Tuesday, Sept 14, Lecture 4
Market Prices & Demand

Competition

- Competition is an important force in any free-market economic system.
- The analysis of competition will occupy a major part of this course.
- Our analysis of competition will focus on selling and buying rather than on barter.
- The determination of market prices is a very important feature of selling and buying.

A Traditional Market: ***Sellers compete for the best buyers, and buyers compete for the best sellers.***

Prices

- Prices are defined when *money* is used for selling and buying.
- The *price* of a good is the amount of money exchanged for one unit of the good.
- Prices are useful, because they allow people to compare the opportunity cost* of buying different goods.

*what else you could buy with the same amount of money

Perfect Competition

- The phrase "perfect competition" describes a ***special type*** of market, one with many buyers and many sellers (and other properties).
- A market with perfect competition is an extreme case that doesn't exist in the real world.
- Perfect competition is a ***model***—a part of the more general free-market model.
- The ***perfect-competition model*** is a good description of some important real markets, but not of many others.

Markets with Perfect Competition

Characteristics of the Model

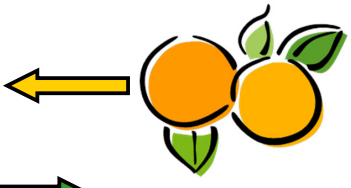
- One homogeneous good
- Many sellers and buyers
- Voluntary exchange
- Full information and perfect foresight
- Rational, self-interested agents
- Free entry to the market
  [used later in the course]

"Law" of One Price

At any given time ***in a perfectly competitive market***, ***identical goods*** must have the same price.

- The law makes sense because…
  Under perfect competition, transactions at two or more prices would not be completed.
- To see why not, suppose two transactions are in progress at two different prices.
- What would happen?

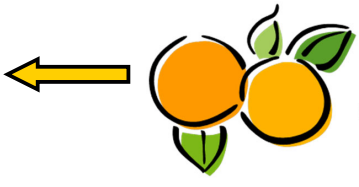
Can two prices coexist in a competitive market?



Loser

(one homogeneous good)

Loser

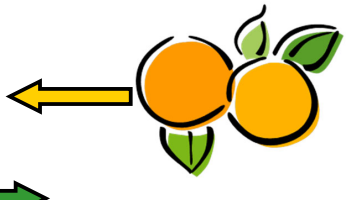


Why are these guys losers?

- The losers know who they are before they make the exchange *(full information).*
- They want to do better *(rational self-interest).*
- The losers think about trading with each other instead of trading with their original partners *(voluntary exchange)*.

In perfect competition

Better



Better

- Now the first loser pays 2 instead of 3…
- …and the second loser gets 2 instead of 1.

- So the losers decide to cancel the original transactions and trade with each other *(voluntary exchange)*.
- The original proposed exchanges at two different prices will not be completed!

Arbitrage

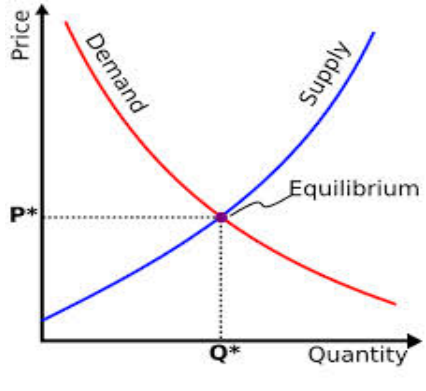
- In the market for oranges…
  - Chiara is ready to buy from Marc for $1, and...
  - Kevin is ready to buy from Stefania for $3.
  - And suppose that Marc and Kevin ***don't know*** that they are ***"losers."*** *[imperfect competition]*
- Then Alberto (a shrewd businessman) could
  - offer to buy from Marc for $1.50,…
  - and sell to Kevin for $2.50.
  - Marc and Kevin would be happy,…
  - and Alberto would earn a tidy profit of $1.

- Alberto is an *"arbitrageur."*
- He takes advantage of price differences in the same product to "buy low and sell high."
  - The price of oranges may be lower in Florida than in the Massachusetts.
- In markets that are not perfectly competitive, arbitrageurs bring prices closer together,…
- and extend the reach of the "law of one price."
- Arbitrage is very common in financial markets.
  - Arbitrageurs are "important players," …
  - spending millions of dollars to take advantage of tiny price differences.

Supply and Demand

- We've discussed ***voluntary exchange*** in the free-market model.
- We've discussed when people would exchange goods (or sell and buy),…
- …but we haven't analyzed *the quantity* they would sell or buy.

- The law of one price, tells us that a competitive market has only one price,…
- but it doesn't tell us what *the market price will be*!
- To predict ***prices and quantities***, we need to study ***supply and demand***…
  - for individuals,
  - and then for the entire market.



How can economists predict ***prices*** and ***quantities*** bought and sold?

- Suppose there are a hundred consumers who want to buy milk,…
- and a hundred farmers who want to sell milk.
- And suppose they are going into a large room to bargain over prices and quantities to be bought and sold.

(Imagine that the farmers will go home and produce the milk ***after*** they reach agreement with the consumers.)

- You, the economist, want to ***predict*** what ***quantities*** will be traded and what the ***price*** will be.
- You have an opportunity to interview each buyer and each seller, one at a time.
- What questions should you ask?

Interviewing Buyers

- Suppose you are interviewing a buyer named Emily.

- You should pose the following questions:
  - "Emily, ***suppose*** you could buy milk for ***$1.20*** per quart (or per liter). How much milk would you want to buy?

  - "Now, suppose you could buy milk for ***$1.00*** a quart. *If nothing else had changed*, how much milk would you want to buy in that case?
  - ….
  - Suppose you could buy milk for ***$.20*** a quart. How much would you want to buy?

- You should pose the same question for all reasonable prices.

- Keep in mind that all of these questions are ***hypothetical*** (about situations that do not exist),
  - because you are asking people what they ***would*** do at different possible prices,...
  - but they don't know what the price will be.

Interviewing Sellers

- Suppose you are interviewing a seller named Farmer Jones.

- You should pose the following questions:
  - "Farmer Jones, suppose you could sell milk for ***$.20*** per quart (or per liter). How much milk would you want to sell?

  - "Now, suppose you could sell milk for ***$.40*** a quart. *If nothing else had changed*, how much milk would you want to sell in that case?
  - ….
  - Suppose you could sell milk for ***$1.20*** a quart. How much would you want to sell?

- You should pose the same question for all reasonable prices.

- Again, all of these questions are *hypothetical* (about situations that do not exist).

Using the Information

- The information you get from buyers is called ***demand***.
- The information you get from sellers is called ***supply***.
- If you have the demand information from all buyers and the supply information from all sellers, then you can predict:
  - the ***price that will prevail*** when the bargaining ends, and
  - the ***quantities that each person will buy or sell*** after the price is agreed to.
- In this part of the course, we explain how and why.

Clicker Question

To determine demand, an economist should ask questions like…

a. How much milk do you plan to buy this month?
b. How much milk would you want to buy if the price were $1 a quart?
c. What do you expect the price of milk to be next month?
d. *All of the above*

The Demand Schedule

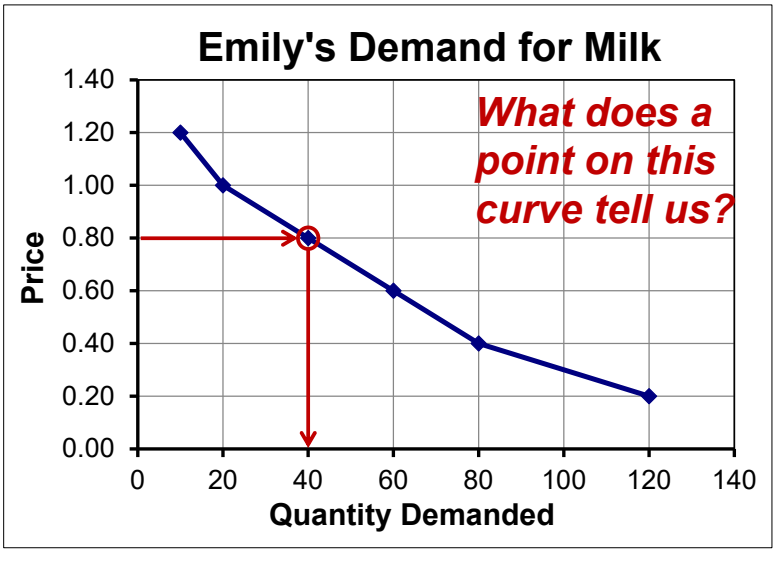
- The demand schedule specifies how much of a good a person is willing to buy at various prices (with other things staying the same).
- **Example:** Emily's Demand for Milk

Price ($)	Quantity (Qts/mo)
1.20	10
1.00	20
0.80	40
0.60	60
0.40	80
0.20	120

[Where did these numbers come from? I made them up. ☺]

Emily's Demand Curve for Milk

P	Q
0.20	120
0.40	80
0.60	60
0.80	40
1.00	20
1.20	10



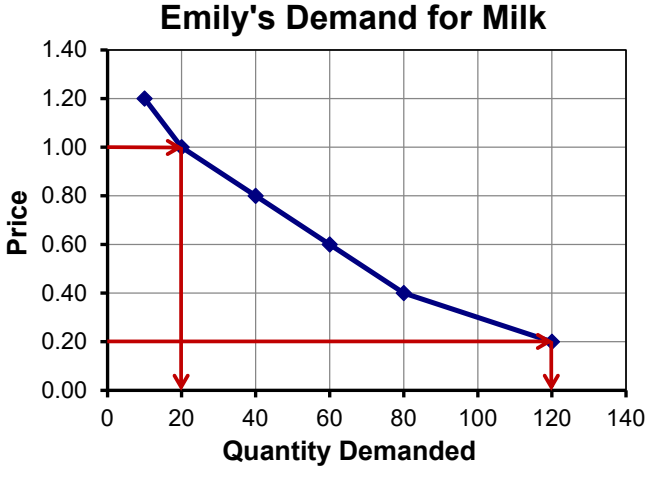
(Unlike mathematical graphs, the demand curve has the ***independent variable*** on vertical axis and the ***dependent variable*** on the horizontal axis.)

Clicker Question

A point on Emily's demand curve for milk tells us

a. how much milk Emily will buy.
b. how much milk Emily can buy for the specified amount of money.
c. how much milk Emily would buy at the specified price.
d. what the price would be if average consumption were at the specified quantity.

- Emily's demand curve is *downward* sloping:



- At a high price, she will want to buy a small quantity of milk.
- But if she faces a lower price, she will want to buy more milk.
- Why???

Why does Emily's demand curve slope downwards?

- Why does Emily demand more milk at lower prices?
- If she likes milk, why doesn't she buy the same amount at all reasonable prices?
- **Answer:** Because lower prices justify using milk for less and less important purposes:
  - At $0.90 per quart, she would drink two glasses a day.
  - At $0.50, she would also feed milk to her kittens.
  - At $0.10, …

- In fact, Emily will use a unit of milk for any purpose whose value is greater than her opportunity cost.
- And the opportunity cost of a unit of milk is what else she could buy for that price.
- When the price of milk is lower, more ways of using it have a value greater than the price…
- … so she uses more milk than when the price is higher.
- Conclusion: At a lower price, the quantity demanded will be greater.

Clicker Question

Emily's demand curve for milk is downward sloping, because

a. low prices indicate low quality.
b. low prices justify using milk for less important purposes.
c. consumers can get low prices when they buy large quantities.
d. prices increase as time goes by.

End of Lecture 4