Chapter 5: Elasticity and applications

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Outline

Elasticity captures an extremely intuitive concept: how do you change your behavior in response to changing prices?

Features of a market

1. What is a market?
2. What are some examples of markets?
3. What does it mean for a market to be *competitive*?
4. Are all markets competitive?
5. What makes a market perfectly competitive?

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Perfectly competitive markets

e In a perfectly competitive market:

1. All goods are identical
2. No buyer or seller has influence over the market price
3. All actors are *price-takers*

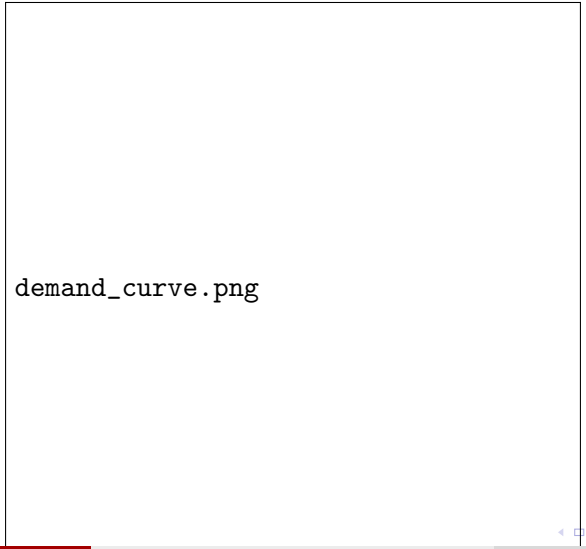
Demand

What is the *quantity demanded* of a good?

What is the *law of demand*?

What is the difference between a demand schedule and a demand curve?

Demand schedule and curve



Market demand

The previous example showed the demand curve for one individual. The *market demand* is the summation of demand curves across all individuals in a market.

Demand curves are not fixed in time; many things might cause a demand curve to increase or decrease.

If demand increases when incomes increase, a good is a *normal good*. If demand falls when incomes decrease, a good is an *inferior good*. What are some examples of both?

Complements and substitutes

If two goods go well together, they are *complements*.

If two goods fulfill the same purpose, or class, they are *substitutes*.

What are some examples of each?

If goods A and B are complements, what will happen to demand for good B if the price of good A falls? What if they are substitutes?

Example

Last year Maryland passed a gas tax holiday, temporarily lowering the price of gasoline. Some critics said that lowering the tax would make people want to buy more gasoline and might end up actually *increasing* the price.

1. Will the tax decrease cause the demand curve for gasoline to shift?
2. What are some complements and what are some substitutes for gasoline?
3. What are some factors that might cause the demand curve for gasoline to shift?

Does it seem plausible that the tax increase could cause the price of gasoline to go up?

Supply

Now we'll talk about the other side of the market: *supply*.

There are lots of similarities between the two:

- *Quantity supplied* is amount sellers are willing and able to sell
- *Law of suipply* governs the relationship between price and quantity supplied
- Supply schedules and supply curves
- Market supply

Shifts in supply curve

Just as with demand, we need to distinguish between movements along a supply curve and a shift in the curve itself

What are some variables that could shift the supply curve?

Shifts in supply curve

Just as with demand, we need to distinguish between movements along a supply curve and a shift in the curve itself

What are some variables that could shift the supply curve?

1. Technology
2. Expectations
3. Number of sellers

Equilibrium

Economists are generally interested in the point at which the supply and demand is balanced: *equilibrium*.

- Equilibrium price (*market-clearing*)
- Equilibrium quantity

Equilibrium

The actions of individuals in the market will naturally bring it into equilibrium: the *law of supply and demand*.

- If there is excess supply there is a *surplus*
- If there is excess demand there is a *shortage*

Think about both situations:

1. What is the relationship between quantity demanded and quantity supplied?
2. Is the price above or below equilibrium?

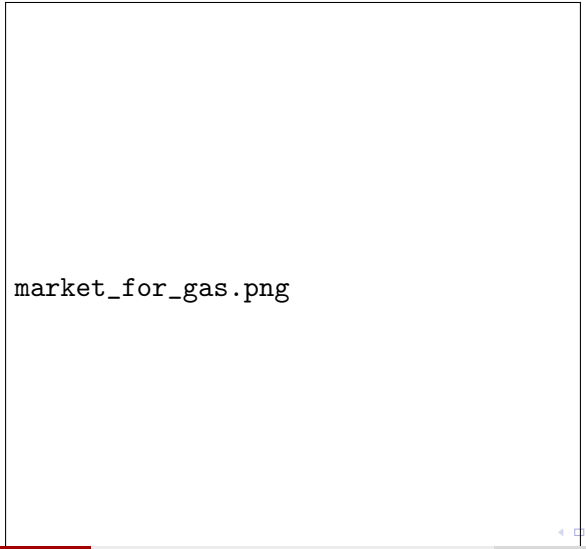
Market for gasoline

Let's return to our question about gasoline, and run through some different scenarios.

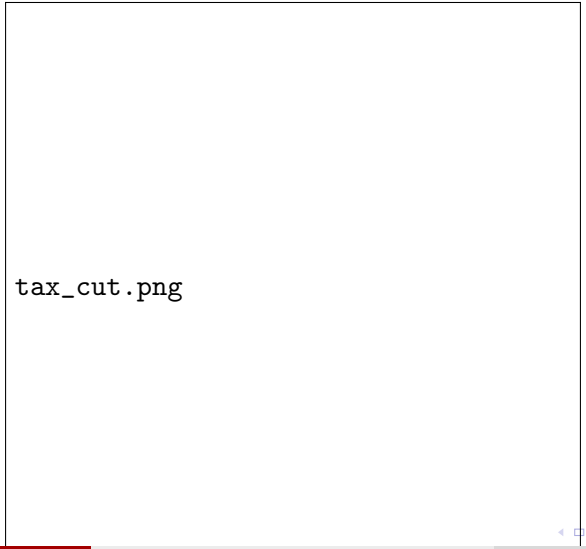
Draw supply and demand curves for the market of gasoline, and show the impact of the decrease in the gas tax.

Does this represent a change in the demand curve or the supply curve?

Market for gasoline



Market for gasoline



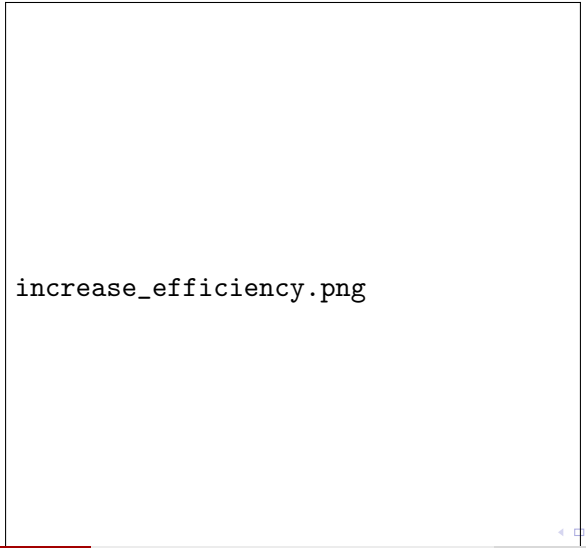
Market for gasoline

The tax cut caused the supply curve to shift to the right: for any given price, sellers with supply a larger quantity at a lower price.

Now suppose all cars experience a sudden increase in fuel efficiency: we can drive more miles with the same amount of gasoline.

Represent this as a shift in supply or demand in our market for gasoline.

Market for gasoline



Market for gasoline

Increased fuel efficiency shifts our demand curve to the left; at any given price, we buy less gasoline than before, at a lower price.

Now think about the two changes together; the gasoline tax is lowered, and fuel efficiency is increased.

What is the net effect on the equilibrium quantity and price? Is it unambiguous?

Market for gasoline

both_changes_1a.png

Market for gasoline

both_changes_1b.png

Market for gasoline

The supply curve shifts to the right, and the demand curve shifts to the left:

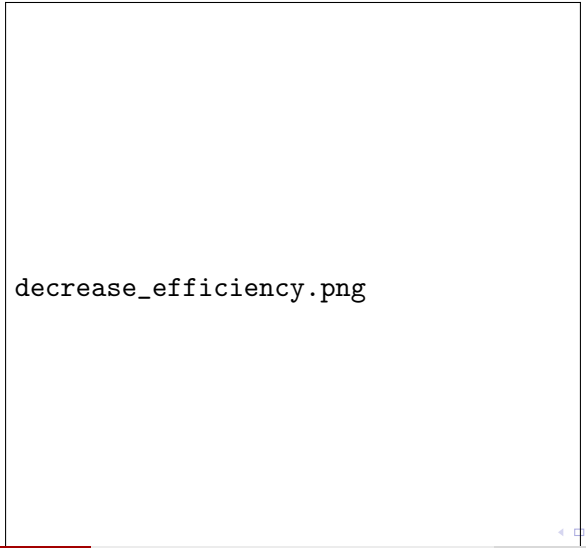
- The equilibrium price is unambiguously lower
- The equilibrium quantity may increase or decrease; it depends on the magnitude of the two shifts!

Note that this falls right out of our supply and demand side analyses!

- In both cases, the price decreased
- With the tax cut, quantity increased, but with the fuel efficiency increase, quantity decreased

Now suppose fuel efficiency suddenly gets *worse*.

Market for gasoline



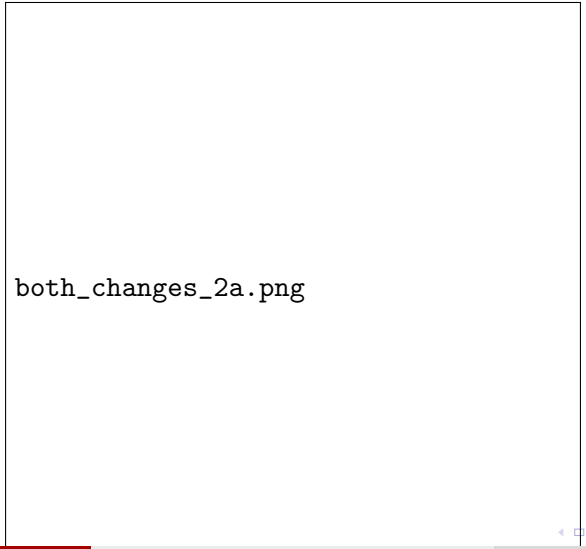
Market for gasoline

The effect is the opposite as before: decreased fuel efficiency shifts our demand curve to the right; at any given price, we buy more gasoline than before, at a higher price.

Now think about the two changes together; the gasoline tax is lowered, and fuel efficiency is decreased.

What are the net effects on the equilibrium quantity and price?

Market for gasoline



Market for gasoline

both_changes_2b.png

Market for gasoline

Supply and demand curves both shift to the right:

- The equilibrium quantity is unambiguously higher
- The equilibrium price may increase or decrease; it depends on the magnitude of the two shifts!

Again, we can get this right from our supply and demand side analyses:

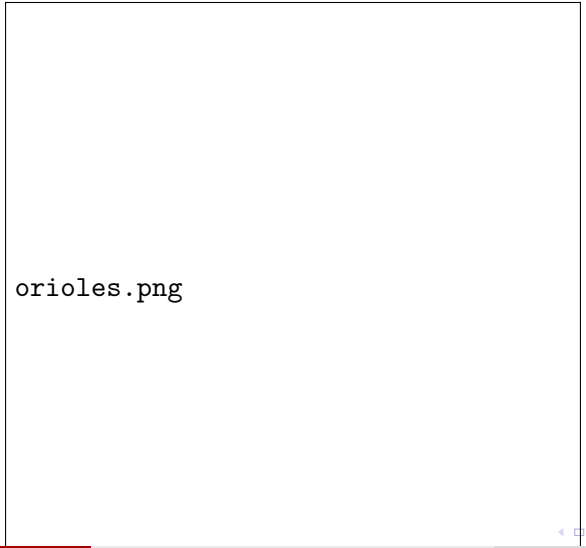
- In both cases, the quantity increased
- With the tax cut, price decreased, but with the fuel efficiency decrease, price increased
- Net effect on price is ambiguous

Market for Orioles tickets

In the last few years, the Orioles have gone from one of the worst teams in MLB to one of the best.

1. Draw the supply and demand curves for Orioles tickets.
2. Does the supply curve look like it did in the gasoline market?
3. Will the team's improved record effect supply or demand, and why?
4. What will happen to equilibrium price and quantity?

Market for Orioles tickets



Market for Orioles tickets

- Supply curve is vertical: at least in the short run, there are a fixed number of seats at Camden Yards
- A better team means more fans want to attend more games, shifting the demand curve to the right
- The equilibrium quantity is the same, but the price has increased

Is this a realistic way to think about the market for tickets?

Market for Orioles tickets

Is this a realistic way to think about the ticket market?

- In some ways: we really do see ticket prices increasing, and the number of seats really is fixed
- In reality, not all seats are the same (different markets?) and not all seats get sold (there are fixed costs and frictions)
- Don't worry about any of this for now!