

Introduction to Economics

Lecture 6

MGM112
GOVERNMENT ACTIONS
IN MARKETS

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GOVERNMENT ACTIONS IN MARKETS

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?
- What is the incidence of a tax?
 - What determines the incidence?

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CONTROLS ON PRICES

- **Government policies can deliberately alter the private market outcome.**
 - Set a **price ceiling**: a legal maximum on the price of a good or service ***Example: rent control.***
 - Set a **price floor**: a legal minimum on the price of a good or service ***Example: minimum wage.***
 - Through **taxes**.
 - The government can make buyers or sellers pay a specific amount on each unit.

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CONTROLS ON PRICES

1) Price ceiling (Rent ceiling in housing market)

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1) Price ceiling

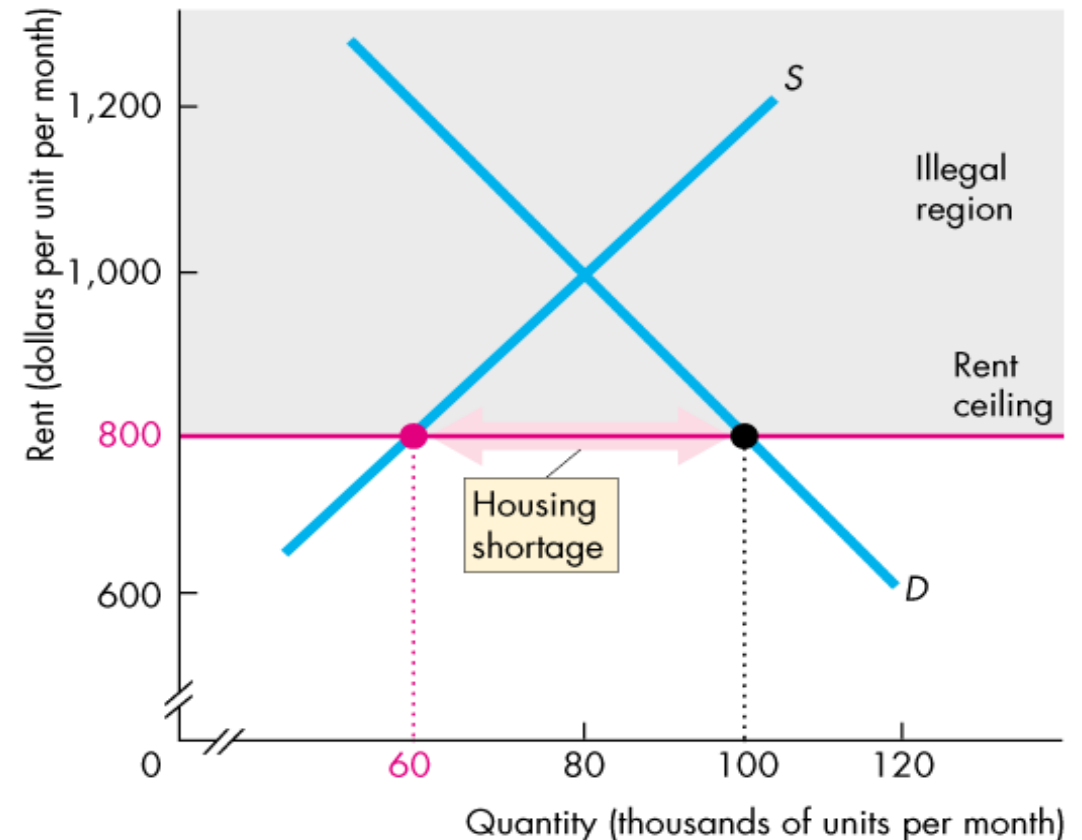
- It is a regulation that makes it illegal to charge a price higher than a specified level
- It is applied to a **housing market** it is called a **rent ceiling**.
- Two outcomes are possible when government imposes price ceiling:
 - If the rent ceiling is set above the equilibrium rent, it has no effect
 - If the rent ceiling is set below the equilibrium rent, it leads to a shortage

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1) Price ceiling

It leads to a shortage as it is set below the equilibrium rent.

- The equilibrium rent is \$1,000 a month.
- A rent ceiling is set at \$800 a month.
- So, the equilibrium rent is in the illegal region.
- There is a shortage of housing ($Q_s < Q_d$)

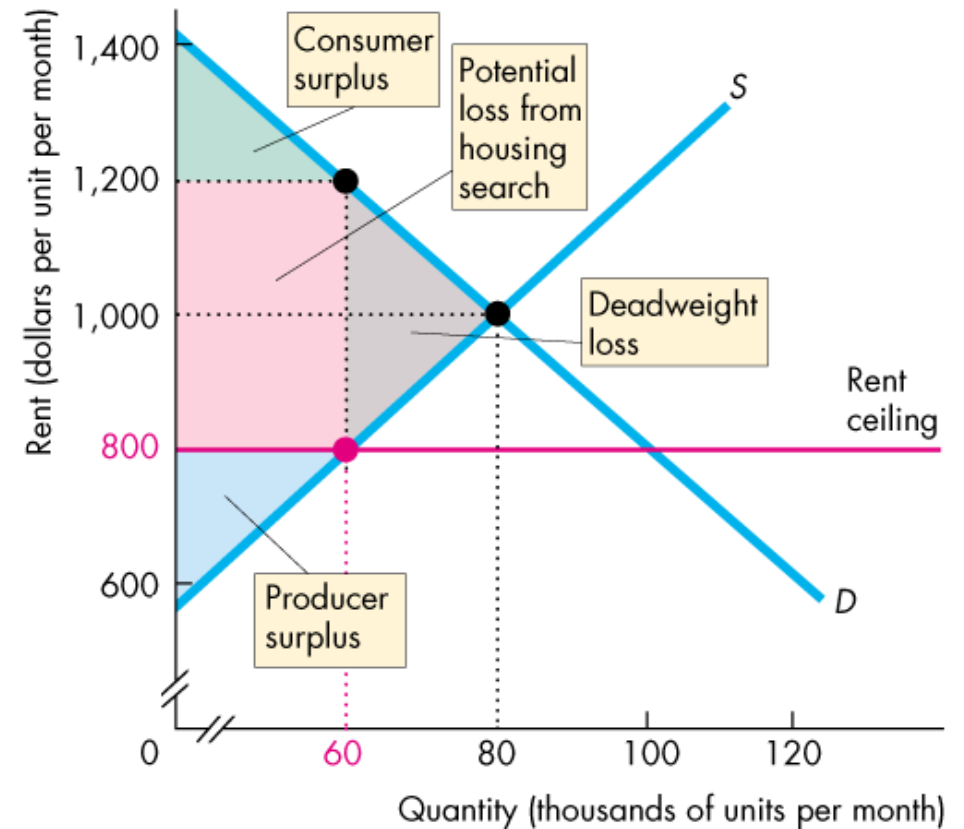


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1) Price ceiling

A rent ceiling set below the equilibrium rent leads to:

- An inefficient underproduction of housing services (Shortage) → $Q_s < Q_d$
- ***A deadweight loss arises.***
 - Producer surplus decreases.
 - Consumer surplus decreases.
 - There is a potential loss from increased search activity.
 - The full loss is the sum of the red and gray areas



1) Price ceiling

Rent Ceilings is unfair, because;

1. According to **the *fair rules* view**, a rent ceiling is unfair because it blocks voluntary exchange.
2. According to **the *fair results* view**, a rent ceiling is unfair because it does not generally benefit the poor.
3. A rent ceiling decreases the quantity of housing, and the scarce housing is allocated by
 - **Lottery**
 - gives scarce housing to the lucky.
 - **First-come, first-served**
 - gives scarce housing to those who have the greatest foresight and get their names on the list first.
 - **Discrimination**
 - gives scarce housing to friends, family members, or those of the selected race or sex.

None of these methods leads to a fair outcome

Think

A price ceiling is a price.

- A) below which a seller cannot legally sell.
- B) above which a seller cannot legally sell.**
- C) that creates a surplus of the good.
- D) Both answers A and C are correct.

A price _____ is a regulated _____ that must be set below the equilibrium price to have an effect.

- A) floor; price
- B) floor; quantity
- C) ceiling; price**
- D) ceiling; quantity



Think



A rent ceiling _____.

- A) increases the quantity of rental units supplied
- B) cannot change the market price
- C) set above equilibrium price has no effect**
- D) generally, aims at insuring that landlords receive a higher rent than would otherwise be the case

Which of the following is an effect of a price ceiling set below the equilibrium price?

- A) Less of the good is produced with the ceiling than would be produced without the ceiling (Shortage / Excess demand)**
- B) The price ceiling has no effect on the market equilibrium.
- C) Consumers can buy more than they can at the equilibrium price because the ceiling price is lower.
- D) None of the above answers is correct.

Think

A rent ceiling creates a shortage. As a result, which of the following occurs?

- A) only a loss of consumer surplus for tenants
- B) only a loss of producer surplus for landlords
- C) a loss of both consumer and producer surplus**
- D) a gain of both consumer and producer surplus

The This table gives the demand schedule and the supply schedule for housing in Anytown, U.S.A. If a rent ceiling of \$300 is imposed in the housing market, then

- A) there would be a surplus of apartments.
- B) there would be a shortage of apartments.**
- C) the market would reach equilibrium at the quantity of 60 housing units.
- D) the supply of housing would increase.

Rent (dollars per month)	Quantity of apartments supplied (per month)	Quantity of apartments demanded (per month)
200	20	100
300	40	80
400	60	60
500	80	40
600	100	20

Think

This figure shows the apartment rental market in Bigtown. At what rent will there be neither a shortage nor a surplus of apartments?

- A) \$1250 per month
- B) \$1000 per month
- C) \$750 per month**
- D) \$500 per month



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CONTROLS ON PRICES

2) Price Floor (Minimum wage in labor market)

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2) Price Floor

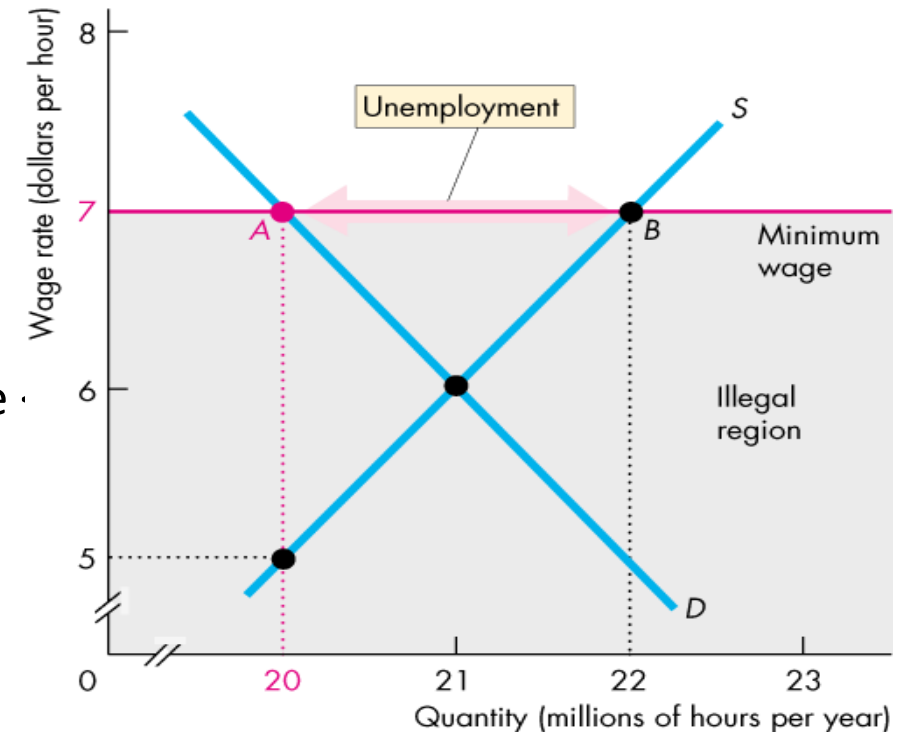
- It is a regulation that makes it illegal to trade at a price lower than a specified level. is a regulation that
- When a price floor is applied to **labor markets**, it is called a **minimum wage**.
- If the minimum wage is set below the equilibrium wage rate, it has no effect. The market works as if there were no minimum wage.
 - If the minimum wage is set above the equilibrium wage rate, it leads to a surplus

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2) Price Floor

It leads to an Unemployment as it is set above the equilibrium wage rate.

- There is a surplus of labor (the quantity of labor supplied by workers > the quantity demanded by employers)
- Because** the quantity of labor hired at the minimum wage is the quantity that would be hired in an unregulated labor market.
- the legal wage rate cannot eliminate the surplus, the minimum wage creates unemployment

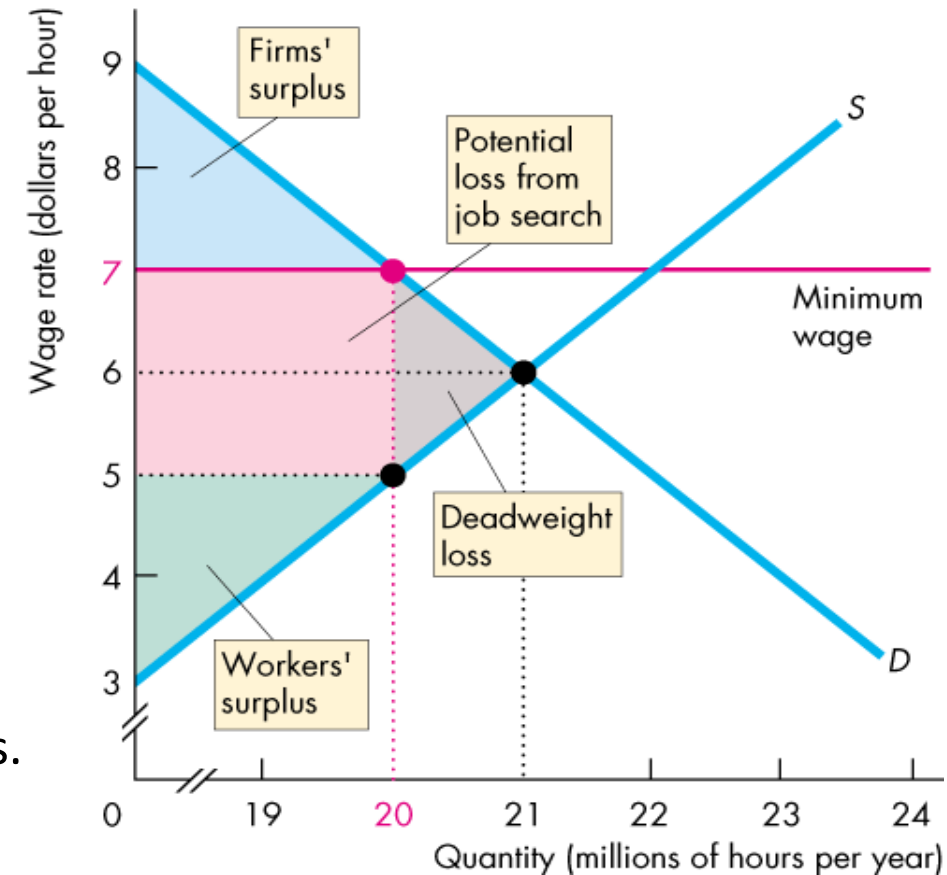


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2) Price Floor

A minimum wage set above the equilibrium wage rate leads to an inefficient outcome:

- As a minimum wage set above the equilibrium wage **decreases the quantity of labor employed**.
 - The quantity of labor employed is less than the efficient quantity ($20 < 21$)
- **A deadweight loss arises.**
 - The potential loss from increased job search decreases both workers' surplus and firms' surplus.
 - The full loss is the sum of the red and gray areas.



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2) Price Floor

The Minimum Wage is Unfair, because; Most economists believe that minimum wage laws increase the unemployment rate of low-skilled younger workers

Think

If policy makers believe that the equilibrium wage rate is too low, policy makers can raise wages by legislating a minimum wage, that is, a wage

- A) ceiling above the equilibrium wage.
- B) ceiling below the equilibrium wage.
- C) floor above the equilibrium wage.**
- D) floor below the equilibrium wage.

A minimum wage set above the equilibrium wage rate is a price

- A) ceiling that results in a shortage of low-skilled labor.
- B) ceiling that results in a surplus of low-skilled labor.
- C) floor that results in a shortage of low-skilled labor.
- D) floor that results in a surplus of low-skilled labor.**



Think

When a minimum wage is set above the equilibrium wage rate,

_____.

A) the supply of low-skilled workers decreases, and the supply curve shifts rightward

B) unemployment increases

C) search activity decreases

D) the supply of low-skilled workers increases, and the supply curve shifts leftward

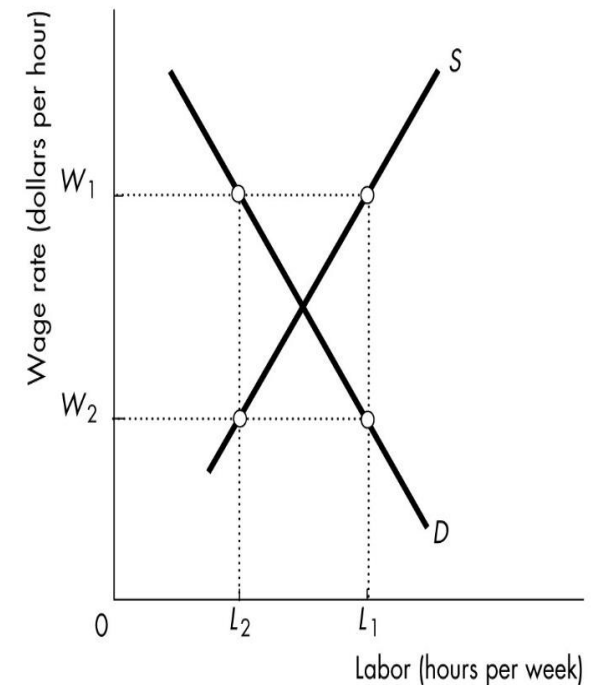
In the figure, a minimum wage of _____ would result in employment of _____.

A) W_2 ; L_1

B) W_2 ; L_2

C) W_1 ; L_1

D) W_1 ; L_2



Think

In the table, what is the equilibrium wage rate in an unregulated market?

- A) \$8.00 per hour
- B) \$9.00 per hour
- C) \$10.00 per hour**
- D) \$11.00 per hour

In the table, what is the level of unemployment (in millions of workers) if the minimum wage is set at \$8 per hour?

- A) 0.**
- B) 1.
- C) 3.
- D) 4.

Because If the minimum wage is set below the equilibrium wage rate, it has no effect. The market works as if there were no minimum wage.

Wage rate (dollars per hour)	Labor supplied (millions of workers)	Labor demanded (millions of workers)
11	6	4
10	5	5
9	4	6
8	3	7
7	2	8

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CONTROLS ON PRICES

3) Tax Incidence

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3) Tax Incidence

- It is the division of the burden of a tax between buyers and sellers.
- If the price rises by the full amount of the tax,
 - buyers pay the tax.
- If the price rise by a lesser amount than the tax,
 - buyers and sellers share the burden of the tax.
- If the price doesn't rise at all,
 - sellers pay the tax.

3) Tax Incidence

Tax incidence is the same regardless of whether the law says sellers pay or buyers pay.

HOW?

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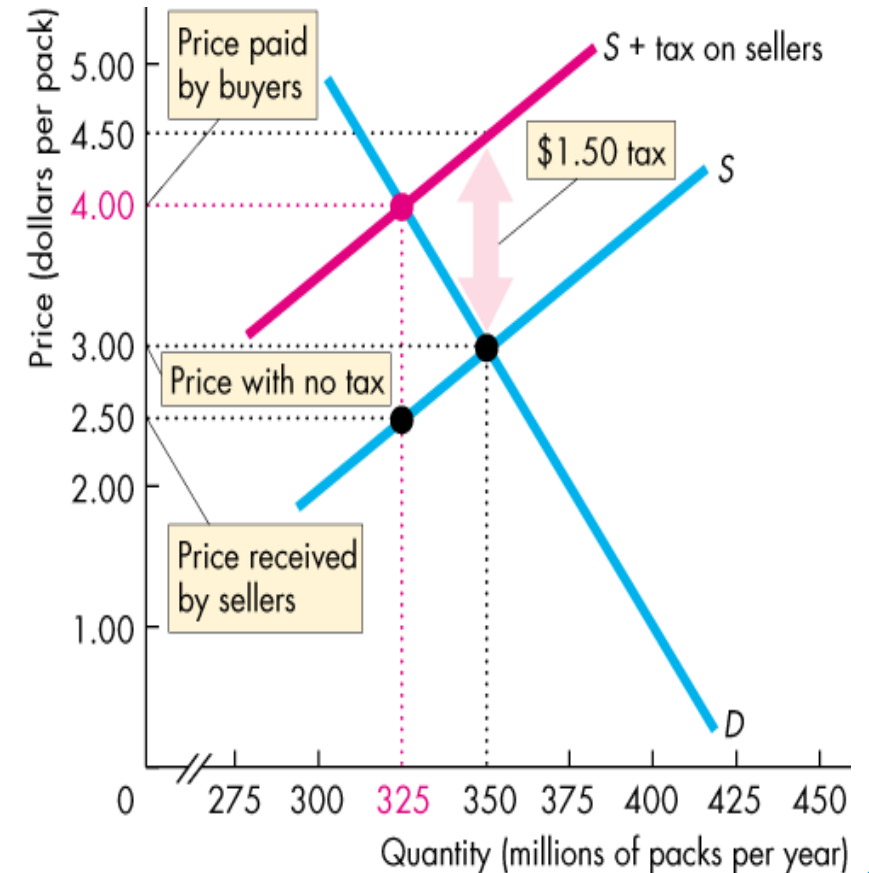
3) Tax Incidence

The effect of tax on Sellers

With no tax, the equilibrium price is \$3.00 a pack.

A tax on sellers of \$1.50 a pack is introduced.

- Supply decreases and the curve $S + \text{tax on sellers}$ shows the new supply curve.
- The market price paid by buyers rises to \$4.00 a pack and the quantity bought decreases.
- The price received by the sellers falls to \$2.50 a pack.
- So, with the tax of \$1.50 a pack, buyers pay \$1.00 a pack more and sellers receive 50¢ a pack less.



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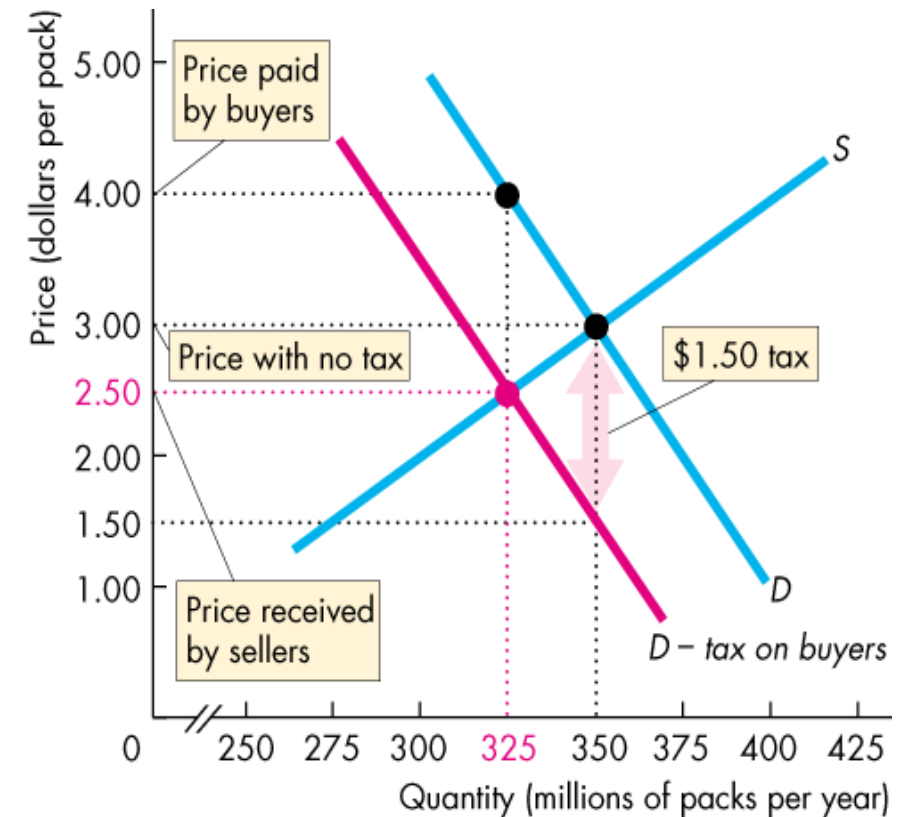
3) Tax Incidence

The effect of tax on buyers

With no tax, the equilibrium price is \$3.00 a pack.

A tax on buyers of \$1.50 a pack is introduced.

- Demand decreases and the curve $D - \text{tax on buyers}$ shows the new demand curve.
- The price received by sellers falls to \$2.50 a pack and the quantity decreases.
- The price paid by buyers rises to \$4.00 a pack.
- So, with the tax of \$1.50 a pack, buyers pay \$1.00 a pack more and sellers receive 50¢ a pack less.



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3) Tax Incidence

- So, exactly as before when sellers were taxed:
 - Buyers pay \$1.00 of the tax.
 - Sellers pay the other 50¢ of the tax.

3) Tax Incidence

The division of the tax between buyers and sellers depend on the elasticities of demand and supply.

HOW?

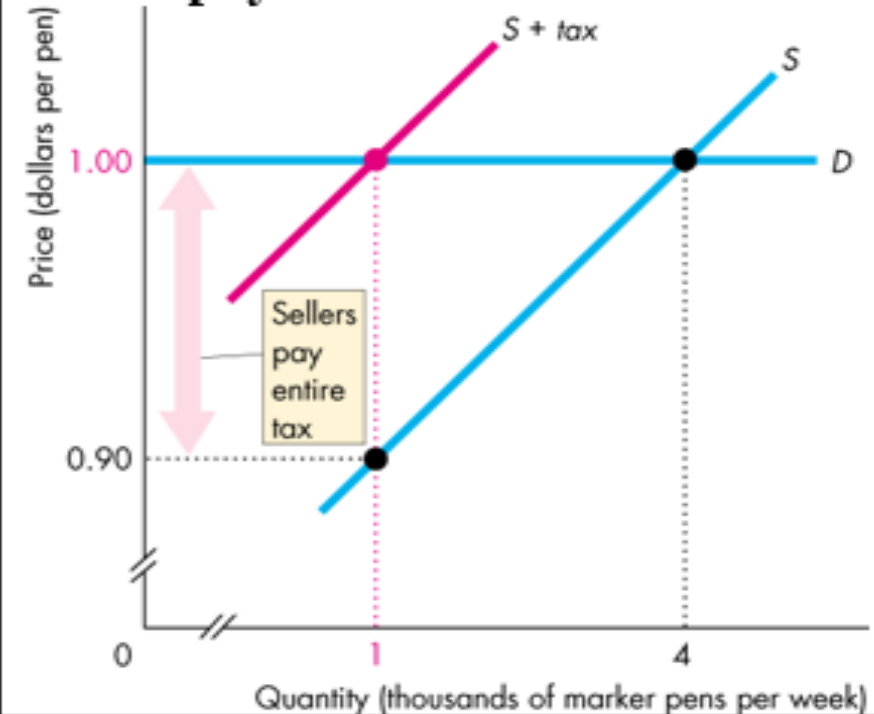
Perfectly Inelastic Demand

Demand for this good is perfectly inelastic—the demand curve is vertical. When a tax is imposed on this good, **buyers pay the entire tax.**



Perfectly Elastic Demand

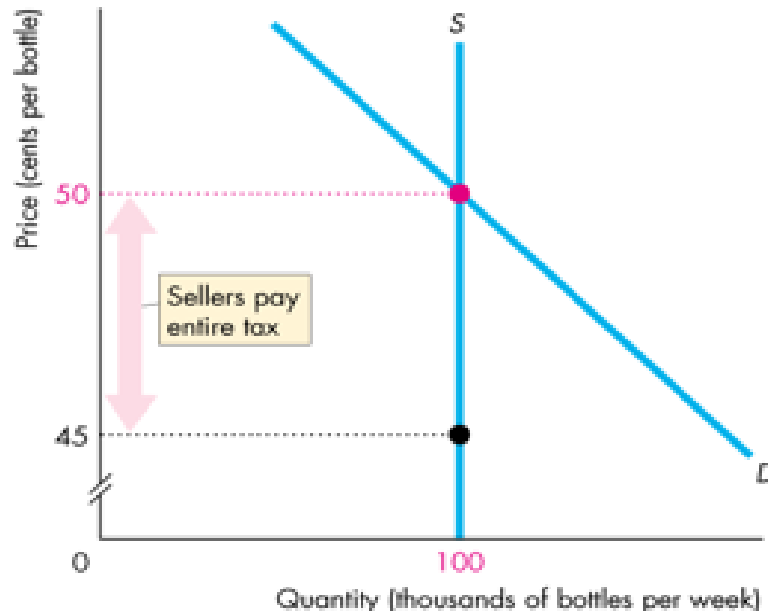
The demand for this good is perfectly elastic—the demand curve is horizontal. When a tax is imposed on this good, **sellers pay the entire tax.**



Perfectly Inelastic Supply

The supply of this good is perfectly inelastic—the supply curve is vertical.

When a tax is imposed on this good, **sellers pay the entire tax.**

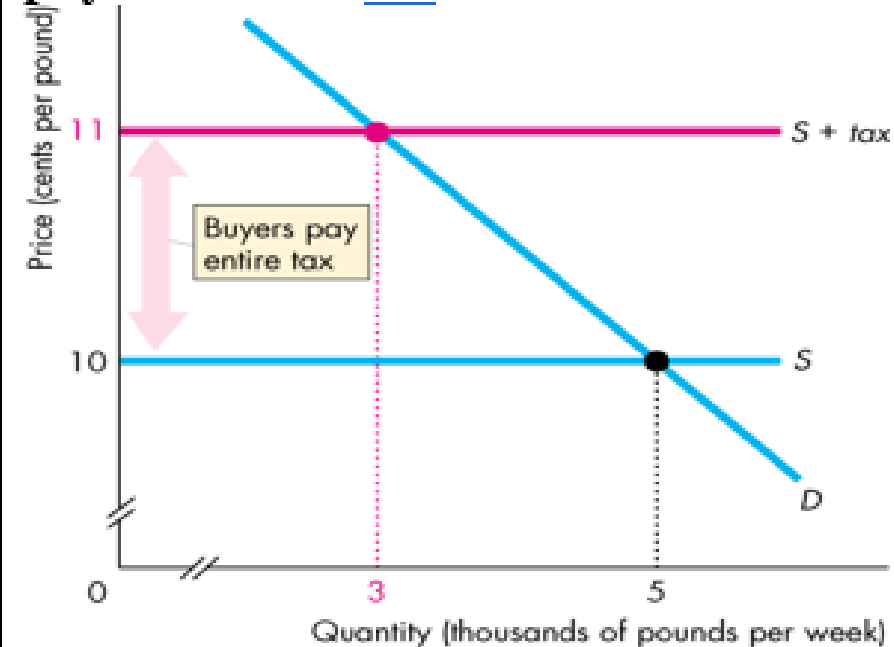


(a) Perfectly inelastic supply

Perfectly Elastic Supply

The supply of this good is perfectly elastic—the supply curve is horizontal.

When a tax is imposed on this good, **buyers pay the entire tax.**



(b) Perfectly elastic supply

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3) Tax Incidence

- **Buyers pay the entire tax when:**
 - **Perfectly inelastic demand**
 - **Perfectly elastic supply**
- **Sellers pay the entire tax when:**
 - **Perfectly elastic demand**
 - **Perfectly inelastic supply**

3) Tax Incidence

So,

The more inelastic the demand, the larger is the buyers' share of the tax.

The more elastic the supply, the larger is the buyers' share of the tax.

Think

A sales tax is imposed on the sellers of gasoline. This tax shifts

A) the supply of gasoline curve leftward.

B) the supply of gasoline curve rightward.

C) the demand for gasoline curve leftward.

D) both the supply curve of gasoline and demand curve for gasoline leftward.

A sales tax imposed on sellers shifts the supply curve leftward for the taxed good because the

A) tax is paid by the seller to the government and is, therefore, like a cost of production.

B) tax is actually shifted entirely onto the buyer who can afford only a smaller supply.

C) higher price causes entry into the market.

D) tax shifts the demand curve leftward.



Think

How a sales tax is divided between buyers and sellers is determined by

- A) the government's choice of whom to tax.
- B) who the law says must pay the tax.
- C) the elasticities of supply and demand.**
- D) the revenue needs of government.

The demand and the supply for a good are each neither perfectly elastic nor perfectly inelastic. If a sales tax on sellers of the good is imposed, the tax is paid by

- A) only buyers.
- B) only sellers.
- C) both buyers and sellers.**
- D) neither buyers nor sellers.



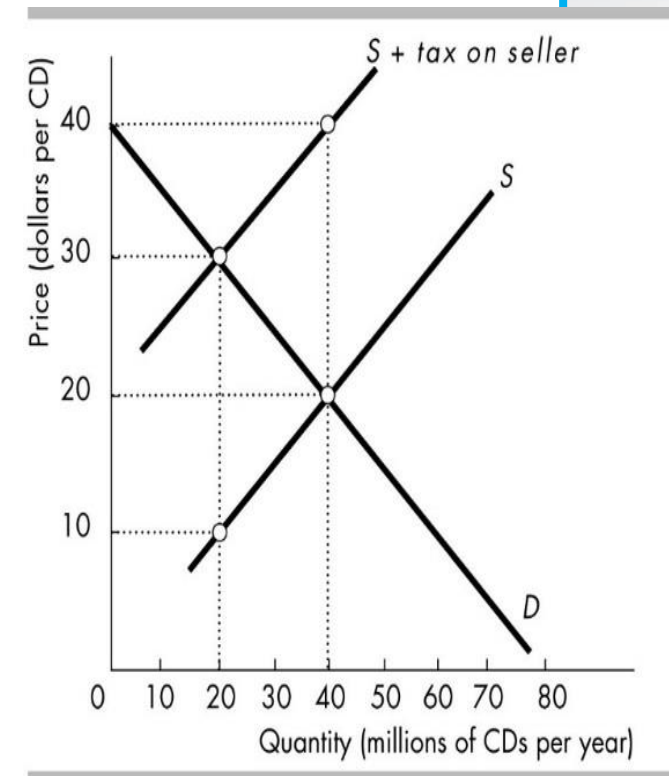
Think

In the figure, the price paid by the buyer before the tax is _____ per compact disc, and the price paid by the buyer after the tax is _____ per compact disc.

- A) \$20; \$20
- B) \$20; \$30**
- C) \$30; \$20
- D) \$30; \$30

In the figure, the price received by the seller before the tax is _____ per compact disc, and the price received and kept by the seller after the tax is _____ per compact disc.

- A) \$20; \$20
- B) \$20; \$10**
- C) \$30; \$20
- D) \$30; \$10



Think

If buyers of illegal goods are punished but sellers are not, then the price _____ and the equilibrium quantity _____. (shift Demand leftward)

- A) rises; increases
- B) rises; decreases
- C) falls; increases
- D) falls; decreases**



In general, a fine on smoking cigarettes shifts the _____ curve of cigarettes _____.

- A) supply; rightward
- B) supply; leftward
- C) demand; rightward
- D) demand; leftward**

Think

If penalties are imposed only on buyers (but not on sellers) of marijuana, the equilibrium price of marijuana _____, and the equilibrium quantity of marijuana sold _____.

- A) rise; increase
- B) rise; decrease
- C) fall; increase
- D) fall; decrease**



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Summary outlines

- **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 outlines

- **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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Important Notes

- Among the factors that create a deadweight loss and inefficiency are **minimum wages, rent ceilings, and taxes.**

Price ceiling:

- A price ceiling makes it **illegal to charge a higher price than the specified price**
- To have an effect, a price ceiling must be **set below the equilibrium price**
- A rent ceiling set above the equilibrium rent **has no effect**
- A price ceiling, such as a rent ceiling, **results in a shortage if the ceiling price is less than the equilibrium price.**
- The potential impact of a rent ceiling set below the equilibrium rent is **Shortage, decrease consumer and producer surplus, and a deadweight loss**
- Price ceilings, such as rent ceilings, set below the equilibrium price **decrease producer surplus**

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Important Notes

Price ceiling:

- Assume that your state government has placed a price ceiling of 30 per kilowatt hour on electricity. The equilibrium price per kilowatt hour for electricity is \$.35. The government's action will result in a **deadweight loss**.
- A rent ceiling set **above** equilibrium price **has no effect**

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Important Notes

Price floor

- If policy makers believe that the equilibrium wage rate is too low, policy makers can raise wages by legislating a minimum wage, that is, **a wage floor above the equilibrium wage.**
- When a minimum wage is set above the equilibrium wage rate, **unemployment increases.**
- A minimum wage set above the equilibrium wage rate is **a price floor that results in a surplus of low-skilled labor.**
- A **price floor** is a **legal Minimum** on the price of a good

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Important Notes

Tax Incidence:

- **The more elastic the demand** for a good, **the less a sales tax raises the price paid by buyers**
- The elasticity of demand for chocolate chip cookies is 0.5 and the elasticity of supply for these cookies is 1.8. If a tax is imposed on purchases of chocolate chip cookies, then **the consumers would pay more of the tax.**
- A sales tax is divided so that the sellers pay **the full amount if demand is perfectly elastic**
- A sales tax is imposed on the sellers. **This tax shifts the supply curve leftward.**
- In general, **a fine on buying a product** led to **the demand curve shifting leftward.**
- The more **inelastic the demand**, the larger is the **buyers'** share of the tax.
- The more **elastic the supply**, the larger is the **buyers'** share of the tax.
- A fine on **smoking cigarettes** shifts the **demand** curve of cigarettes leftward.



Thank You