# Intermediate Microeconomics

Chapter 4
*Price Changes and Consumer Welfare*

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# "Law of demand"

- *"Law of demand"* = when the price of a good goes up, the quantity demanded goes down, *ceteris paribus* (all other things equal)
- Two simultaneous effects:
  - *income effect* = since the good is more expensive, it is as if income fell (the consumer has less money for the purchase of the other goods)
  - *substitution effect* = the other goods are now relatively cheaper, so more desirable
- The final effect depends on which effect dominates

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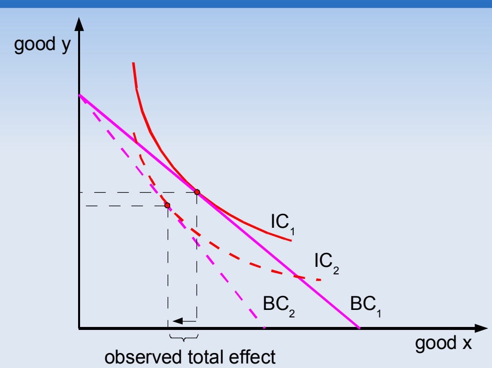
# Total effect – normal good

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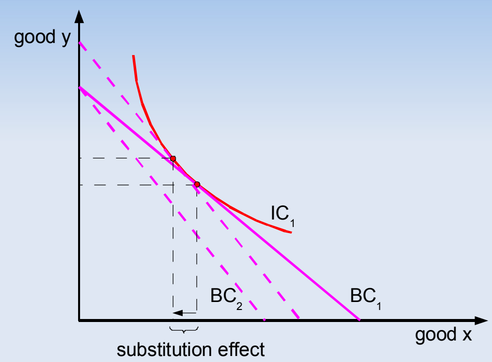
## Substitution effect – normal good

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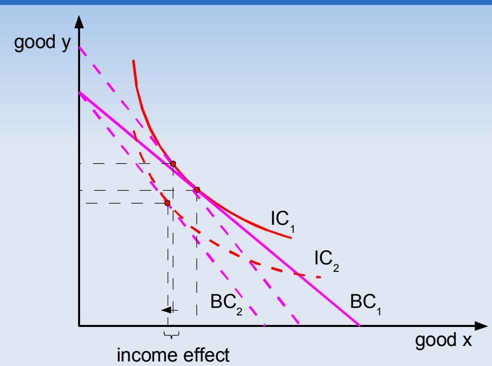
## Income effect – normal good

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## Substitution effect

- When price changes, suppose the consumer received some compensation that allowed her to achieve the same utility as before
- Substitution effect is the change in quantity demanded along the original indifference curve
- It is also called *compensated response*, because the consumer can still afford to be on the original indifference curve
- *Always* in opposite direction to the price change

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## Income effect

- When price changes, the consumer has more/less money for the other goods
- Income effect is the change in quantity demanded as the consumer moves from the ”substitution effect” point on the original indifference curve to the new indifference curve
- Depending on the type of good, it can work in the same direction or in the opposite direction to the price change

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## Types of goods

- *Normal good* = both income and substitution effect work in the same direction
- *Inferior good* = income effect and substitution effect work in opposite directions, but the substitution effect dominates (law of demand still holds)
- *Giffen good* = income effect and substitution effect work in opposite directions, but the income effect dominates (law of demand fails)

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## Consumer surplus

- *(Marshallian) Consumer surplus* = difference between what a consumer is willing to pay and what she actually has to pay
- Demand curve shows ”willingness to pay”, so the height of a point is the marginal value of an additional unit of consumption at that point
- So, area under the demand curve and above the price level is the consumer surplus

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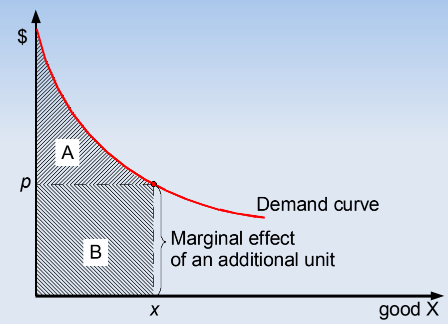
## Consumer surplus




Consumer surplus = A
Total value of consuming *x* units = A + B

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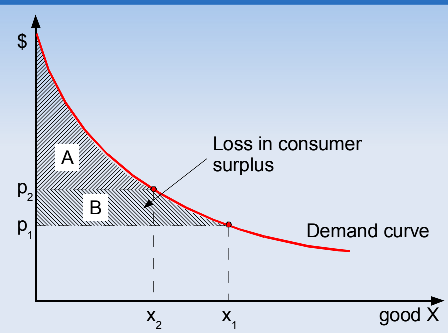
## Effect of a price increase




Initial consumer surplus = A + B
Consumer surplus after price increase = A

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## Application: trade quotas

- *Trade quota* = restriction on imports of some commodity
- When imposing a trade quota, the quantity available (supplied) is restricted ⇒ price increases
- As a result, consumer surplus falls and consumers are worse off
- How about producers? They are better off because of higher prices (quota rents)
- But: deadweight loss (waste) ⇒ society is worse off

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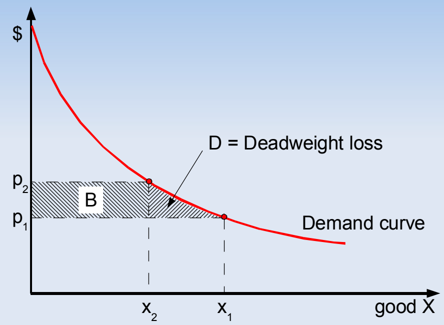
## Quota on imports




Loss in consumer surplus = C + D
Quota rents = C

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