

# Economics 610

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# Modest goals, 8/28 and 9/4

- Introduce myself and the class
- Go over syllabus and reading assignments
- Discuss goals for the course “Tempur-Pedic stock up after report, analysis,” *Lexington Herald-Leader*, July 26, 2012, p. B5:  
<http://www.kentucky.com/2012/07/25/2270718/tempur-pedic-stock-up-after-2q.html>
- Discuss different ways that societies organize their economic systems
- Introduce basic concepts of demand and supply and use them to understand how markets work to allocate society’s scarce resources

# Syllabus and Detailed Course Outline

- My webpage:  
<http://gatonweb.uky.edu/faculty/scott/>
- Syllabus highlights: textbooks, grading, office hours, reading assignments, exam dates.
- Detailed course outline: specific textbook sections to read, additional resources, optional additional outside readings, alternative resources for textbook material
- Classroom decorum: no passing notes, and no chewing gum!



# Comparative Economic Systems

- Over time and across the world different countries have fared differently in terms of the well-being of their citizens
- Economic development in four minutes:  
<https://www.youtube.com/watch?v=jbkSRLYSojo>
- Examples of different countries and the ways they organize economic activity:  
<https://www.cia.gov/library/publications/the-world-factbook/>

# Taxonomy of Economic Systems: The Decision-Making Process

**All economic systems must answer three basic economic questions:**

- 1. What** goods will be produced and in what amounts?  
<http://www.ebay.com/>
- 2. How?** What production techniques will be utilized?  
<https://www.youtube.com/watch?v=IV-iP1jSMII>  
<https://www.youtube.com/watch?v=JM-J8XPQo78>
- 3. For Whom?** Who gets the goods and services that are produced by society?  
<http://www.youtube.com/watch?v=4sG-Xle5gwU>

# What, how, and for whom? Markets vs. Central Planning

- Command or central planning vs. Markets: will decision-making be centralized or decentralized?
- How do market systems answer the questions what, how, and for whom?
- How does a centrally planned economy answer these questions?
- How does the U.S. economy decide about apples? Leather coats? 3-bedroom houses? Secondary education? Missile submarines?

# Taxonomy of economic systems:

## Ownership of Resources

- Are the scarce resources of a society individually owned or commonly owned?
- Capitalism: land, labor, capital are owned by private individuals [so a basic function of government is defining and enforcing property rights]
- Socialism: land, labor, capital are jointly owned by everyone
- In the U.S., who owns farms? Electric power plants? Houses and apartments? Lake Cumberland? Human capital?

# Economic Systems around the World

- U.S. economy: most resource allocation decisions are decentralized—made through interactions of buyers and sellers in markets; most resources are privately owned
- China? Decision-making: <https://www.youtube.com/watch?v=m91zBt94LI0>; ownership of resources: <https://www.youtube.com/watch?v=DMEANuyaKE4>
- Our focus in this course: capitalistic market economies



# How do markets work to allocate resources?

- What is a market? Examples?
- How is price determined in a market? Output?
- Theory of consumer behavior—Demand
- Theory of producer behavior—Supply
- Equilibrium in a market exists when everyone who wants to buy the product at the market price is able to do so and when everyone who wants to sell the product at the market price is able to do so.
- What will the price of crude oil be tomorrow? Next month? Next year?

<https://www.macrotrends.net/1369/crude-oil-price-history-chart>

# Using Demand and Supply Analysis without Graphs

- Increase in demand: UK beats Florida, Georgia, and Tennessee in football—market for UofL tickets on Stubhub?
- Increase in supply: fracking allows gas producers to extract more gas—market for natural gas?
- Decrease in demand: natural gas prices plummet—market for thermal coal?
- Decrease in supply: drought in Central Valley in California—market for carrots?

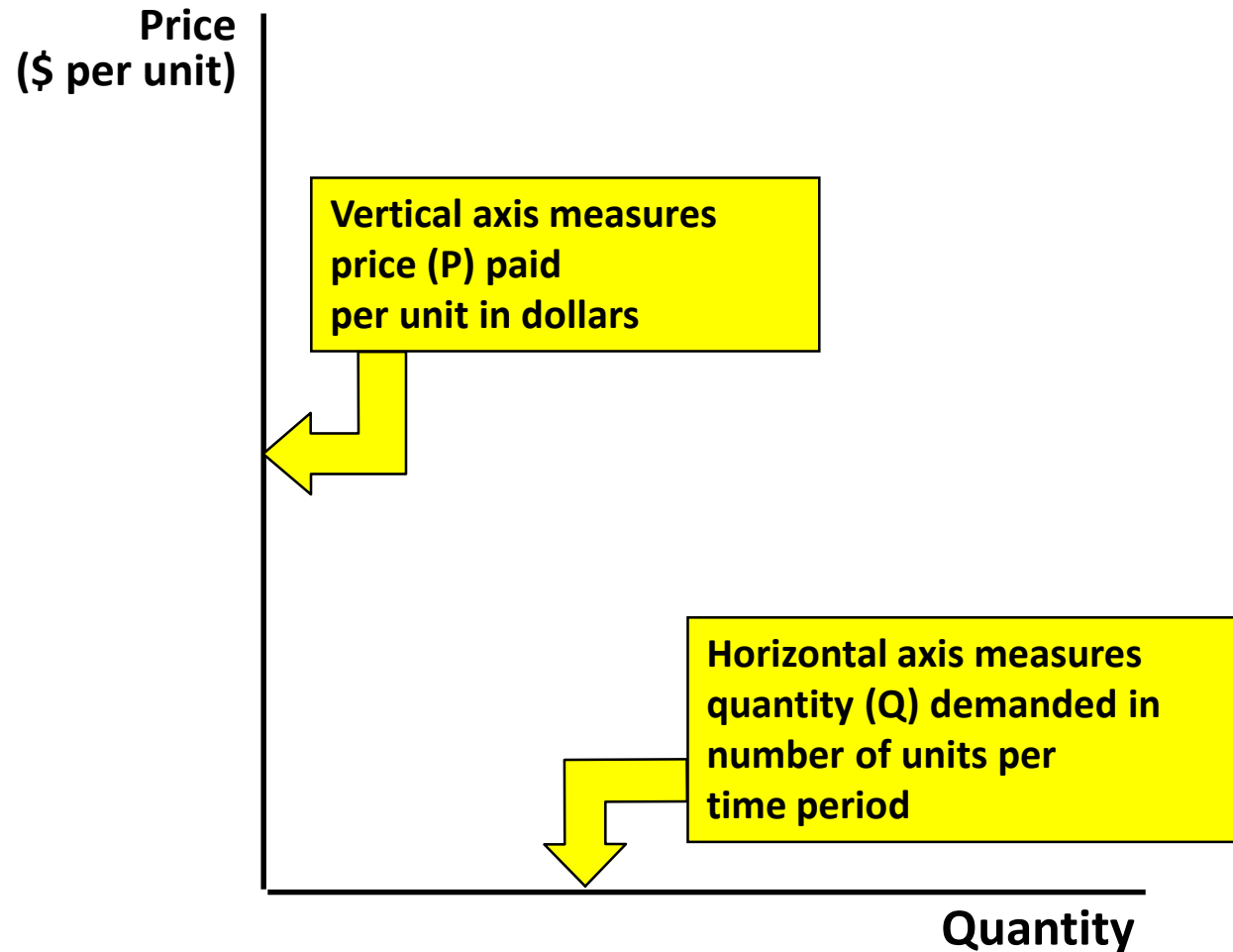
# Theory of Demand

- Quantity Demanded ( $Q_D$ ): total amount of a commodity that all households wish to purchase.
- Factors affecting  $Q_D$ :
  1. tastes or preferences
  2. income
  3. price of the product
  4. prices of other products
    - a) substitutes in consumption
    - b) complements in consumption

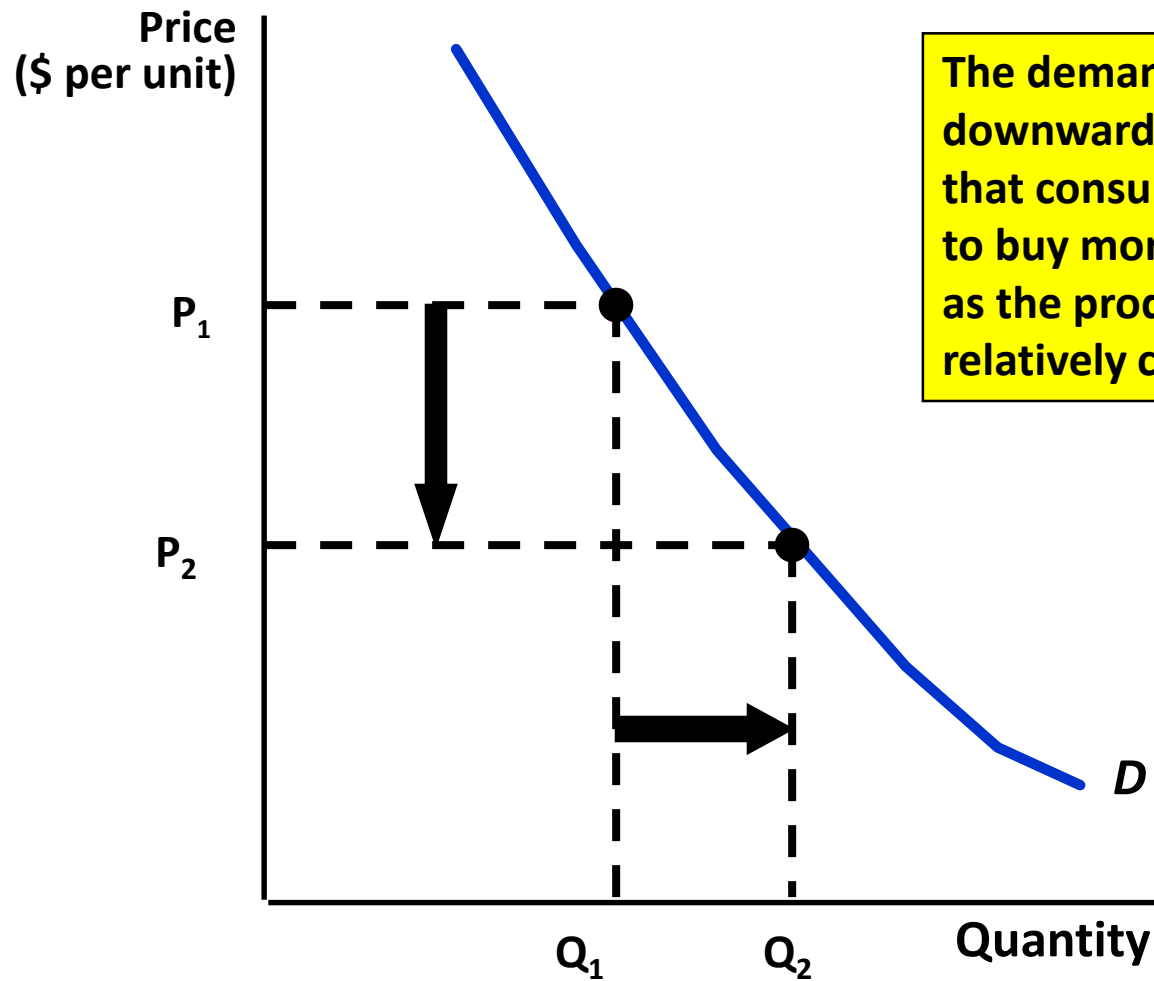
# Law of Demand

- Ceteris Paribus (holding other factors constant), as the price of the commodity increases, households will wish to purchase less of it, and vice versa.
- The Law of Demand can be represented graphically in what we call a Demand Curve. The Demand Curve shows how much consumers wish to purchase at each price, holding constant their tastes, incomes, and the prices of other commodities.

# Demand Curve



# Demand Curve



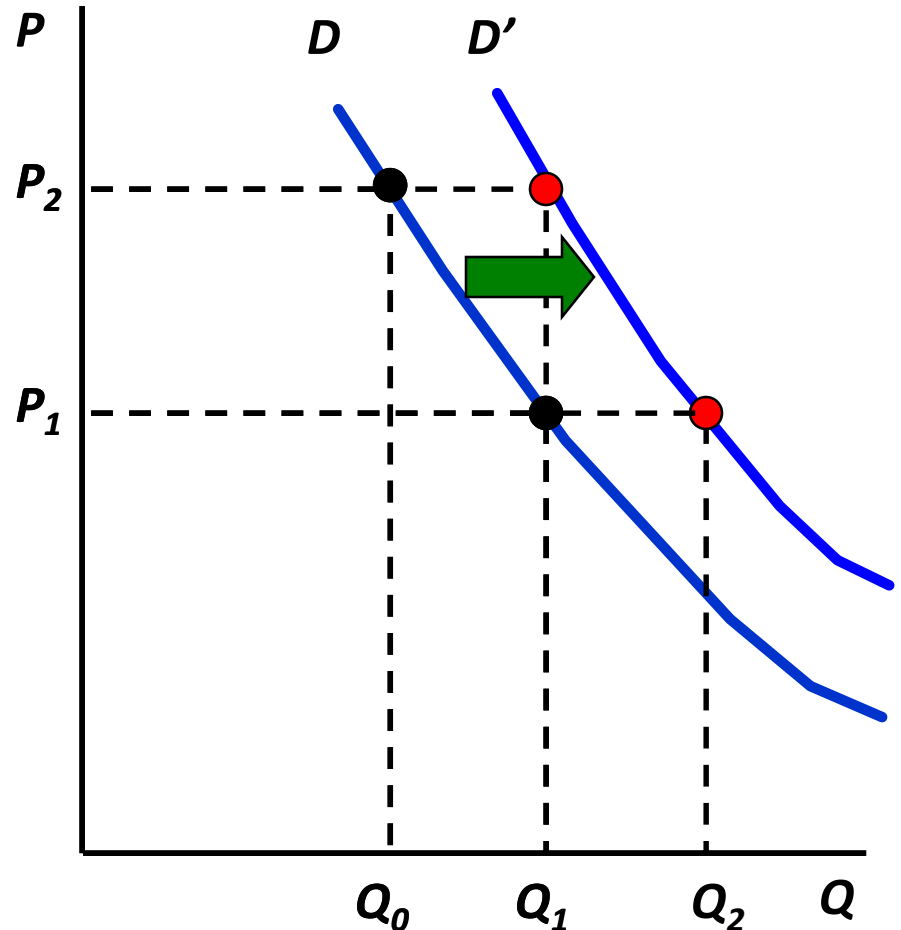
The demand curve slopes downward, indicating that consumers are willing to buy more at a lower price as the product becomes relatively cheaper.

# Change in Demand vs. Change in Quantity Demanded

- When the price of a commodity falls, households demand more of it, which is reflected in the movement from one point to another along the same demand curve.
- What happens when one of the other factors affecting  $Q_D$  changes? [tastes or preferences, income, price of a substitute, price of a complement]
- Draw a new diagram? Or . . .

# Demand for new cars

- Increase in Income Shifts the Entire Demand Curve
  - $D$  represents demand for new cars among UK MBA students in 2016
  - Students graduate, get good jobs, and experience significant increases in income
  - $D'$  represents demand for new cars among UK MBA alums in 2018—they want to purchase more cars at each possible price





# Shifts in Demand

- Increase in Demand (shift to the right of the entire Demand Curve):
  - Change in tastes in favor of the good
  - Increase in income (for a normal good)
  - Increase in the price of a substitute
  - Decrease in the price of a complement
- Decrease in Demand (shift to the left of the entire Demand Curve):
  - Change in tastes away from the good
  - Decrease in income (for a normal good)
  - Decrease in the price of a substitute
  - Increase in the price of a complement

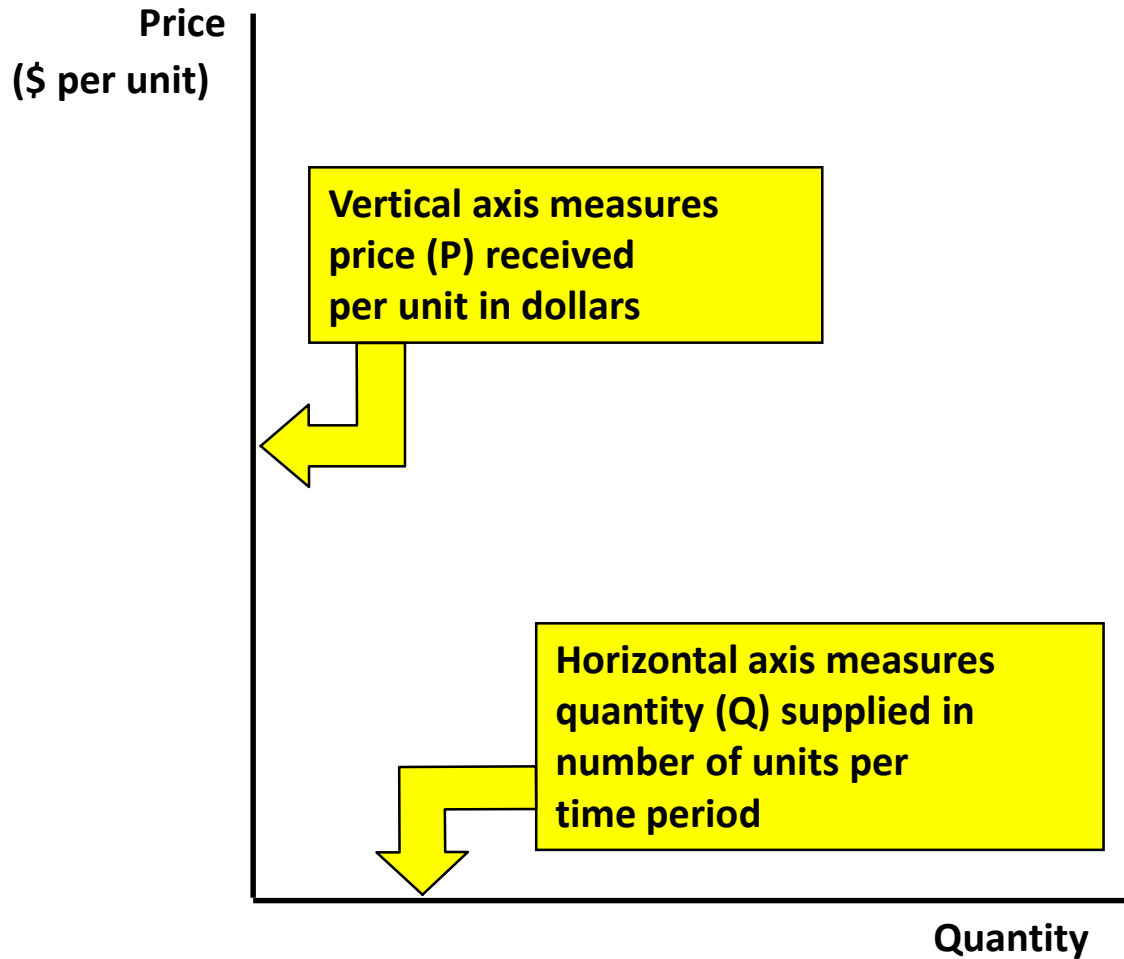
# Theory of Supply

- Quantity Supplied ( $Q_S$ ): total amount of a commodity that all firms wish to produce and sell
- Factors affecting  $Q_S$ :
  1. Goals of firm owners
  2. Technology
  3. Input prices
  4. Price of the product
  5. Prices of other products
    - a) substitutes in production
    - b) complements in production

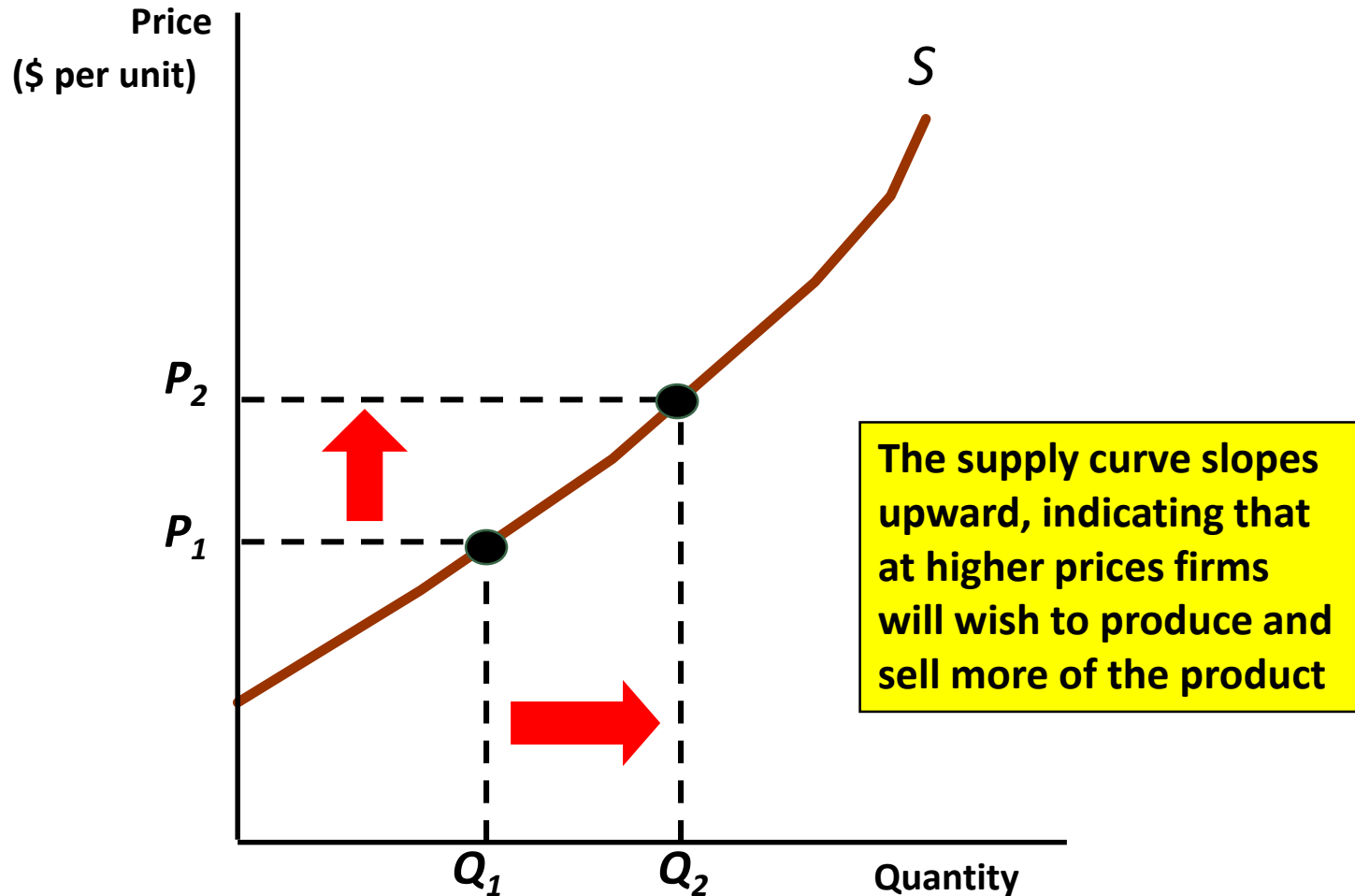
# Law of Supply

- Ceteris Paribus (holding other factors constant), as the price of a commodity rises, firms will wish to produce and sell more of it, and vice versa.
- The Law of Supply can be represented graphically in what we call a Supply Curve. The Supply Curve shows how much firms wish to produce and sell at each price, holding constant technology, input prices, and the prices of other commodities.

# Supply Curve



# Supply Curve



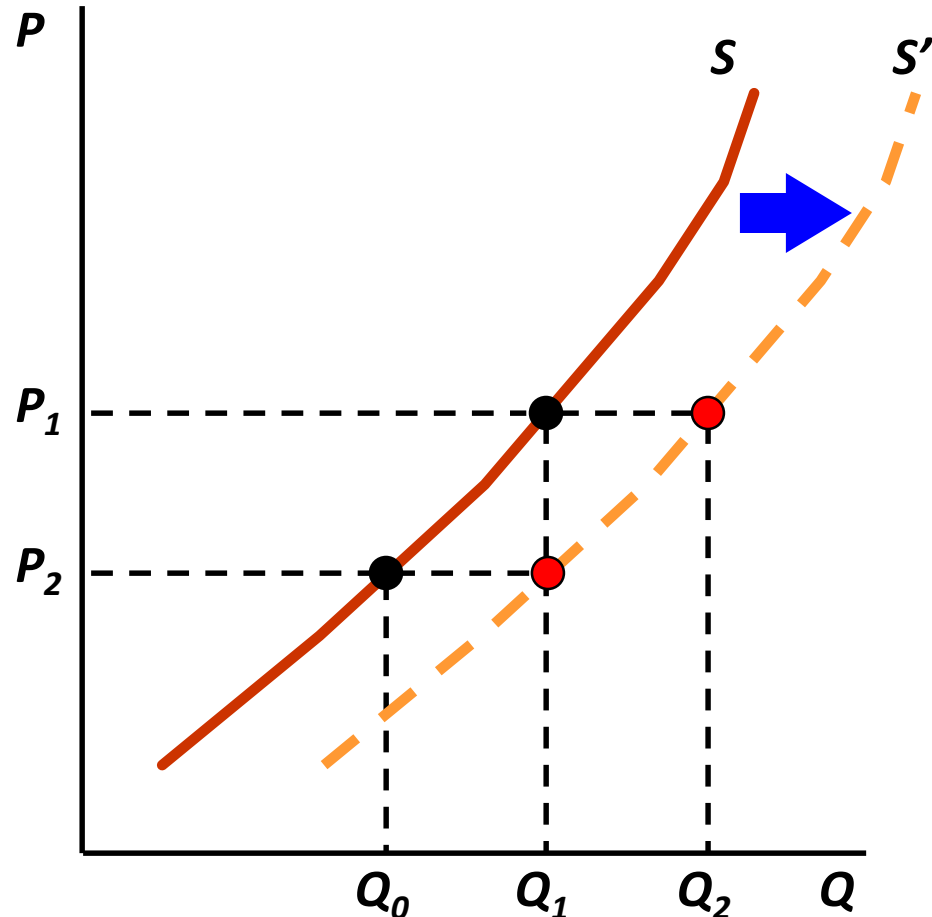
# Change in Supply vs. Change in Quantity Supplied

- When the price of a commodity rises, firms supply more of it, which is reflected in the movement from one point to another along the same supply curve.
- What happens when one of the other factors affecting  $Q_s$  changes? [technology, input prices, price of a substitute in production, price of a complement in production]
- Draw a new diagram? Or . . .

# Supply of natural gas

## ➤ Change in technology shifts entire Supply Curve

- S represents supply decisions of firms before fracking revolution.
- Technology of extracting natural gas changes
- S' represents supply decisions of firms after technology changes. Since they can extract more gas at lower costs, they wish to supply more natural gas at every possible price.



# Shifts in Supply

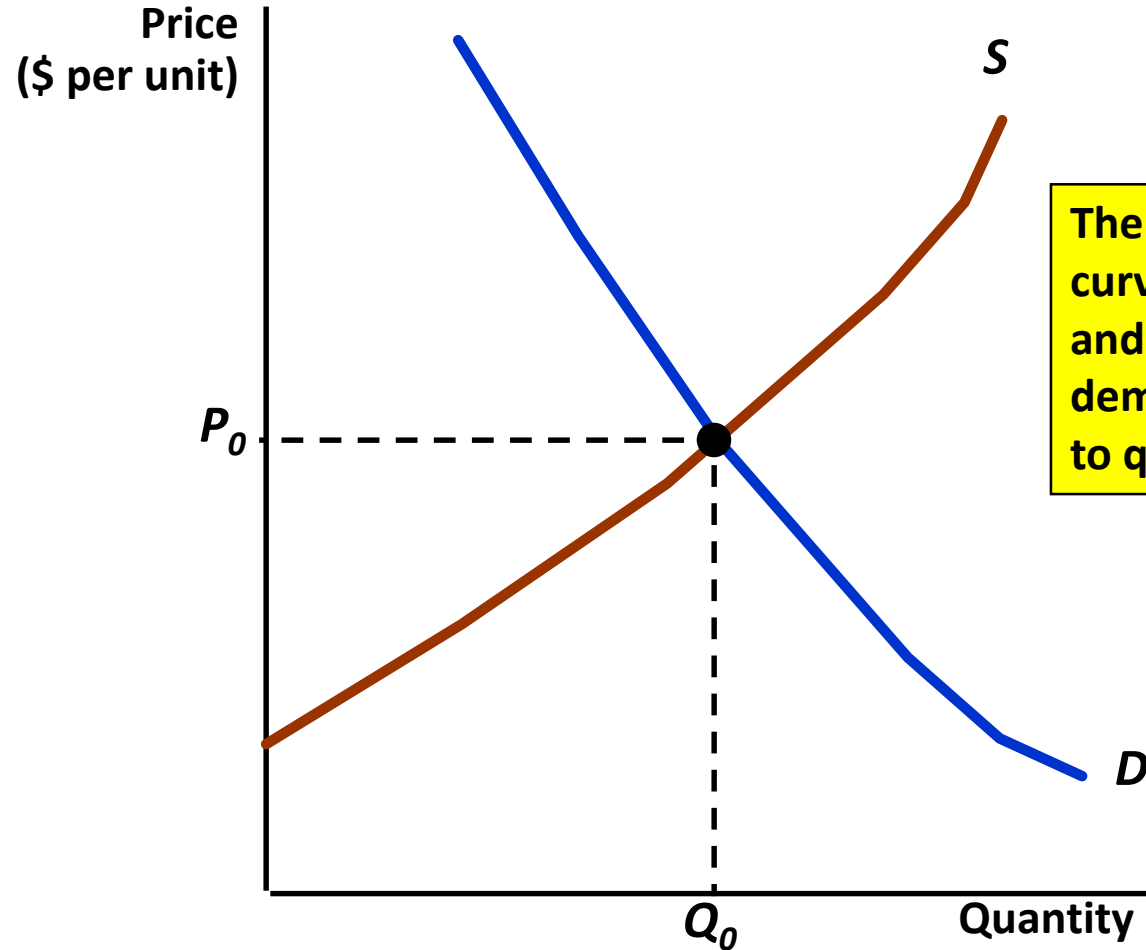
- Increase in Supply (shift to the right of the entire Supply Curve):
  - Change in technology
  - Decrease in input prices
  - Decrease in the price of a substitute in production
  - Increase in the price of a complement in production
- Decrease in Supply (shift to the left of the entire Supply Curve):
  - Increase in input prices
  - Increase in the price of a substitute in production
  - Decrease in the price of a complement in production



# Market Equilibrium

- How are price and output determined in a market? Interactions of buyers and sellers exchanging the commodity.
- We say a market is in **equilibrium** when the quantity demanded equals the quantity supplied
- There are no market forces acting to change this outcome, since there are no frustrated buyers or sellers.

# Market Equilibrium

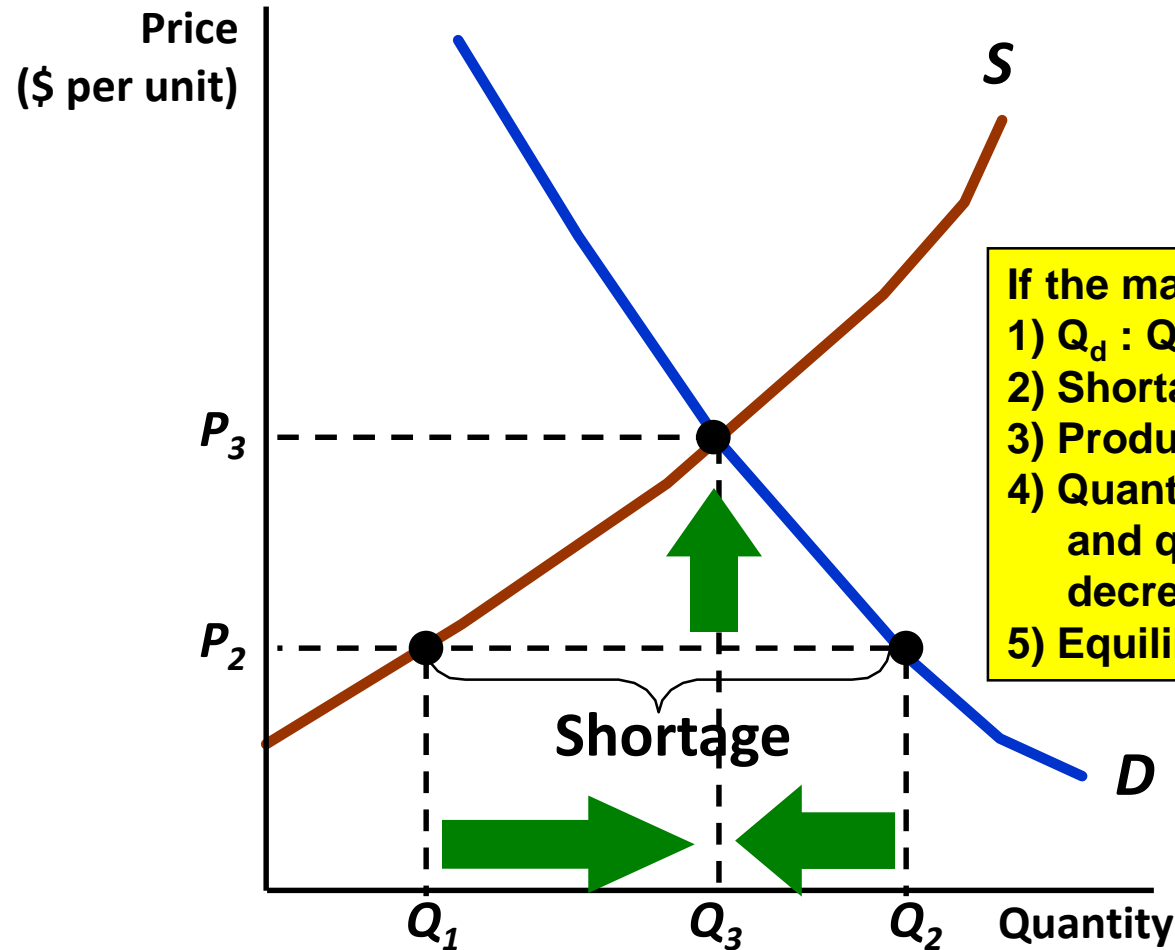


The Demand and Supply curves intersect at  $P_0$  and  $Q_0$ . At  $P_0$  quantity demanded is equal to quantity supplied.

# Disequilibrium

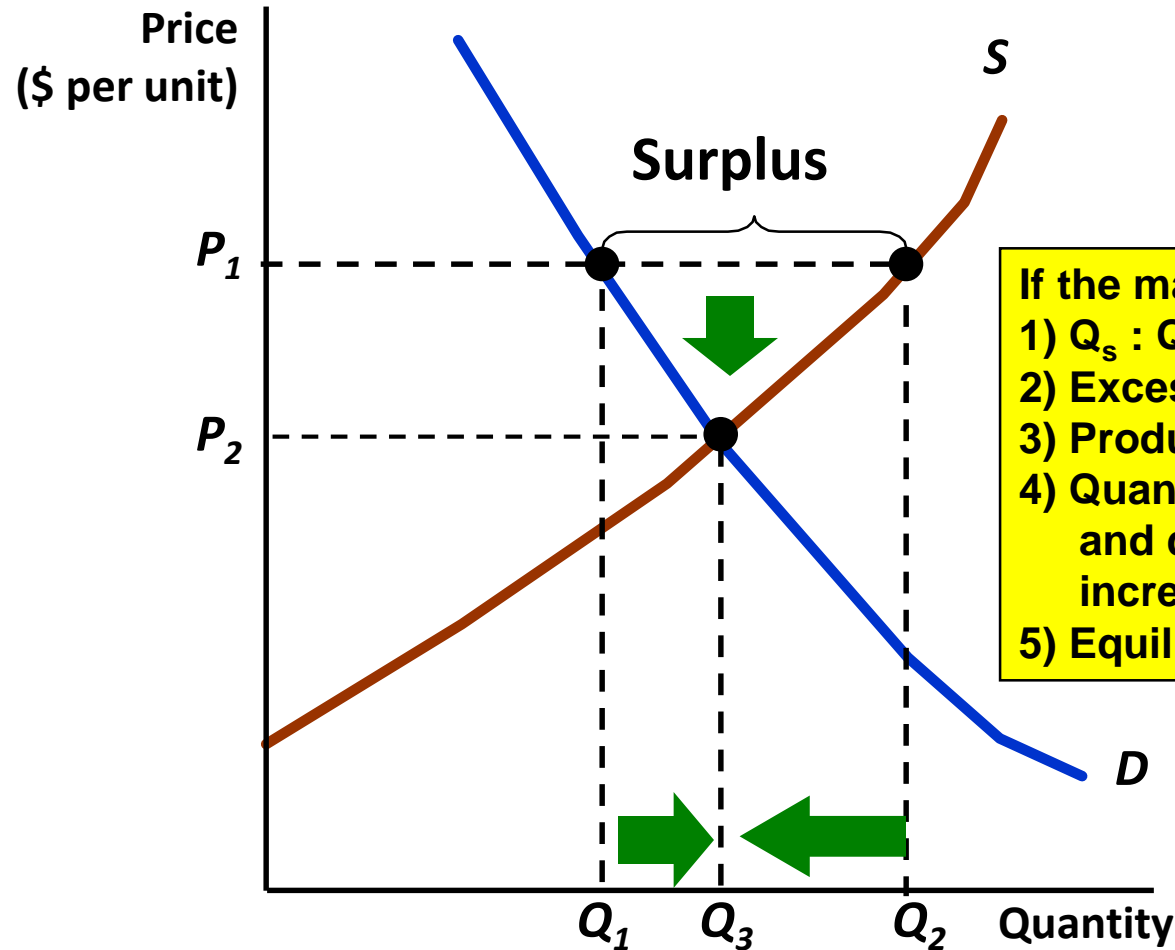
- Suppose at the current market price, buyers want to purchase more of the commodity than sellers wish to produce and sell?
- Alternatively, suppose at the current market price, sellers want to produce and sell more of the commodity than buyers wish to purchase?
- There will be frustrated buyers or sellers, and price will tend to change.

# Market price below the equilibrium price—Shortage



- If the market price is  $P_2$ , then:
- 1)  $Q_d : Q_2 > Q_s : Q_1$
  - 2) Shortage is  $Q_2 - Q_1$ .
  - 3) Producers raise price.
  - 4) Quantity supplied increases and quantity demanded decreases.
  - 5) Equilibrium at  $P_3, Q_3$

# Market price above the equilibrium price—Surplus



If the market price is  $P_1$ , then:

- 1)  $Q_s : Q_2 > Q_d : Q_1$
- 2) Excess supply is  $Q_2 - Q_1$ .
- 3) Producers lower price.
- 4) Quantity supplied decreases and quantity demanded increases.
- 5) Equilibrium at  $P_2, Q_3$

# Shifts in Demand and/or Supply

- Increase in demand: UK announces big enrollment increase—market for apartments?
- Increase in supply: fracking allows gas producers to extract more gas—market for natural gas?
- Decrease in demand: natural gas prices plummet—market for thermal coal?
- Decrease in supply: drought in Central Valley in California—market for carrots?

# Price Ceilings

- Suppose government imposes a maximum price on a commodity below the equilibrium price.
- Buyers want to buy more than firms want to sell, so a shortage of the commodity will occur.
- Normally when there is a shortage, price rises and the shortage disappears. But when price is legally constrained from rising, the shortage will persist.

# Price Floors

- Suppose government imposes a minimum price on a commodity above the equilibrium price.
- Sellers want to sell more than buyers want to buy, so a surplus of the commodity will occur.
- Normally when there is a surplus, price falls and the surplus disappears. But when price is legally constrained from falling, the surplus will persist.



# Other aspects of market economies

- Role of prices in conveying information
- Role of profits in signaling the need for resource shifts
- Incentives for efficient use of scarce resources
- Whose preferences matter most in directing economic decision-making?
- Why do firms exist in a market economy?

# Required Readings

- ““Tempur-Pedic stock up after report, analysis,” *Lexington Herald-Leader*, 7/26/12, p. B5:  
<http://www.kentucky.com/2012/07/25/2270718/tempur-pedic-stock-up-after-2q.html>
- “As Economy Grows, North Korea’s Grip on Society is Tested,” *New York Times*, 5/1/17.  
<http://search.proquest.com.ezproxy.uky.edu/docview/1893439516/6B98A8736BF04FEAPQ/2?accountid=11836>
- “Lawmakers struggle to define gasoline price ‘gouging,’” *WSJ*, 11/9/05.  
<http://ezproxy.uky.edu/login?url=http://search.proquest.com/docview/398991187?accountid=11836>
- “Venezuela is Starving—Hobbled by Economic Policies, Latin America’s Once-Richest Country Can No Longer Feed its People,” *WSJ*, 5/6/17.  
<http://search.proquest.com.ezproxy.uky.edu/docview/1895499247/5CF40B45C8B34BBDPQ/1?accountid=11836>
- “Corn’s Rally Sends Ripples,” *WSJ*, 1/18/07.  
<http://ezproxy.uky.edu/login?url=http://search.proquest.com/docview/398983538?accountid=11836>