Lecture 4: Equilibrium

September 17, 2024

Overview

1. Administrative Notes
2. Ripped from headlines
3. Chapter 4: Equilibrium
   - 3.1 Understanding markets
   - 3.2 Equilibrium
   - 3.3 Predicting market changes
     - Demand shift
     - Supply shift
     - Both shift
     - Deducing shifts from observed behavior

Course Administration

1. Ripped from Headlines sign-up
   - You are responsible for being on the schedule
2. Lecture 6 will be a set of pre-recorded videos, posted by class time
3. Next class I'll give handout and instructions for Lecture 7, 10/8
4. Lecture 8 is the midterm
5. This week we'll have grades up in Blackboard – I'll send email
6. Ch. 4 End-of-Chapter problems posted as an assignment with no due date
7. Problem Set 4 posted as an assignment

Course Administration

1. Ripped from Headlines sign-up
   - You are responsible for being on the schedule
2. Lecture 6 will be a set of pre-recorded videos, posted by class time
3. Next class I'll give handout and instructions for Lecture 7, 10/8
4. Lecture 8 is the midterm
5. This week we'll have grades up in Blackboard – I'll send email
6. Ch. 4 End-of-Chapter problems posted as an assignment with no due date
7. Problem Set 4 posted as an assignment
8. Any other questions or outstanding issues?

Demand Movements vs Shift from PS 2

Clear and popular examples

- The price for a large Cold Brew at For Five Coffee Roasters increased from \$5.50 to \$6.50 which reduced the number of cold brews I buy each week from 4 to 2. $\rightarrow$ movement along the demand curve

Demand Movements vs Shift from PS 2

Clear and popular examples

- The price for a large Cold Brew at For Five Coffee Roasters increased from \$5.50 to \$6.50 which reduced the number of cold brews I buy each week from 4 to 2. $\rightarrow$ movement along the demand curve
- The snacks I used to have in my country are not available here in the US. The only one I found here was Doritos (which I also used to have in my country), so my demand of Doritos has now increased, regardless of its price. $\rightarrow$ demand shift to right [consider going to Trader Joe's!]

Demand Movements vs Shift from PS 2

Clear and popular examples

- The price for a large Cold Brew at For Five Coffee Roasters increased from \$5.50 to \$6.50 which reduced the number of cold brews I buy each week from 4 to 2. $\rightarrow$ movement along the demand curve
- The snacks I used to have in my country are not available here in the US. The only one I found here was Doritos (which I also used to have in my country), so my demand of Doritos has now increased, regardless of its price. $\rightarrow$ demand shift to right [consider going to Trader Joe's!]

Demand Movements vs Shift from PS 2

Clear and popular examples

- The price for a large Cold Brew at For Five Coffee Roasters increased from \$5.50 to \$6.50 which reduced the number of cold brews I buy each week from 4 to 2. $\rightarrow$ movement along the demand curve
- The snacks I used to have in my country are not available here in the US. The only one I found here was Doritos (which I also used to have in my country), so my demand of Doritos has now increased, regardless of its price. $\rightarrow$ demand shift to right [consider going to Trader Joe's!]

A more ambiguous example

- "One recent change I have made is buy getting rid of my car and deciding to take public transportation instead; this represents movement along the demand curve because I am choosing between two options. ...

Demand Movements vs Shift from PS 2

Clear and popular examples

- The price for a large Cold Brew at For Five Coffee Roasters increased from \$5.50 to \$6.50 which reduced the number of cold brews I buy each week from 4 to 2. $\rightarrow$ movement along the demand curve
- The snacks I used to have in my country are not available here in the US. The only one I found here was Doritos (which I also used to have in my country), so my demand of Doritos has now increased, regardless of its price. $\rightarrow$ demand shift to right [consider going to Trader Joe's!]

A more ambiguous example

- "One recent change I have made is buy getting rid of my car and deciding to take public transportation instead; this represents movement along the demand curve because I am choosing between two options. ... Lastly, I have recently stopped buying textbooks for my classes as I have found you can find free PDFs often available online; this represents a shift in demand because I have found a substitute."

How What You're Learning is Policy-Relevant

Ripped from Headlines presentation(s)

As a reminder, next week

Send the article by Wednesday midnight for approval

Afternoon, joint presentation

Finder	Presenter
Matt W.	Riddhi P.
Raquel L.	Tosha S.
Sarah C.	

Evening, **joint** presentation

Finder	Presenter
Saumya M.	Sydney M.
	Jackie G.

Today's Ripped from the Headlines

Afternoon, joint presentation

Finder	Presenter
Riddhi P.	Matt W.
Emma D.	Laiba

Evening, individual presentations

Finder	Presenter
Sydney M.	Elizabeth A.
Baylee W.	Joseph F.

Today

1. Understanding markets
2. Equilibrium
3. Predicting market changes
    - Demand shift
    - Supply shift
    - Both shift
    - Deducing shifts from observed behavior

Ch. 4: 1. Understanding Markets

Planned Economics vs Market Economies

Planned economies

Planned Economics vs Market Economies

Planned economies

- government decides how much of what to produce
- who produces it
- and who gets it

Planned Economics vs Market Economies

Planned economies

- government decides how much of what to produce
- who produces it
- and who gets it

Market economies

Planned Economics vs Market Economies

Planned economies

- government decides how much of what to produce
- who produces it
- and who gets it

Market economies

- individuals make decisions about what to produce and what to buy
- government enforces contracts
- may limit various individual and firm behaviors
- price is the primary mechanism for actors

What is a Market?

"... any setting that brings together potential buyers (demanders) and sellers (suppliers)."

A formal market: NYSE

Thank you, Investopedia

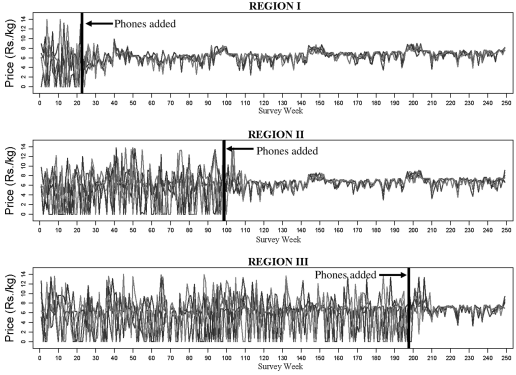
What is a Market?

"... any setting that brings together potential buyers (demanders) and sellers (suppliers)."

A formal market: NYSE

Thank you, Investopedia

Making one market from many in Kerala, India



How Markets are Organized

- posted prices
- auctions
- online with prices not posted
- .... and others I am sure you'll tell me

Ch. 4: 2. Equilibrium

Equilibrium

- Equilibrium $\equiv$ "the point at which there is no tendency to change"
- Give me an example of an equilibrium in the natural world

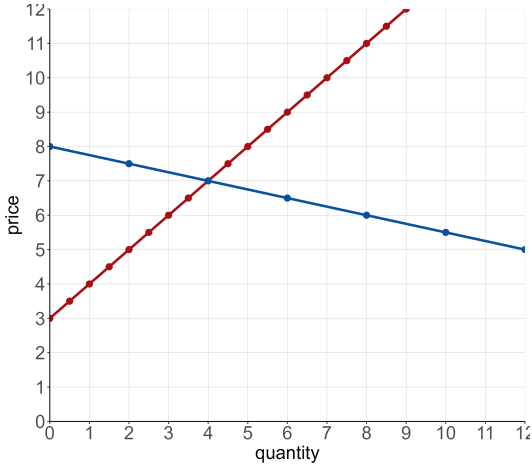
Equilibrium

- Equilibrium $\equiv$ "the point at which there is no tendency to change"
- Give me an example of an equilibrium in the natural world
- When we find equilibrium in markets, we have an
  - equilibrium price
  - equilibrium quantity

Equilibrium

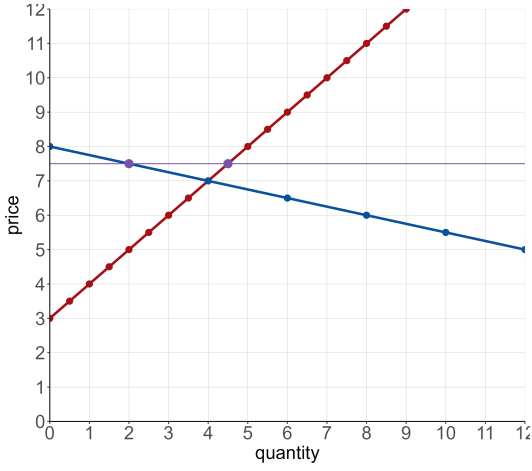
- Equilibrium $\equiv$ "the point at which there is no tendency to change"
- Give me an example of an equilibrium in the natural world
- When we find equilibrium in markets, we have an
  - equilibrium price
  - equilibrium quantity
- At Q^* and P^*
  - all sellers who want to sell at P^* can
  - all buyers who want to buy at P^* can
  - buyers buy and sellers sell an amount Q^*

Getting Supply to Equal Demand



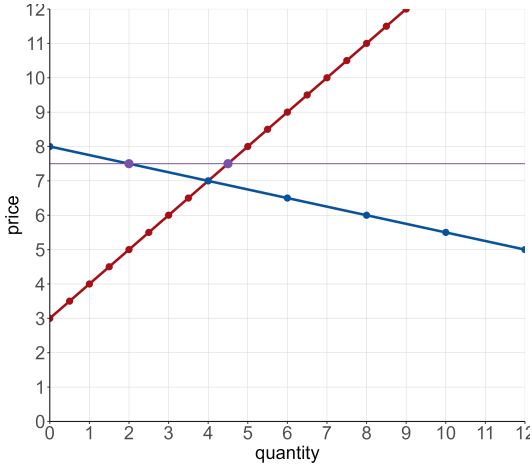
- demand or marginal benefit curve
- supply or marginal cost curve

Getting Supply to Equal Demand



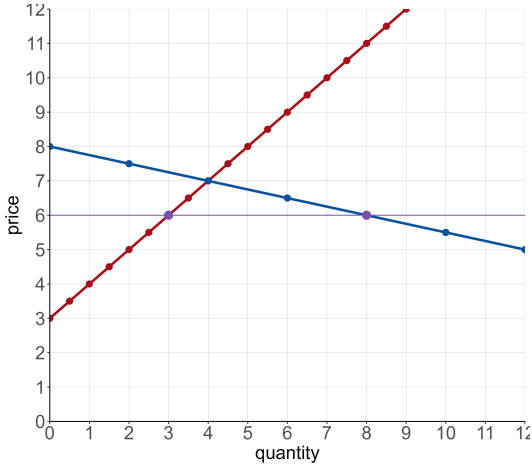
- Suppose a there is a very high price in the market
- What do suppliers want to do?
- What do consumers want to do?
- What do we call this?

Getting Supply to Equal Demand



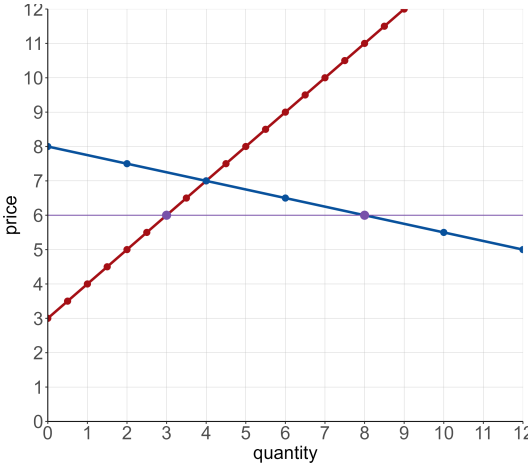
- Suppose a there is a very high price in the market
- What do suppliers want to do?
- What do consumers want to do?
- What do we call this? surplus
- What is likely to change?

Getting Supply to Equal Demand



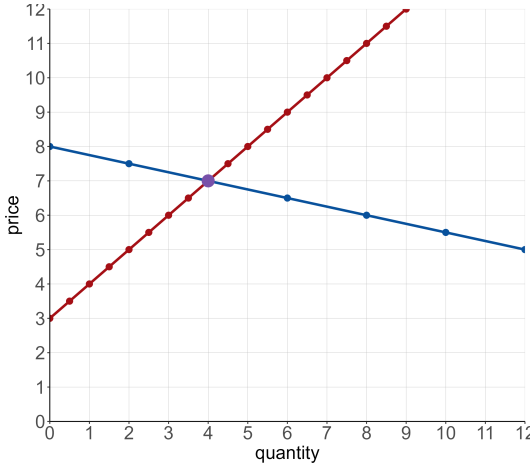
- Suppose a there is a very low price in the market
- What do suppliers want to do?
- What do consumers want to do?
- What do we call this?

Getting Supply to Equal Demand



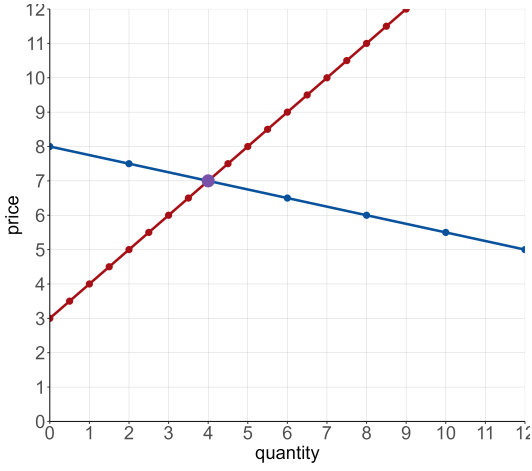
- Suppose a there is a very low price in the market
- What do suppliers want to do?
- What do consumers want to do?
- What do we call this? shortage
- What is likely to change?

Getting Supply to Equal Demand



- Suppose producers charge where supply = demand
- What do suppliers want to do?
- What do consumers want to do?
- What do we call this?

Getting Supply to Equal Demand



- Suppose producers charge where supply = demand
- What do suppliers want to do?
- What do consumers want to do?
- What do we call this? Equilibrium

Two Key Features of Price Determination

1. Both supply and demand determine price

Two Key Features of Price Determination

1. Both supply and demand determine price
   - water is strongly demanded
   - but it is also widely supplied

Two Key Features of Price Determination

1. Both supply and demand determine price
   - water is strongly demanded
   - but it is also widely supplied
2. We determine prices at the margin
   - why is water cheap and diamonds expensive when water is essential and diamonds are not?
   - what is the marginal value of diamonds? of water?
   - the marginal value drives pricing

Identifying Markets Not in Equilibrium

These markets have three main identifying features

1. queuing
2. bundling of extras
3. secondary market

Ch. 4: 3. Predicting Market Changes

Supply-Demand Equilibrium

1. As a way to predict outcomes
2. As a way to interpret motivation behind behavior

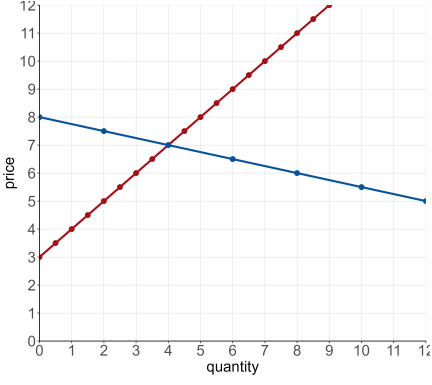
Predicting Outcomes: Demand Shift

- demand increases
- supply is unchanged
- give an example!

Predicting Outcomes: Demand Shift

- demand increases
- supply is unchanged
- give an example!

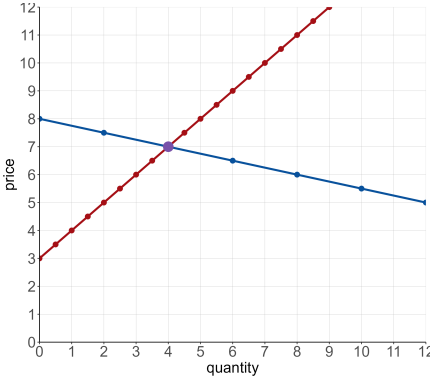
Where is original equilibrium price and quantity?



Predicting Outcomes: Demand Shift

- demand increases
- supply is unchanged
- give an example!

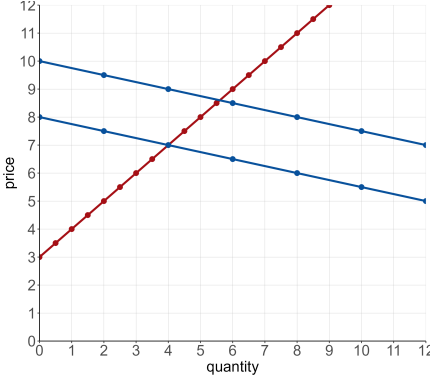
Where does demand shift?



Predicting Outcomes: Demand Shift

- demand increases
- supply is unchanged
- give an example!

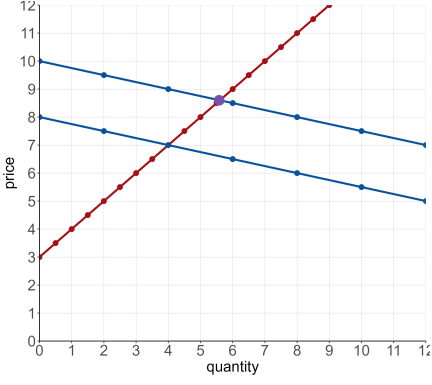
What are new equilibrium price and quantity?



Predicting Outcomes: Demand Shift

- demand increases
- supply is unchanged
- give an example!

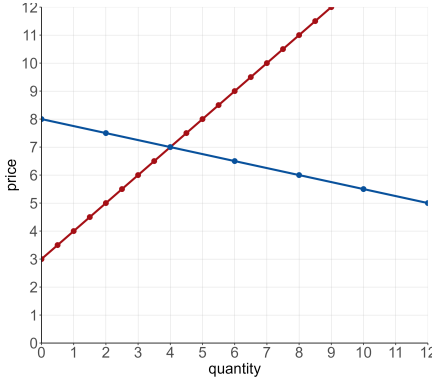
What are new equilibrium price and quantity?



Predicting Outcomes: Supply Shift

- supply decreases
- demand is unchanged
- give an example!

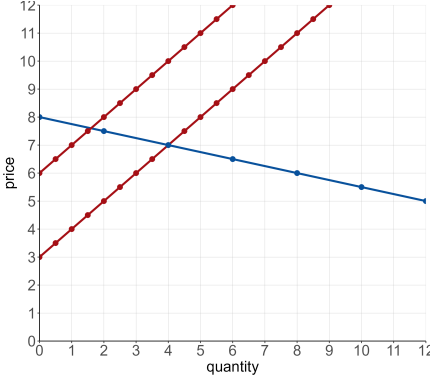
Where does new supply curve go?



Predicting Outcomes: Supply Shift

- supply decreases
- demand is unchanged
- give an example!

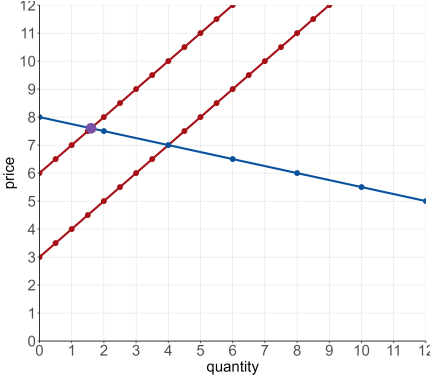
What are new equilibrium price and quantity?



Predicting Outcomes: Supply Shift

- supply decreases
- demand is unchanged
- give an example!

What are new equilibrium price and quantity?



Two Remaining Cases

- Split into groups of two
  1. supply increases, demand unchanged
  2. demand decreases, supply unchanged
- Draw a graph with these curves
- Report back on changes in equilibrium price and quantity

Supply-Demand Eqbm: Interpreting Motivation Behind Behavior

Firms change behavior – what motivates?

- US garment manufacturers move south in late 1950s and 1960s

Supply-Demand Eqbm: Interpreting Motivation Behind Behavior

Firms change behavior – what motivates?

- US garment manufacturers move south in late 1950s and 1960s
- Farms get larger over time

Supply-Demand Eqbm: Interpreting Motivation Behind Behavior

Firms change behavior – what motivates?

- US garment manufacturers move south in late 1950s and 1960s
- Farms get larger over time

More changed behavior

- Rise of self-checkout
- Amazon opposes and then supports state taxation on online sales

What if Both Change?

- Final equilibrium is
  - first change
  - response
- Let's work through a few on the whiteboard

For Next Class

- Do problem set 4
- Work with classmates, me or TA on problems
- Check Ripped from Headlines assignments
- Article finders email me by Wednesday midnight
- Read Chapter 5

For Next Class

- Do problem set 4
- Work with classmates, me or TA on problems
- Check Ripped from Headlines assignments
- Article finders email me by Wednesday midnight
- Read Chapter 5

I will

- post these lecture notes on my webpage
- post link to lecture recording on Blackboard
- anything else?