

N. GREGORY MANKIWI

PRINCIPLES OF
ECONOMICS
Eight Edition



CHAPTER
6 **Supply, Demand,
and Government Policies**

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Look for the answers to these questions:

- What are **price ceilings** and **price floors**?
What are some examples of each?
- How do price ceilings and price floors affect market outcomes?
- How do **taxes** affect market outcomes?
How do the effects depend on whether the tax is imposed on buyers or sellers?
- What is the **incidence** of a tax?
What determines the incidence?

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Government Policies That Alter the Private Market Outcome

- **Price controls**
 - **Price ceiling**: legal maximum on the price at which a good can be sold
 - Rent-control laws
 - **Price floor**: legal minimum on the price at which a good can be sold
 - Minimum wage laws
- **Taxes**: government can make buyers or sellers pay a specific amount on each unit

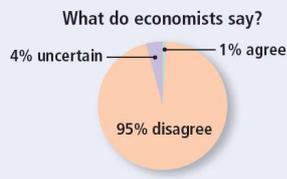
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ASK THE EXPERTS

Rent Control

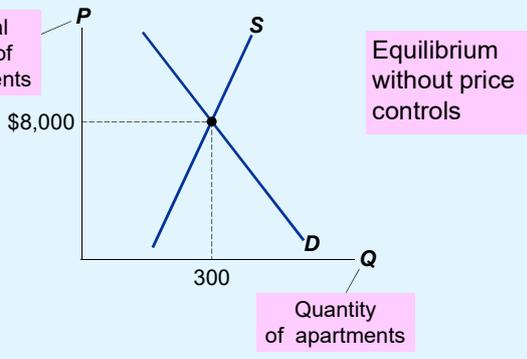
“Local ordinances that limit rent increases for some rental housing units, such as in New York and San Francisco, have had a positive impact over the past three decades on the amount and quality of broadly affordable rental housing in cities that have used them.”

What do economists say?



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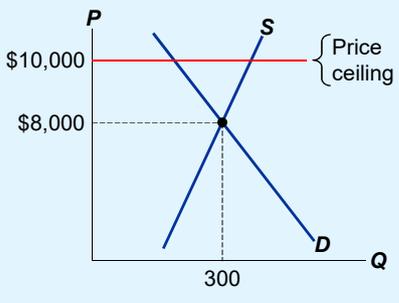
EXAMPLE 1: The Market for Apartments



Equilibrium without price controls

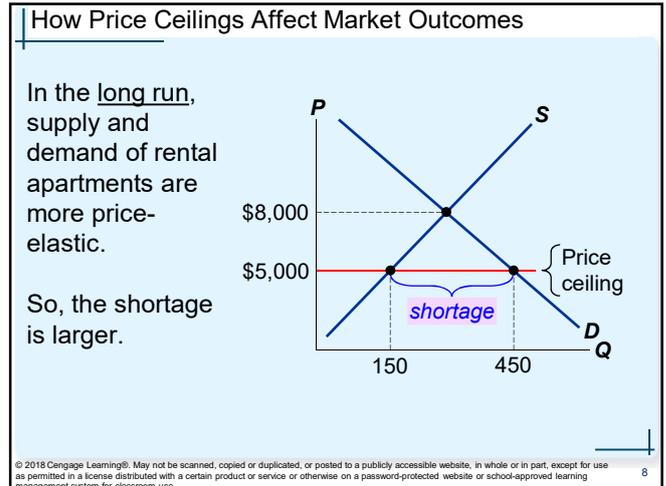
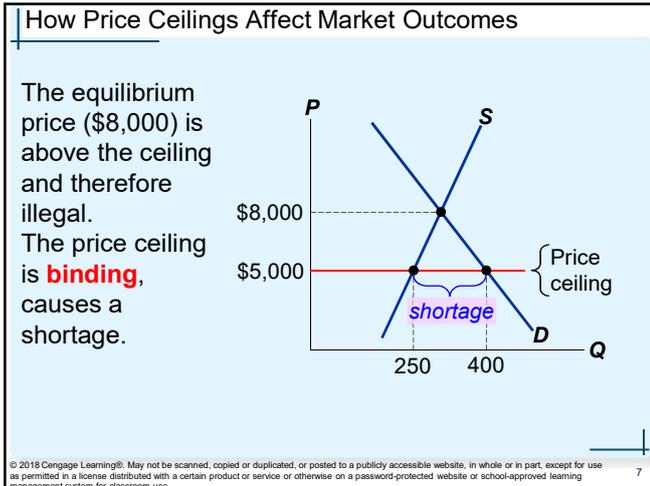
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How Price Ceilings Affect Market Outcomes



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

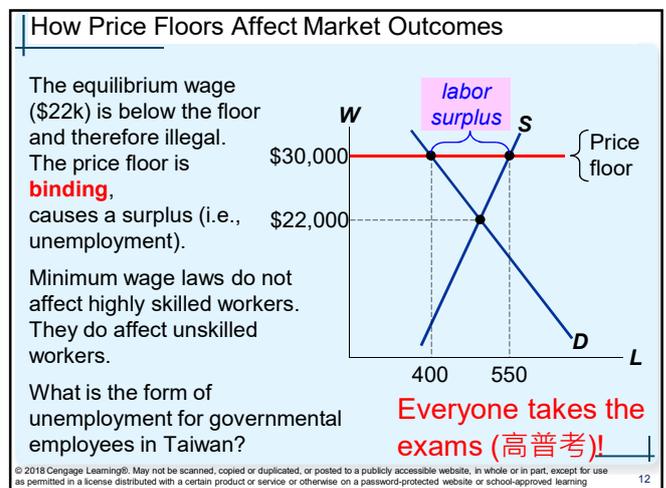
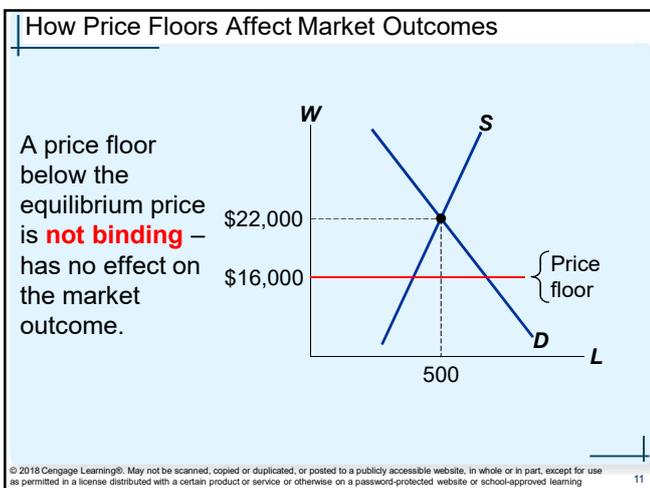
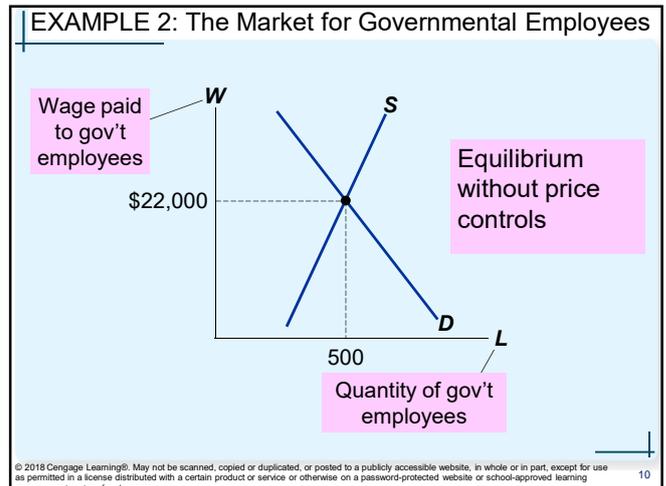
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Shortages and Rationing

- Because of shortage
 - Sellers must ration the goods among buyers
- Some rationing mechanisms:
 - Long lines
 - Discrimination according to sellers' biases
- Are often unfair and inefficient
 - The goods do not necessarily go to the buyers who value them most highly

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ASK THE EXPERTS

The Minimum Wage

"If the federal minimum wage is raised gradually to \$15-per-hour by 2020, the employment rate for low-wage U.S. workers will be substantially lower than it would be under the status quo."

What do economists say?

29% disagree
34% agree
37% uncertain

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Active Learning 1

Price controls

The market for hotel rooms is in equilibrium as in the graph.

- Determine the effects of:
 - A. \$90 price ceiling
 - B. \$90 price floor
 - C. \$120 price floor

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Active Learning 1

A. \$90 price ceiling

The price falls to \$90. (binding price ceiling below the equilibrium)

Buyers demand 120 rooms, sellers supply 90, leaving a shortage.

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Active Learning 1

B. \$90 price floor

Equilibrium price is above the \$90 price floor, so the price floor is not binding.

$P = \$100$,
 $Q = 100$ rooms.

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Active Learning 1

C. \$120 price floor

The price rises to \$120. (binding price floor above the equilibrium)

Buyers demand 60 rooms, sellers supply 120, causing a surplus.

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Evaluating Price Controls

- Markets are usually a good way to organize economic activity
 - Economists usually oppose price ceilings and price floors
 - Prices are not the outcome of some haphazard process
 - Prices have the crucial job of balancing supply and demand
 - Coordinating economic activity

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Evaluating Price Controls

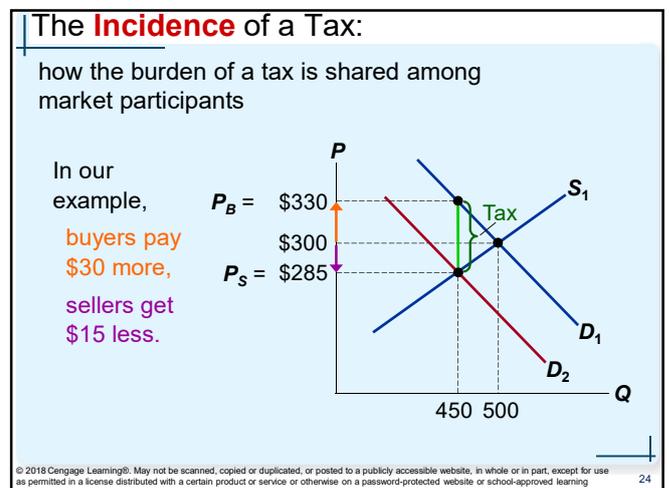
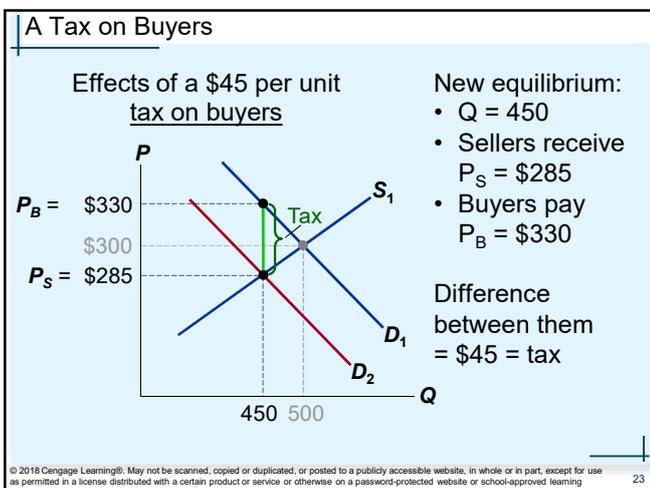
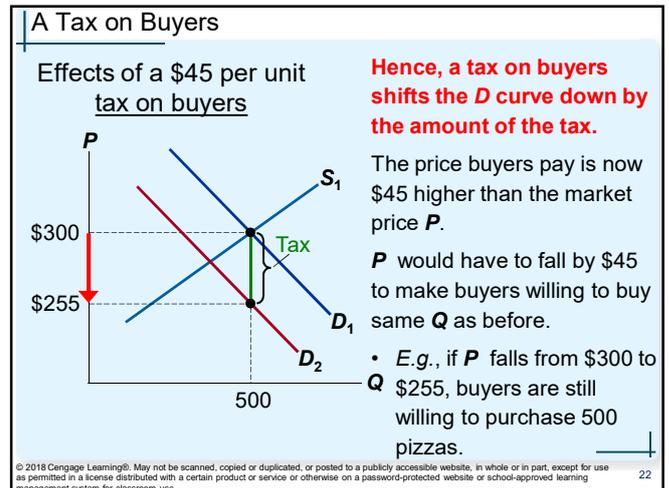
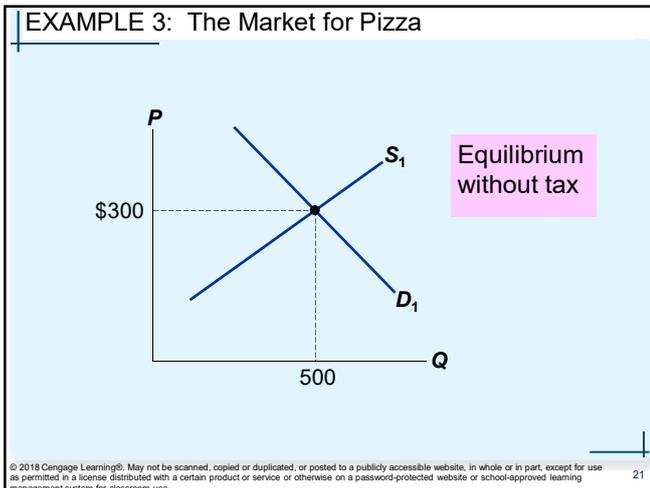
- Governments can sometimes improve market outcomes
 - Want to use price controls
 - Because of unfair market outcome
 - Aimed at helping the poor
 - Often hurt those they are trying to help
 - Other ways of helping those in need
 - Rent subsidies
 - Wage subsidies (earned income tax credit)

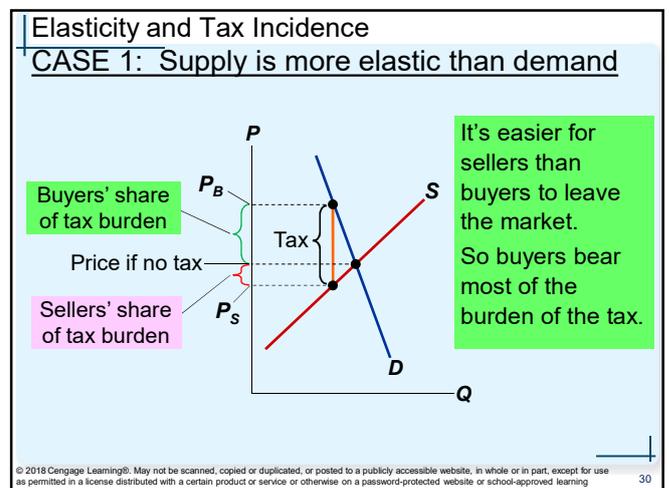
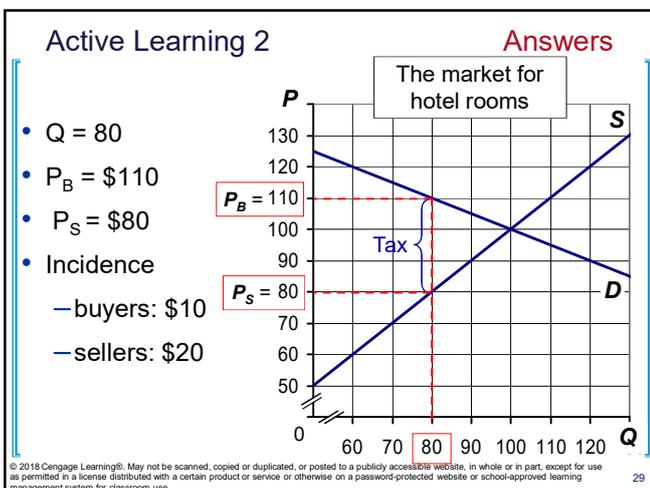
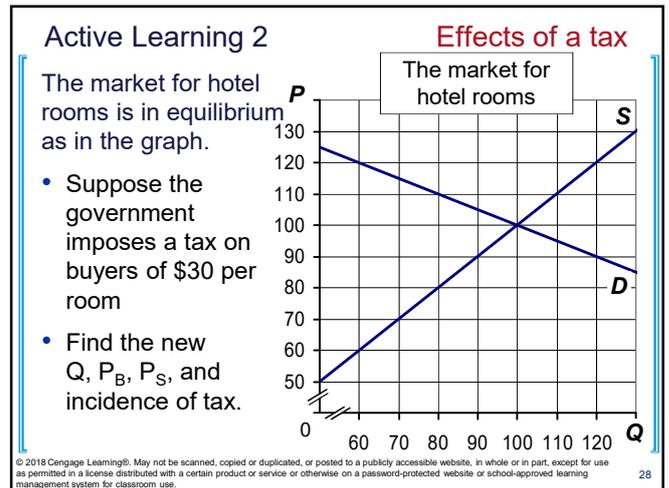
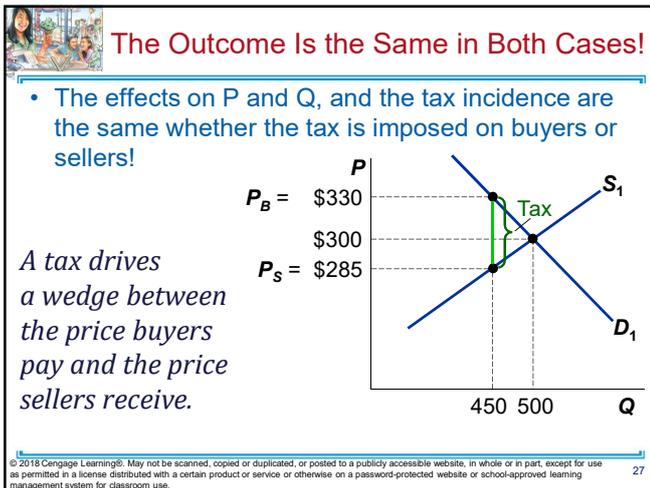
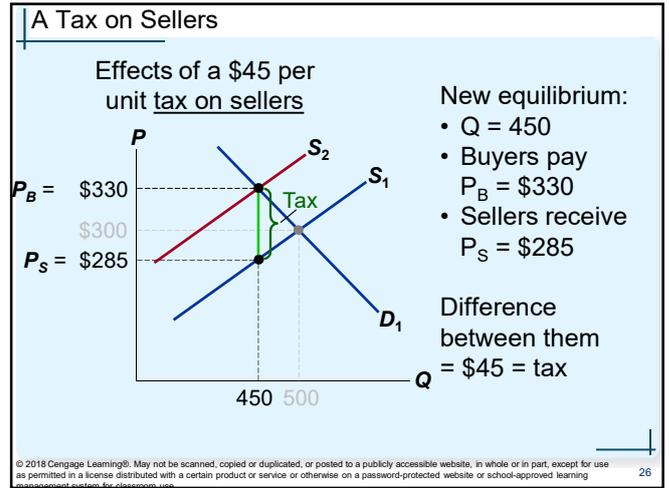
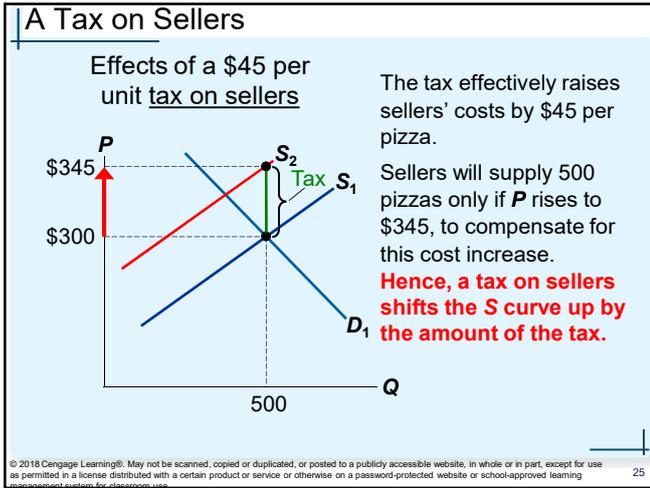
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Taxes

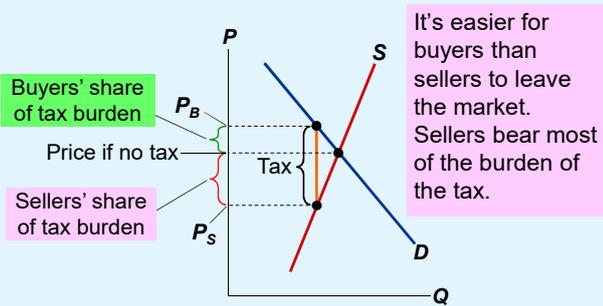
- Government uses taxes
 - To raise revenue for public projects
 - Roads, schools, and national defense
- Tax incidence
 - Manner in which the burden of a tax is shared among participants in a market
 - The government can make the seller or the buyer to pay the tax

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Elasticity and Tax Incidence
CASE 2: Demand is more elastic than supply



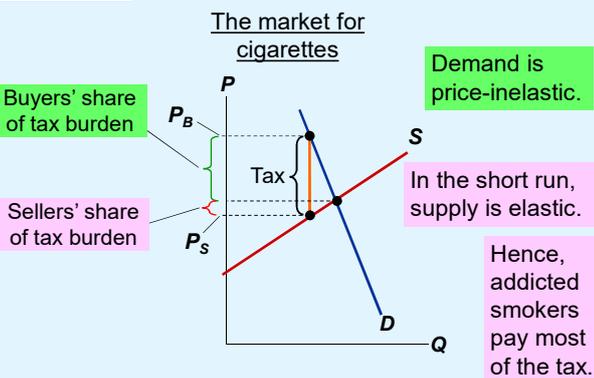
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CASE STUDY Who pays the cigarette tax?

- **2017, Taiwan's Legislative Yuan increased the cigarette tax by NT\$20.**
 - Goal: to raise revenue from those “evil” and wealthy cigarette companies
 - Addictive items
 - Demand is quite inelastic
 - Supply is relatively elastic

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CASE STUDY: Who Pays the Cigarette Tax?



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Active Learning 3 The 2011 payroll tax cut

Prior to 2011, the Social Security payroll tax was 6.2% taken from workers' pay and 6.2% paid by employers (total 12.4%). The Tax Relief Act (2010) reduced the worker's portion from 6.2% to 4.2% in 2011, but left the employer's portion at 6.2%.

- Should this change have increased the typical worker's take-home pay by exactly 2%, more than 2%, or less than 2%? Do any elasticities affect your answer? Explain.
- **FOLLOW-UP QUESTION:** Who gets the bigger share of this tax cut, workers or employers? How do elasticities determine the answer?

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Active Learning 3 **Answers**

- As long as labor supply and labor demand both have price elasticity > 0, the tax cut will be shared by workers and employers, i.e., workers' take-home pay will rise less than 2%.
- The answer does NOT depend on whether labor demand is more or less elastic than labor supply.

FOLLOW-UP QUESTION :

- If labor demand is more elastic than labor supply, workers get more of the tax cut than employers.
- If labor demand is less elastic than labor supply, employers get the larger share of the tax cut.

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Summary

- A **price ceiling** is a legal maximum on the price of a good. An example is rent control. If the price ceiling is below the equilibrium price, it is binding and causes a shortage.
- A **price floor** is a legal minimum on the price of a good. An example is the minimum wage. If the price floor is above the equilibrium price, it is binding and causes a surplus. The labor surplus caused by the minimum wage is unemployment.

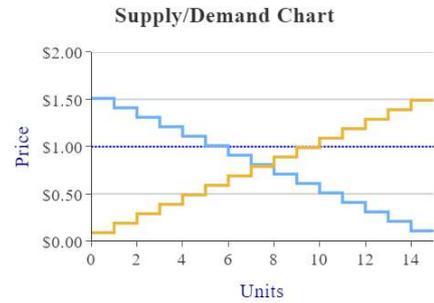
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Summary

- A **tax** on a good places a **wedge** between the price buyers pay and the price sellers receive, and causes the equilibrium quantity to fall, whether the tax is imposed on buyers or sellers.
- The **incidence** of a tax is the division of the burden of the tax between buyers and sellers, and does not depend on whether the tax is imposed on buyers or sellers.
- The incidence of the tax depends on the price elasticities of supply and demand.

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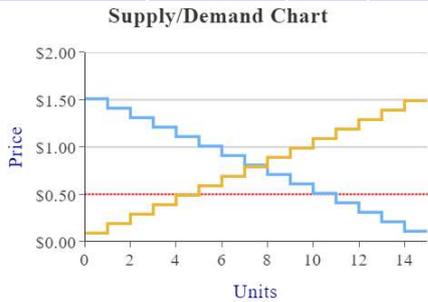
Price Control Experiment (2018)



Equilibrium P: \$1.00 Equilibrium Qty: 6

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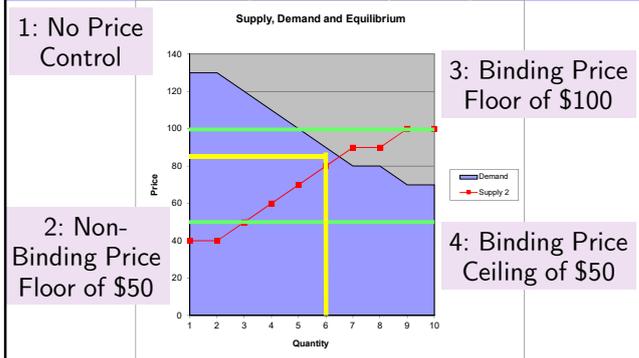
Price Control Experiment (2018)



Equilibrium P: \$0.50 Equilibrium Qty: 5

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Price Control Experiment (2017)



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Chapter 6: Price Control and Taxation

- ▶ Markets are good? Price control is bad!
- ▶ Homework: Mankiw, Ch. 6, Problem 3, 5, 7-10
- ▶ Challenge Questions:
 - ▶ 2009 - (Multiple Choice Q11)
 - ▶ 2010 - (True/False Q6-Q8)
 - ▶ 2012 - (True/False Q3-Q4)
 - ▶ 2013 - (True/False Q6-7)
 - ▶ 2016 - Essay C
 - ▶ 2017 - Essay D
 - ▶ 2018 - Essay A1, A6

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Chapter 6: Price Control and Taxation

- ▶ Additional Questions:
 - ▶ True or False. A price ceiling on wheat would cause the price of bread to fall.
 - ▶ True or False. ASUS computers contain hard drivers made by other manufacturers. If ASUS made its own hard drives, ASUS computers would be cheaper.

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