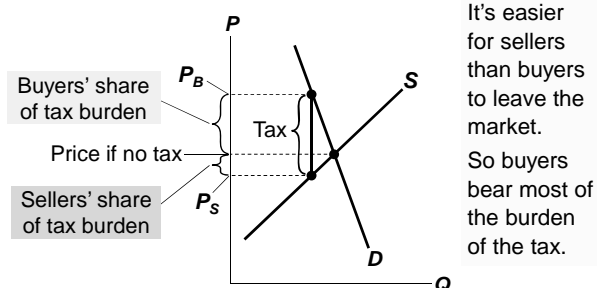
What matters is this:  
A tax drives a wedge between the price buyers pay and the price sellers receive.



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## Elasticity and Tax Incidence

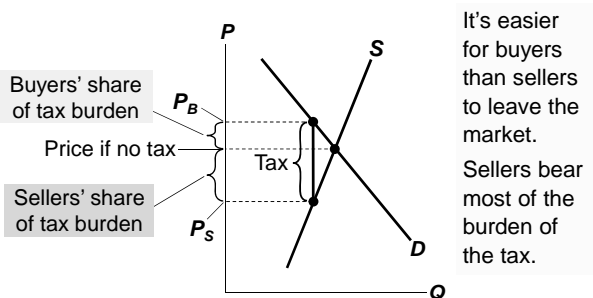
### CASE 1: Supply is more elastic than demand



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## Elasticity and Tax Incidence

### CASE 2: Demand is more elastic than supply



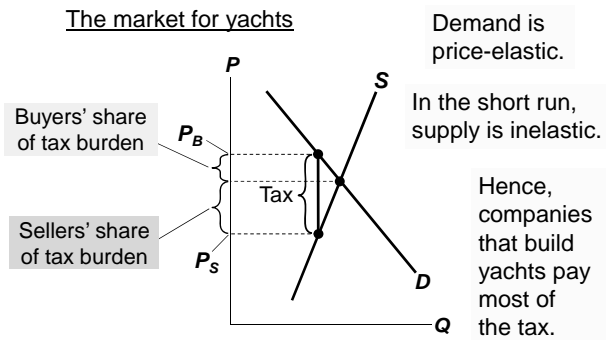
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## CASE STUDY: Who Pays the Luxury Tax?

- 1990: Congress adopted a luxury tax on yachts, private airplanes, furs, expensive cars, etc.
- Goal: raise revenue from those who could most easily afford to pay—wealthy consumers.
- But who really pays this tax?

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## CASE STUDY: Who Pays the Luxury Tax?



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## CONCLUSION: Government Policies and the Allocation of Resources

- Each of the policies in this chapter affects the allocation of society's resources.
  - *Example 1:* A tax on pizza reduces eq'm  $Q$ . With less production of pizza, resources (workers, ovens, cheese) will become available to other industries.
  - *Example 2:* A binding minimum wage causes a surplus of workers, a waste of resources.
- So, it's important for policymakers to apply such policies very carefully.

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