

6

Supply, Demand, and Government Policies

PRINCIPLES OF MICROECONOMICS

FOURTH CANADIAN EDITION

N. GREGORY MANKIW
RONALD D. KNEEBONE
KENNETH J. MCKENZIE
NICHOLAS ROWE

PowerPoint® Slides
by Ron Cronovich
Canadian adaptation by Marc Prud'Homme

© 2008 Nelson Education Ltd.

In this chapter, 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 does the outcome depend on whether the tax is imposed on buyers or sellers?
- What is the incidence of a tax? What determines the incidence?

© 2008 Nelson Education Ltd.

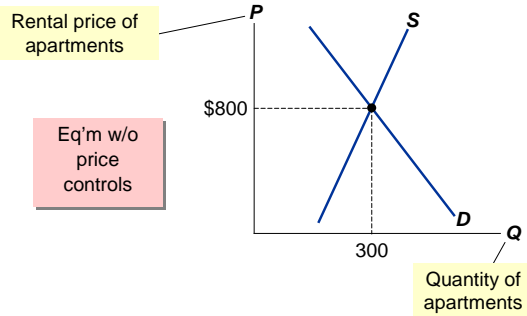
Government Policies That Alter the Private Market Outcome

- Price controls
 - Price ceiling:** a legal maximum on the price of a good or service. *Example: rent control.*
 - Price floor:** a legal minimum on the price of a good or service. *Example: minimum wage.*
- Taxes
 - The gov't can make buyers or sellers pay a specific amount on each unit bought/sold.

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 equilibrium quantity).

© 2008 Nelson Education Ltd.

EXAMPLE 1: The Market for Apartments

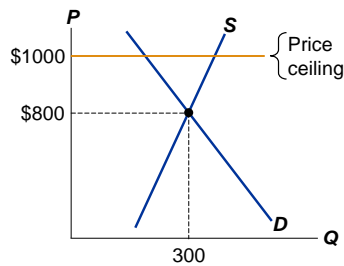


© 2008 Nelson Education Ltd.

3

How Price Ceilings Affect Market Outcomes

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



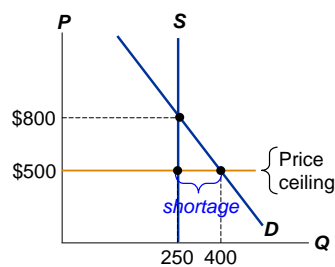
© 2008 Nelson Education Ltd.

4

How Price Ceilings Affect Market Outcomes

The eq'm price (\$800) is above the ceiling and therefore illegal.

The ceiling is a **binding price constraint** on the price, and causes a shortage.

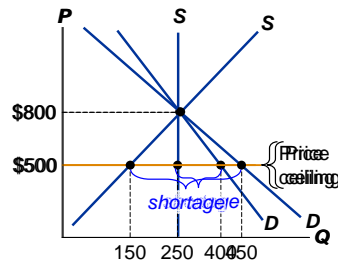


© 2008 Nelson Education Ltd.

5

How Price Ceilings Affect Market Outcomes

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



© 2008 Nelson Education Ltd.

6

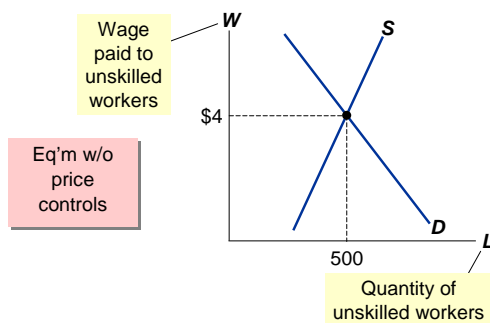
Shortages and Rationing

- 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 don't 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).

© 2008 Nelson Education Ltd.

7

EXAMPLE 2: The Market for Unskilled Labour

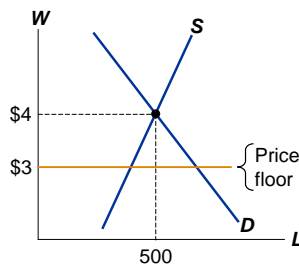


© 2008 Nelson Education Ltd.

8

How Price Floors Affect Market Outcomes

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



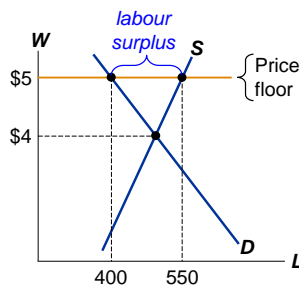
© 2008 Nelson Education Ltd.

9

How Price Floors Affect Market Outcomes

The eq'm wage (\$4) is below the floor and therefore illegal.

The floor is a **binding constraint** on the wage, and causes a surplus (i.e., unemployment).



© 2008 Nelson Education Ltd.

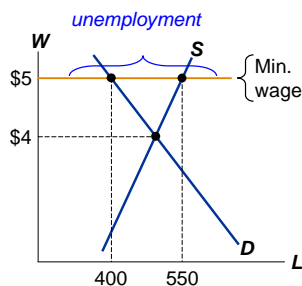
10

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%.



© 2008 Nelson Education Ltd.

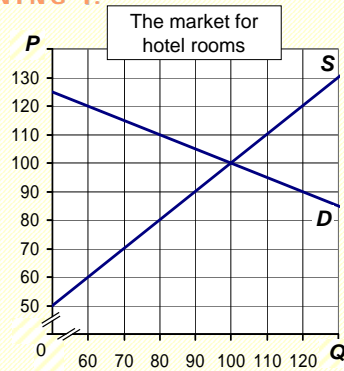
11

ACTIVE LEARNING 1:

Price floors & ceilings

Determine
effects of:

- A. \$90 price ceiling
- B. \$90 price floor
- C. \$120 price floor



12

ACTIVE LEARNING 1:

A. \$90 price ceiling

The price falls
to \$90.

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



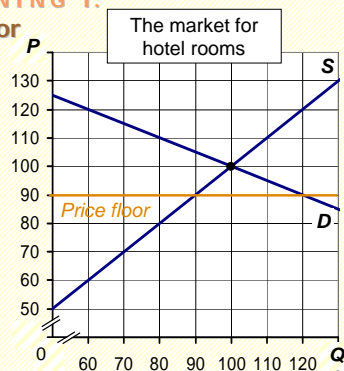
13

ACTIVE LEARNING 1:

B. \$90 price floor

Eq'm price is
above the floor,
so floor is not
binding.

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

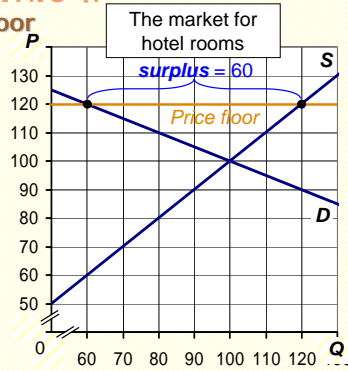


14

ACTIVE LEARNING 1: C. \$120 price floor

The price rises to \$120.

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



Evaluating Price Controls

- Recall one of the Ten Principles:
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 are often intended to help the poor, but they often hurt more than help them:
 - The minimum wage can cause job losses.
 - Rent control can reduce the quantity and quality of affordable housing.



© 2008 Nelson Education Ltd.

16

Taxes

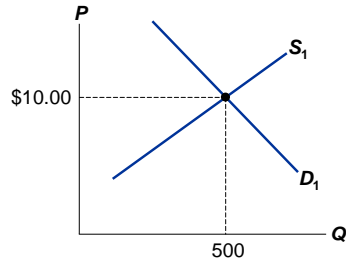
- The gov't levies taxes on many goods & services to raise revenue to pay for national defense, public schools, etc.
- The gov't can make buyers or sellers pay the tax.
- The tax can be a percentage of the good's price, or a specific amount for each unit sold.
 - For simplicity, we analyze per-unit taxes only.

© 2008 Nelson Education Ltd.

17

EXAMPLE 3: The Market for Pizza

Eq'm
w/o tax



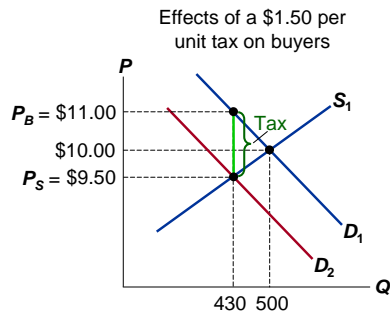
© 2008 Nelson Education Ltd.

18

A Tax on Buyers

A tax on buyers shifts the D curve down by the amount of the tax.

The price buyers pay rises, the price sellers receive falls, eq'm Q falls.



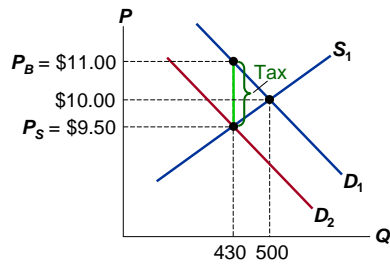
© 2008 Nelson Education Ltd.

19

The Incidence of a Tax:

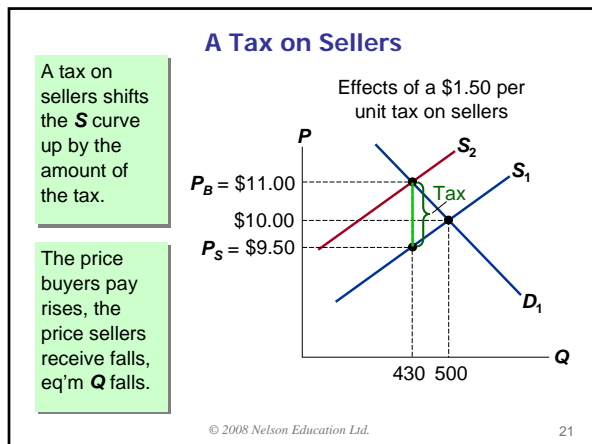
how the burden of a tax is shared among market participants

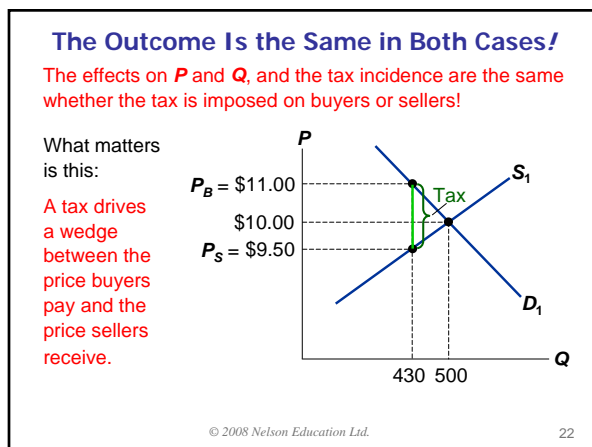
Because of the tax, buyers pay $\$1.00$ more, sellers get $\$0.50$ less.

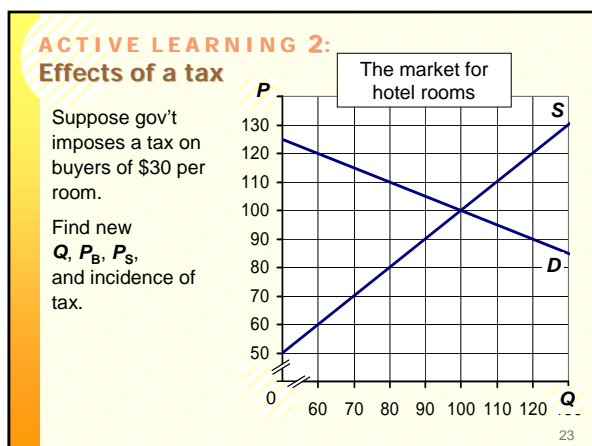


© 2008 Nelson Education Ltd.

20







ACTIVE LEARNING 2: Answers

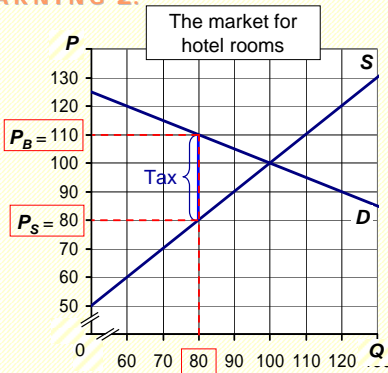
$$Q = 80$$

$$P_B = \$110$$

$$P_S = \$80$$

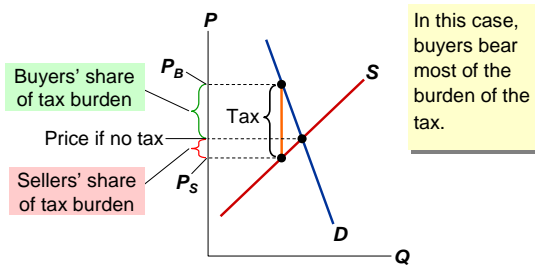
Incidence

buyers: \$10
sellers: \$20



Elasticity and Tax Incidence

CASE 1: Supply is more elastic than demand

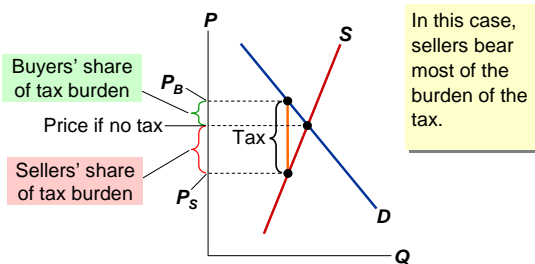


© 2008 Nelson Education Ltd.

25

Elasticity and Tax Incidence

CASE 2: Demand is more elastic than supply



© 2008 Nelson Education Ltd.

26

Elasticity and Tax Incidence

- If buyers' price elasticity > sellers' price elasticity, buyers can more easily leave the market when the tax is imposed, so buyers will bear a smaller share of the burden of the tax than sellers.
- If sellers' price elasticity > buyers' price elasticity, the reverse is true.

© 2008 Nelson Education Ltd.

27

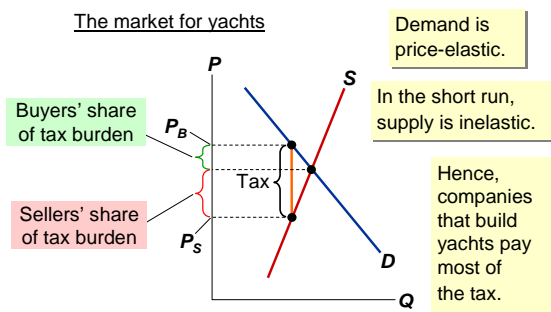
CASE STUDY: Who Pays the Luxury Tax?

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

© 2008 Nelson Education Ltd.

28

CASE STUDY: Who Pays the Luxury Tax?



© 2008 Nelson Education Ltd.

29

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 the eq'm quantity of pizza.
Since the economy is producing fewer pizzas, some 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.

© 2008 Nelson Education Ltd.

30

CHAPTER 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 eq'm 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 eq'm price, it is binding and causes a surplus. The labour surplus caused by the minimum wage is unemployment.

© 2008 Nelson Education Ltd.

31

CHAPTER SUMMARY

- A tax on a good places a wedge between the price buyers pay and the price sellers receive, and causes the eq'm 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.

© 2008 Nelson Education Ltd.

32

End: Chapter 6

© 2008 Nelson Education Ltd.

33
