Marginal Analysis, Substitution, and Elasticity

Antitrust
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Marginal Analysis

- Consumers and producers make decisions on the margins.
- “Marginal” can be read as “additional.”
- How many mechanical pencils should I buy at $10 each? I do the marginal analysis:

Pentel Graph Gear 1000 0.9mm mechanical drafting pencil

Marginal Analysis

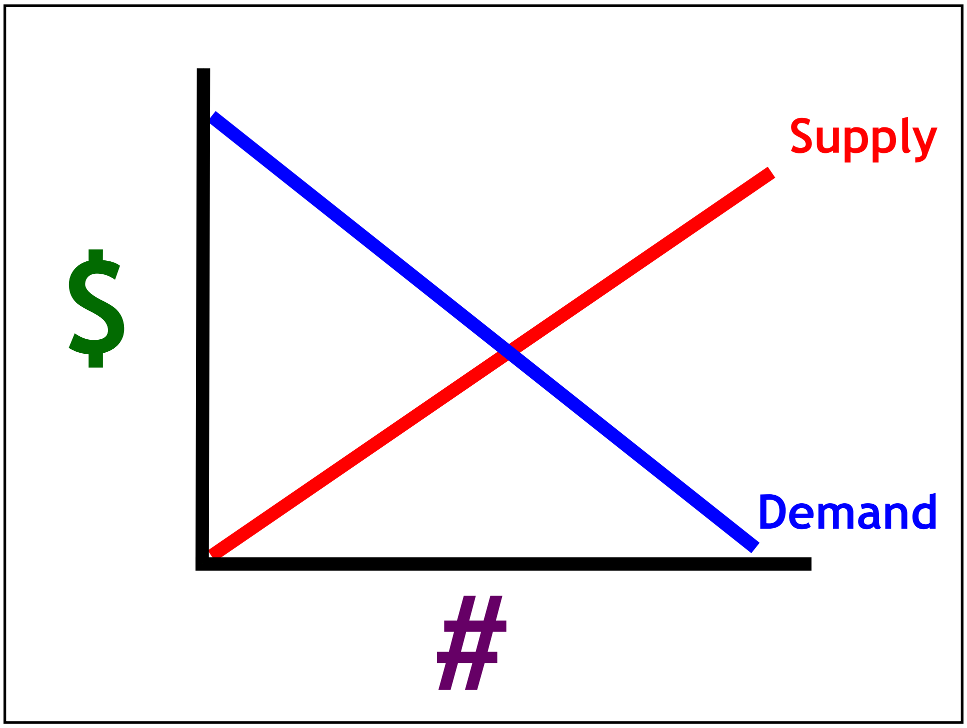
- Consumers and producers make decisions on the margins.
- "Marginal" can be read as "additional."
- How many mechanical pencils should I buy at $10 each? I do the marginal analysis:
  - One makes me really happy. Totally worth it.
  - A second one is good. I can keep one in my desk, one in my backpack. Worth it.
  - A third one isn't super helpful except as a spare. But if one gets lost, I'll appreciate having the extra on hand, so $10 seems worth it to me.
  - A fourth one? It's unlikely that would be useful to me. For $10, it's not worth it.

Marginal Analysis

- With marginal analysis, you're asking, "Is it worth it for me to buy or produce one more unit?"
- The idea is that all economic actors make decisions this way.

Utility and Marginal Analysis

- Economists classically assume that people are always making decisions to maximize their personal utility.
- "Utility" can be read as "satisfaction."
- The Law of Diminishing Marginal Utility says ceteris paribus, marginal utility decreases as consumption increases.
  - "Ceteris paribus" means "all else being equal."
  - "Law of Diminishing Marginal Utility" can be read as the "Law of Decreasing Additional Satisfaction."
  - It means, each additional unit you (or society) consumes is less satisfying than the last.
- This is why demand curves slope down.


Supply
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Demand
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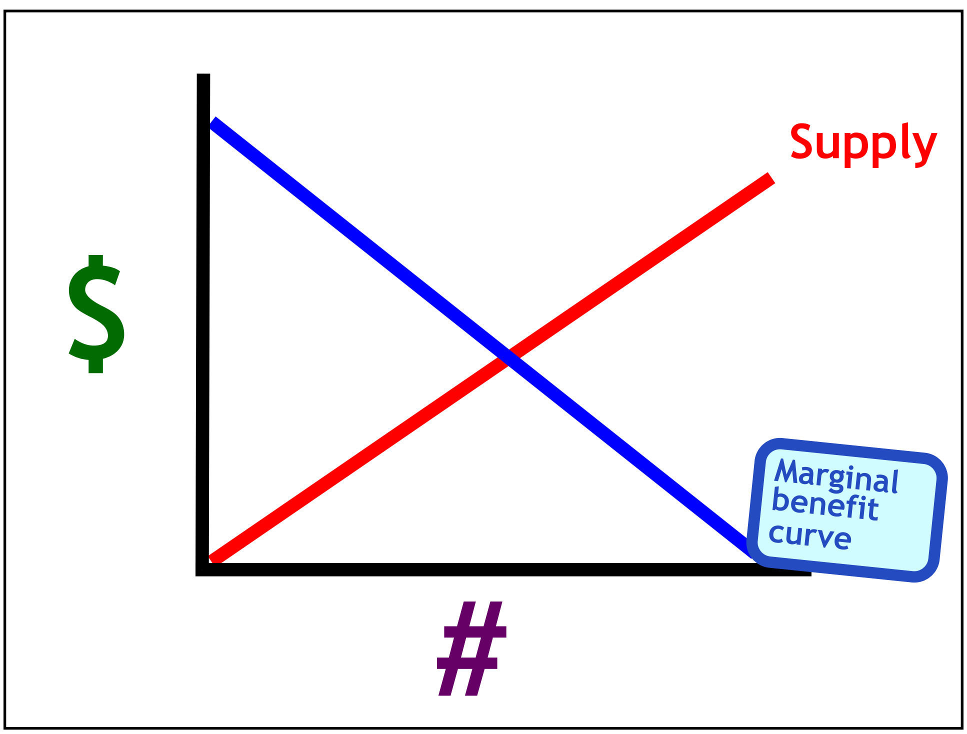
Supply
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Marginal benefit curve
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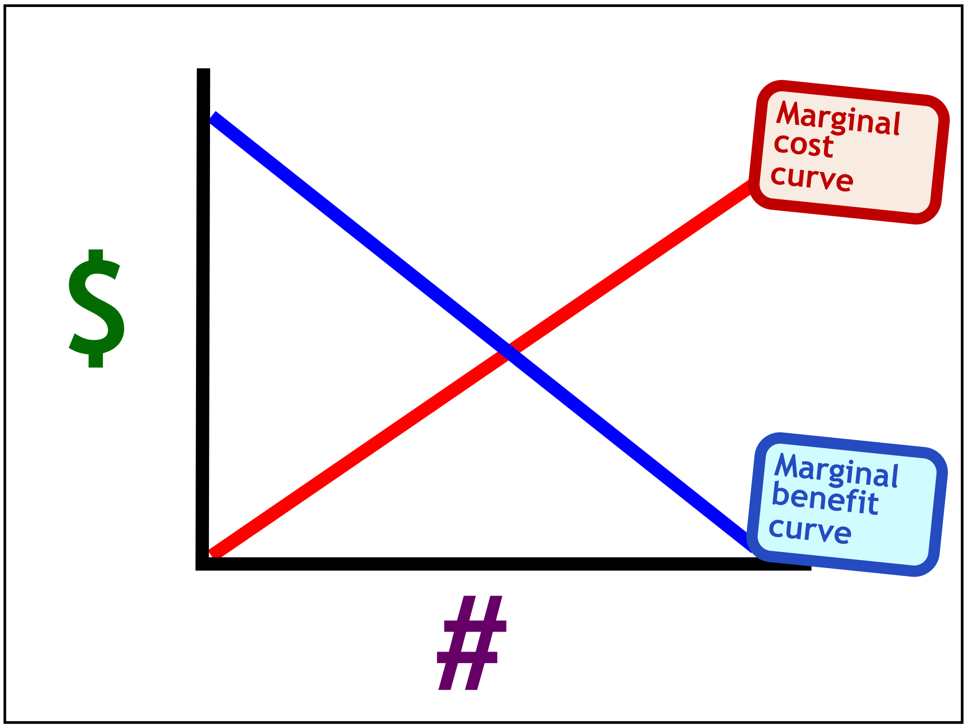
Marginal cost curve
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Marginal benefit curve
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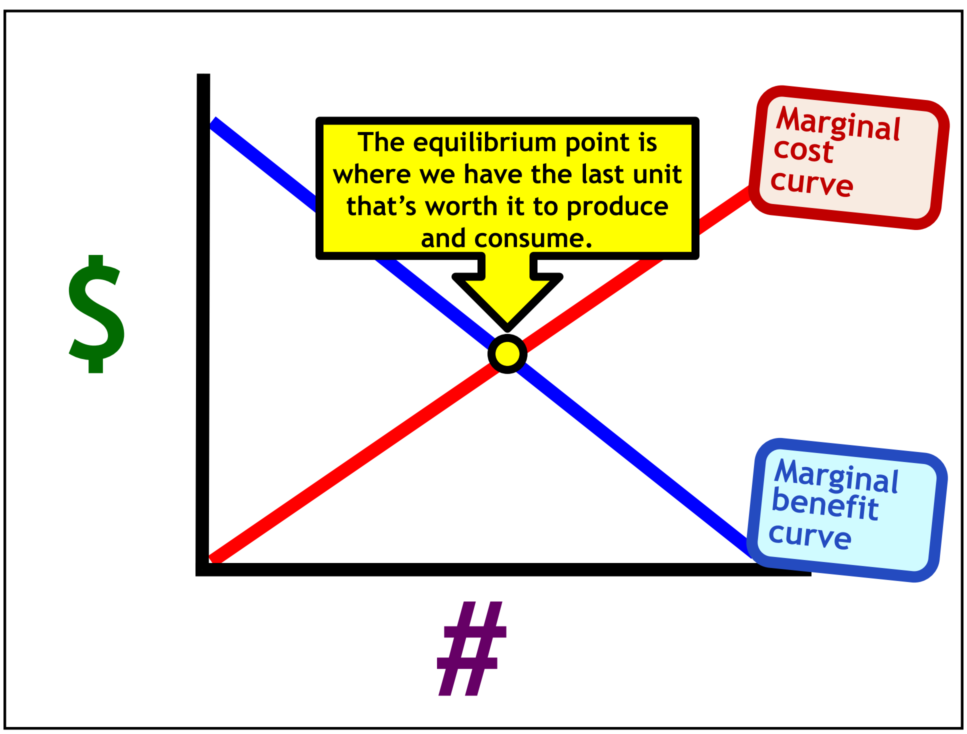
The equilibrium point is where we have the last unit that's worth it to produce and consume.
Marginal cost curve
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Marginal benefit curve
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Elasticity

- Elasticity can be read as “responsiveness” or “sensitivity” to change.
- If it’s “relatively elastic,” then it’s pretty responsive.
- If it’s “relatively inelastic,” then it’s pretty unreponsive.
- Price elasticity of demand is how responsive demand is to changes in price.

Substitution Effect

- The more prices go up, the more consumers will tend to avoid those goods by purchasing substitutes.
- The closer the substitutes, the more likely it is that price hikes are going to make people jump ship and buy the substitutes instead.
- That means: Close substitutability tends toward more elasticity in demand.

Tending toward demand elasticity

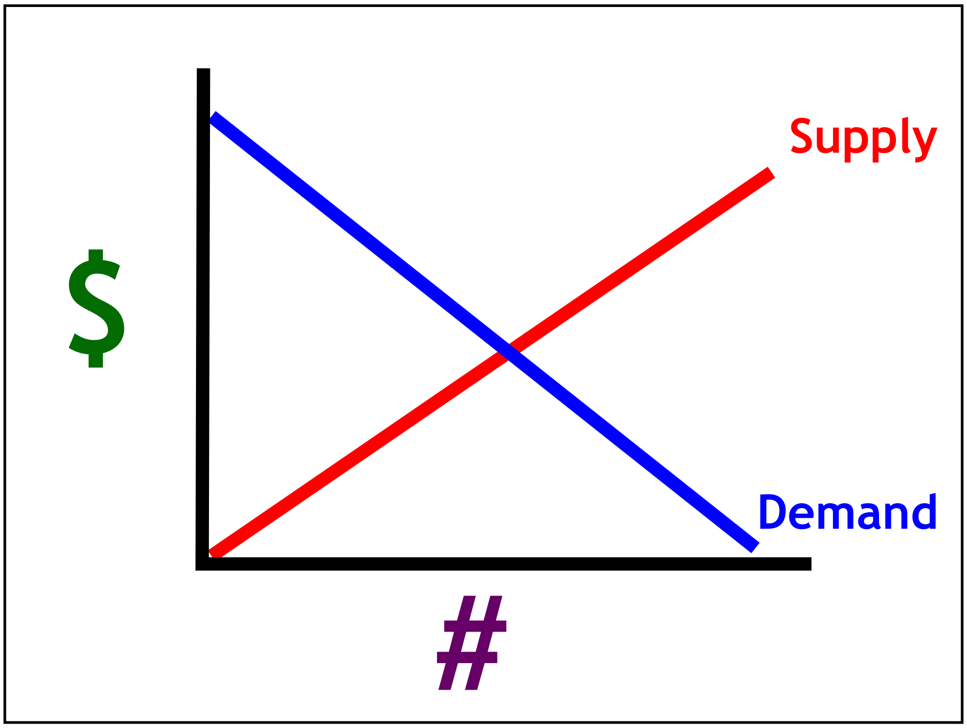
- The goods are luxuries.
- Close substitutes exist.
- The time horizon is long.

Tending toward demand inelasticity

- The goods are necessities.
- Nothing's easily substitutable.
- The time horizon is short.

Price Elasticity of Demand

- **Price elasticity of demand is how responsive demand is to changes in price, so ...**
- **If consumers will buy almost as much when the price goes up, that means demand doesn't change much with price, which is a situation where price elasticity of demand is relatively inelastic.**
  - **Examples: gasoline, insulin**
- **If consumers will rapidly cut how much they buy when the price goes up, that means demand changes a lot with price, which is a situation where price elasticity of demand is relatively elastic.**
  - **Examples: particular kinds of food**


Supply
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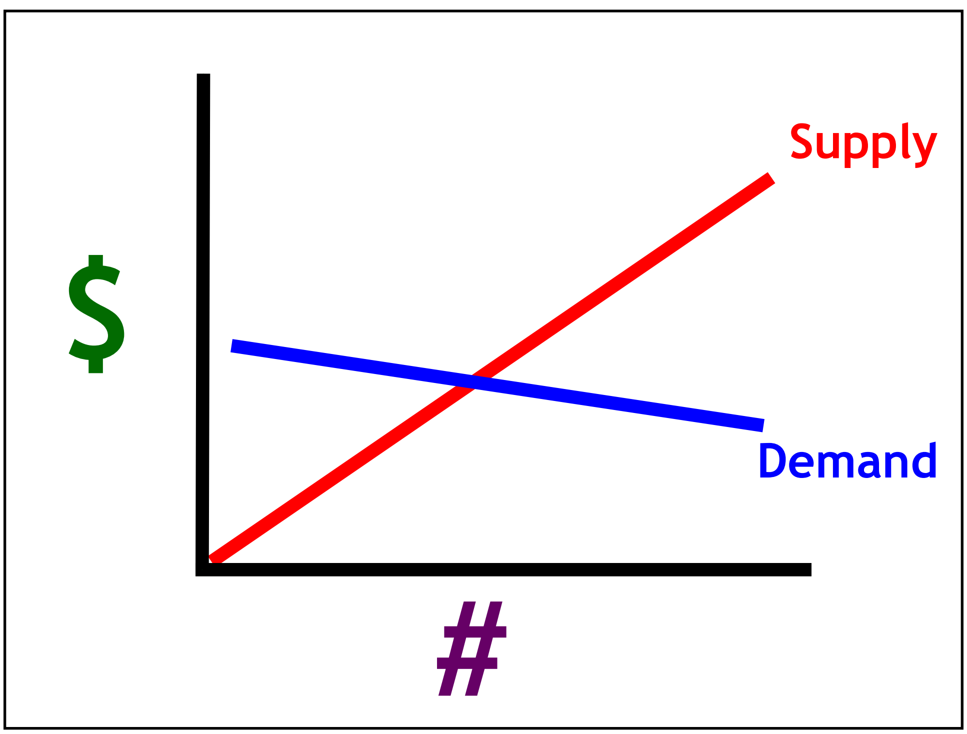
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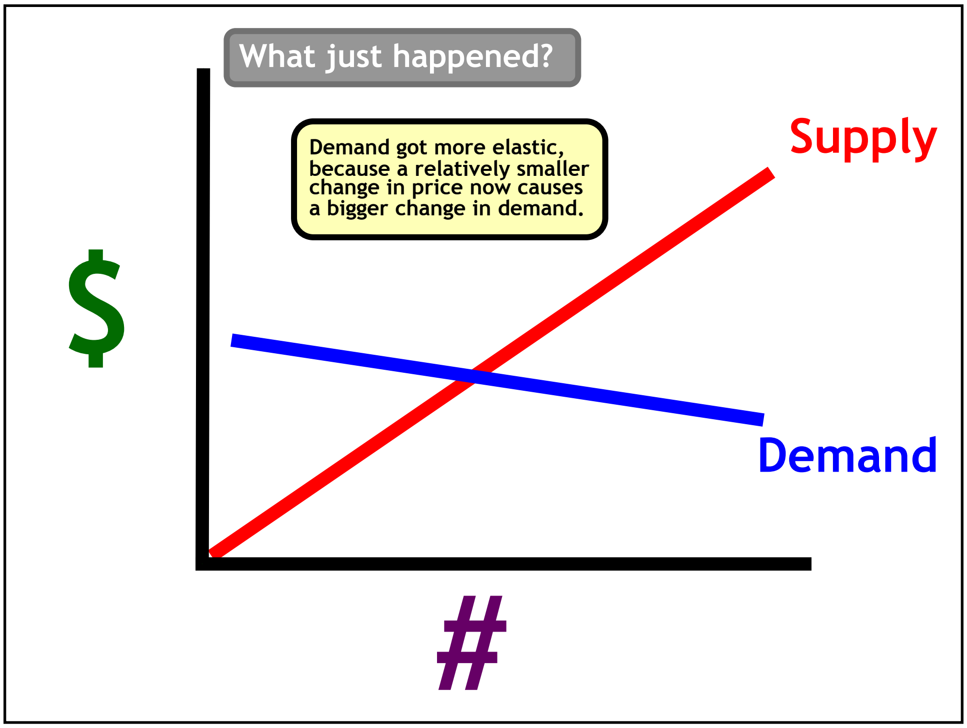
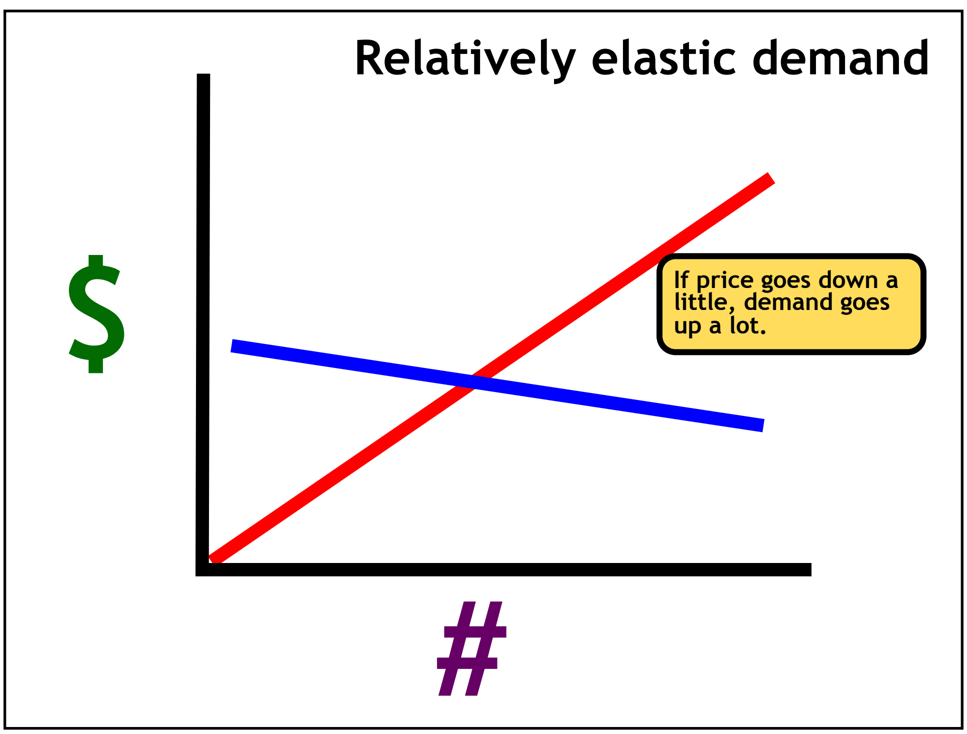

What just happened?
Demand got more elastic, because a relatively smaller change in price now causes a bigger change in demand.
Supply
$
Demand
#


Relatively elastic demand
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If price goes down a little, demand goes up a lot.
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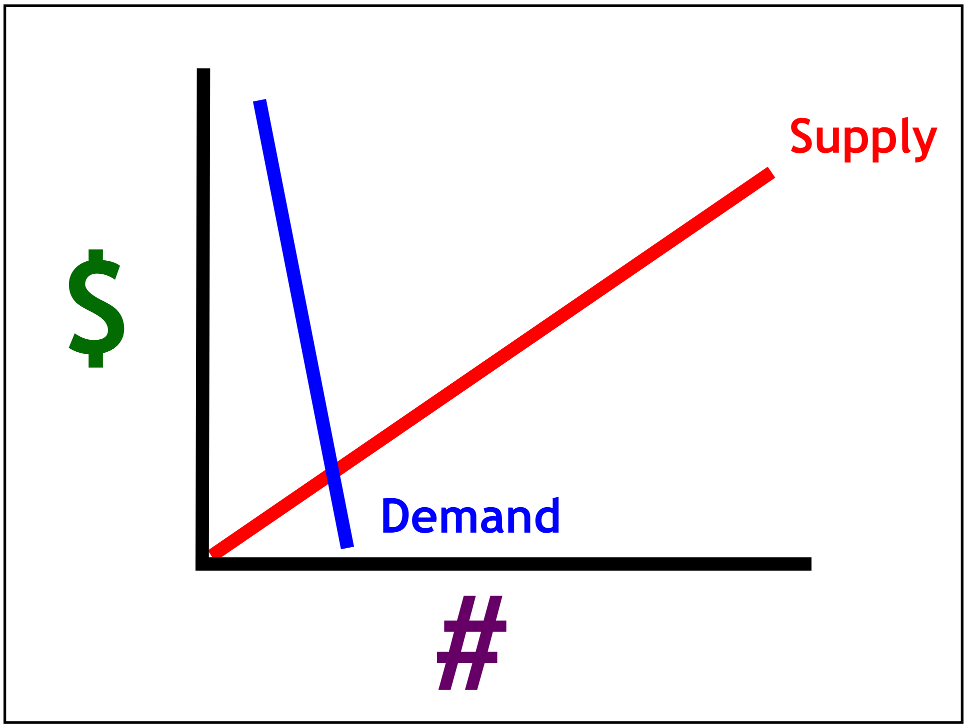
Supply
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Demand
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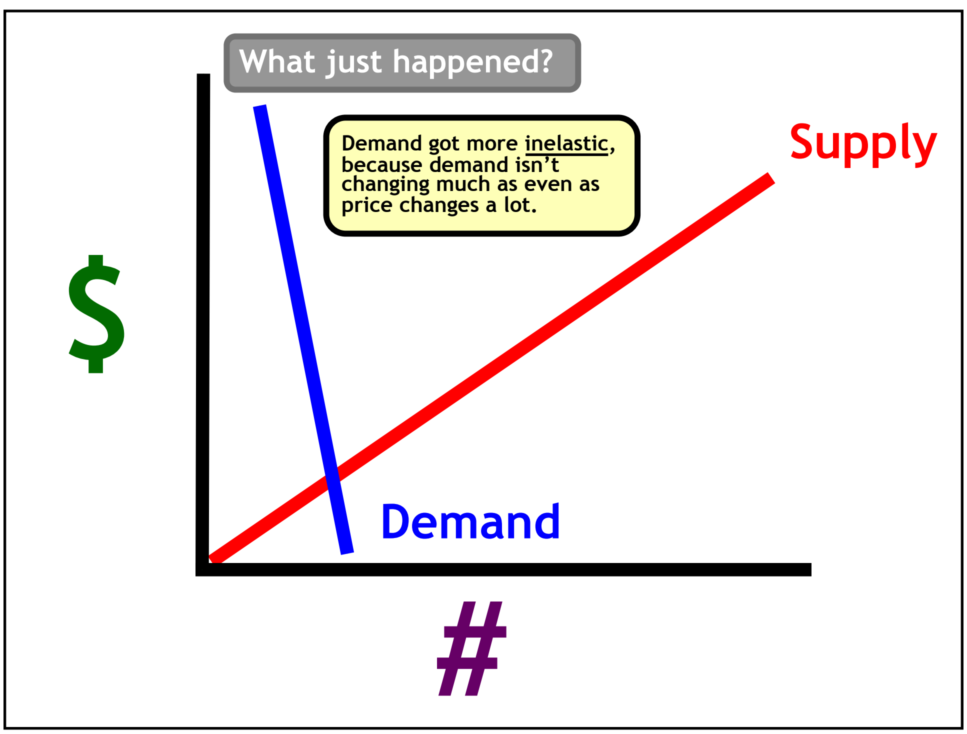
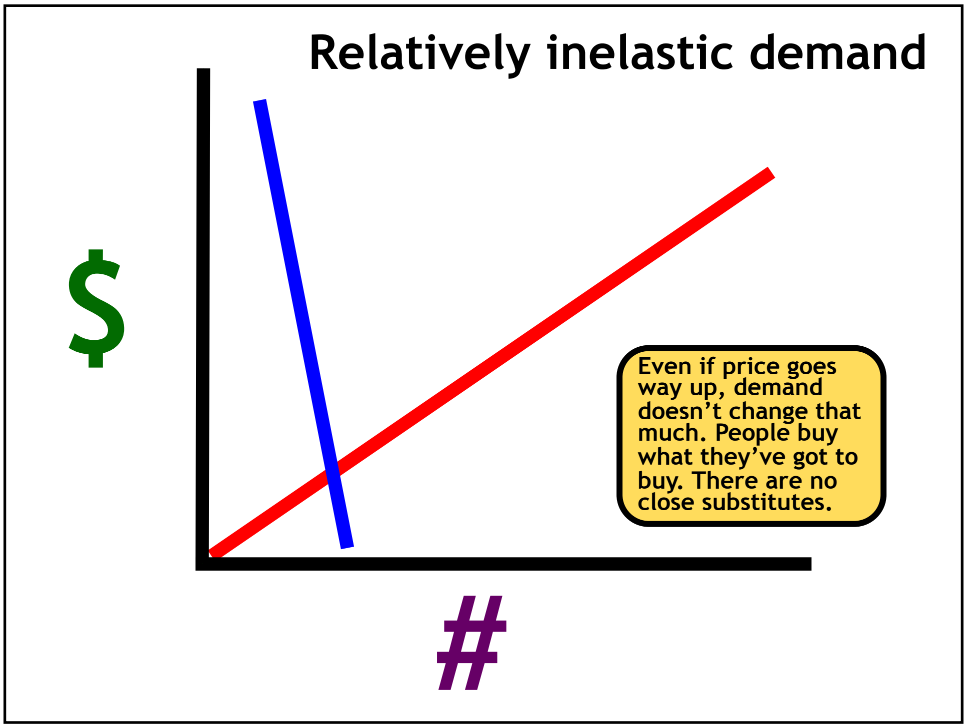

What just happened?
Demand got more inelastic, because demand isn't changing much as even as price changes a lot.
Supply
$
Demand
#


Relatively inelastic demand
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Even if price goes way up, demand doesn't change that much. People buy what they've got to buy. There are no close substitutes.
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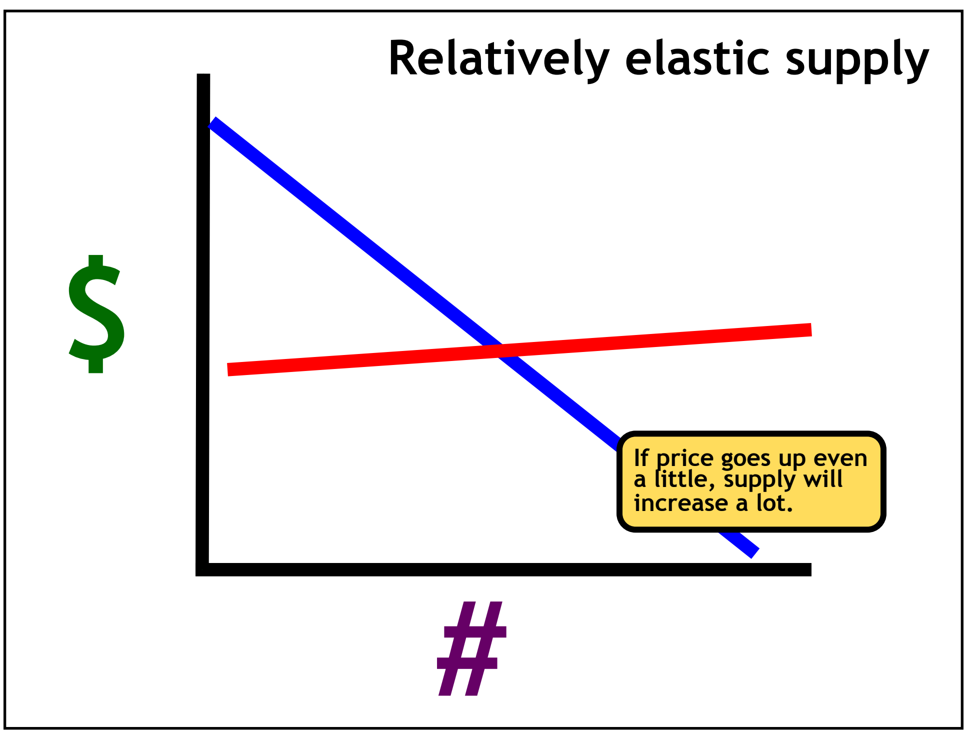
Relatively elastic supply
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If price goes up even a little, supply will increase a lot.
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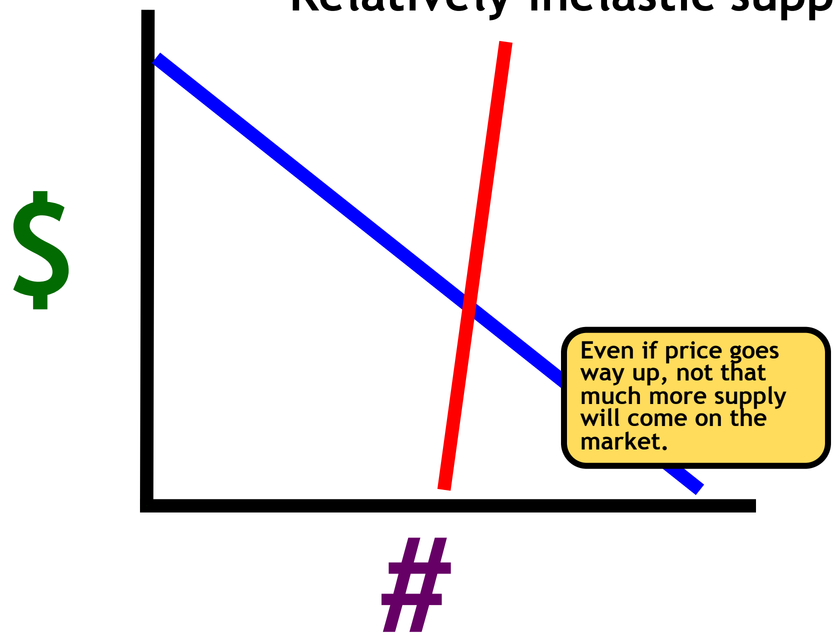
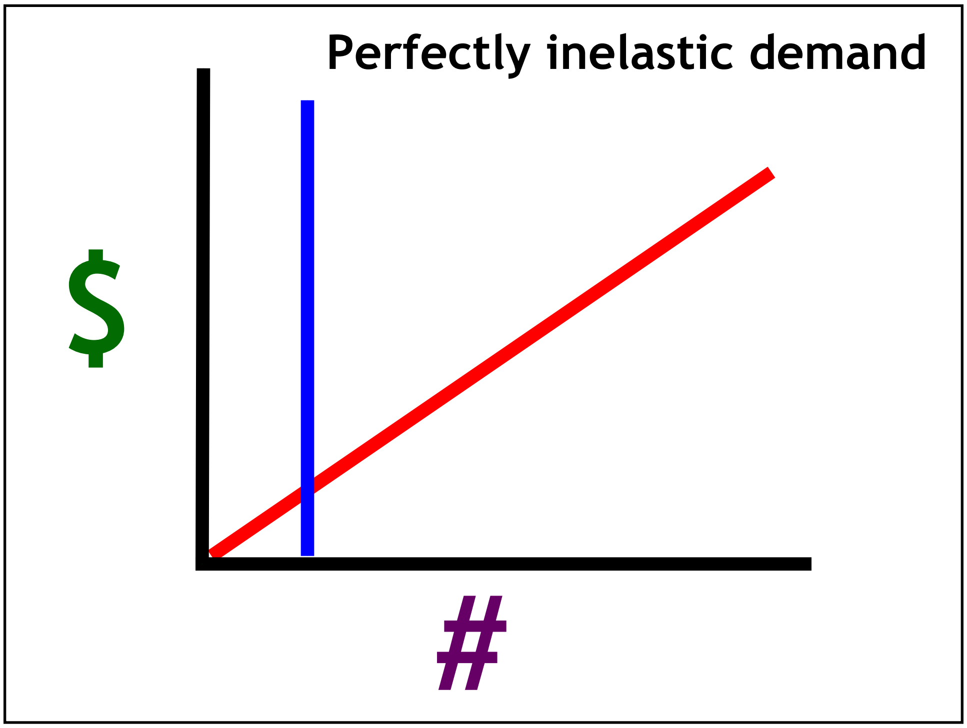
Relatively inelastic supply



Extreme cases of elasticity

Perfectly **I**nelastic is vertical, like the letter "I"

Perfectly **E**lastic is horizontal, like the cross bars of the "E"


Perfectly inelastic demand
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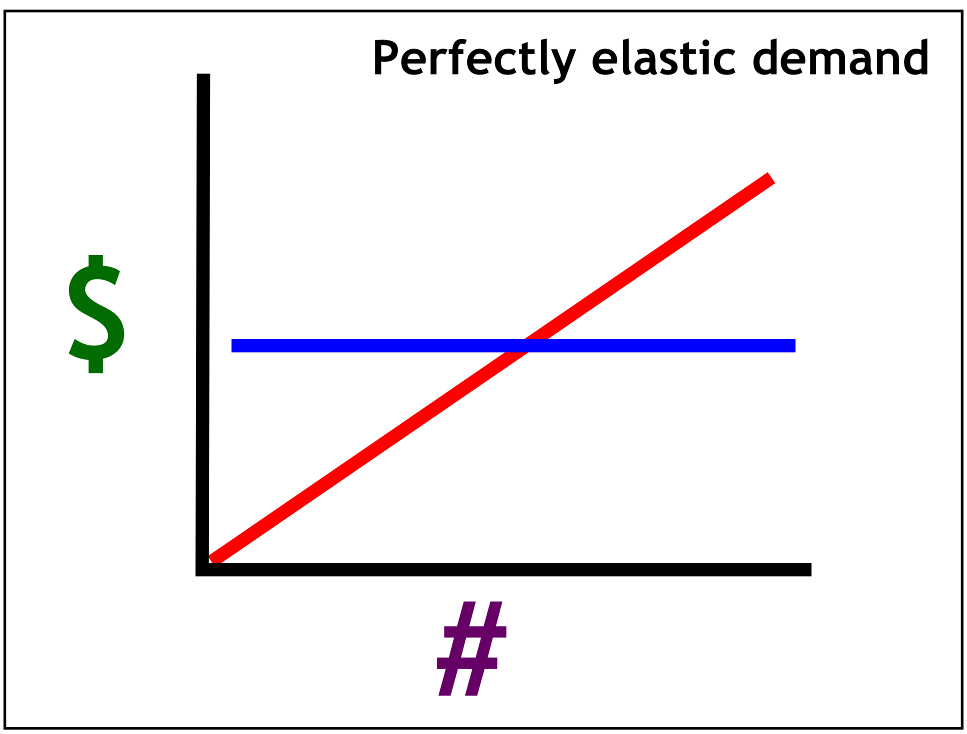
Perfectly elastic demand
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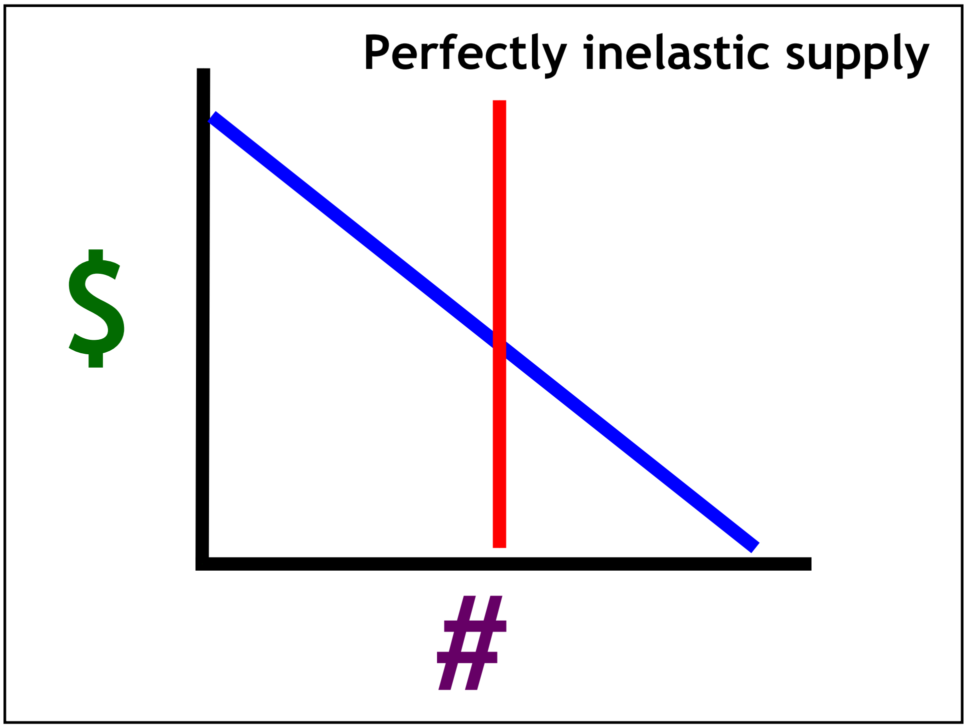
Perfectly inelastic supply
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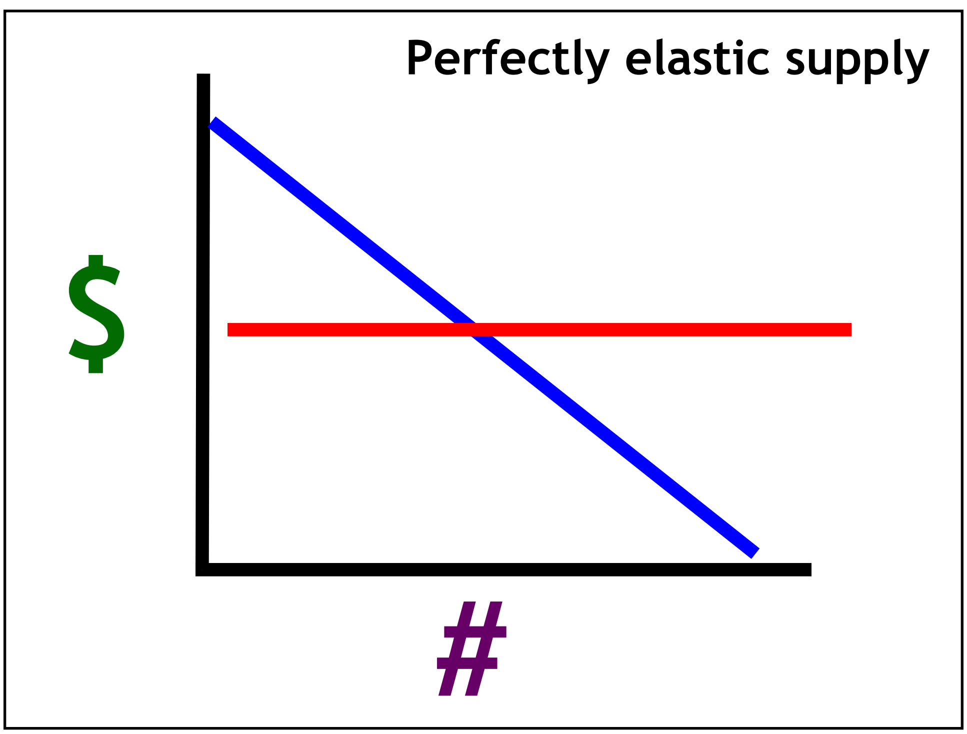
Perfectly elastic supply
$
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Extreme cases of elasticity

Recall …

Perfectly **I**nelastic is vertical, like the letter “I”

Perfectly **E**lastic is horizontal, like the cross bars of the “E”

Substitution Effect

Recall …

- The more prices go up, the more consumers will tend to avoid those goods by purchasing substitutes.
- The closer the substitutes, the more likely it is that price hikes are going to make people jump ship and buy the substitutes instead.
- That means: Close substitutability tends toward more elasticity in demand.

Cross-Price Elasticity of Demand

- Cross-price elasticity of demand brings into consideration <u>two different goods</u>.
- Cross-price elasticity of demand is how responsive demand for one good is to changes in the price of another good.
- If the price of blueberries goes way up, then probably the demand for strawberries will increase.

Consider a town with two gas stations:

- If the price of Shell gasoline goes way up, then the demand for Sinclair gasoline is going to go way up.