Basics of Microeconomic Theory

Consumer ⟺ **Producer**

Demand Side ⟺ **Supply Side**

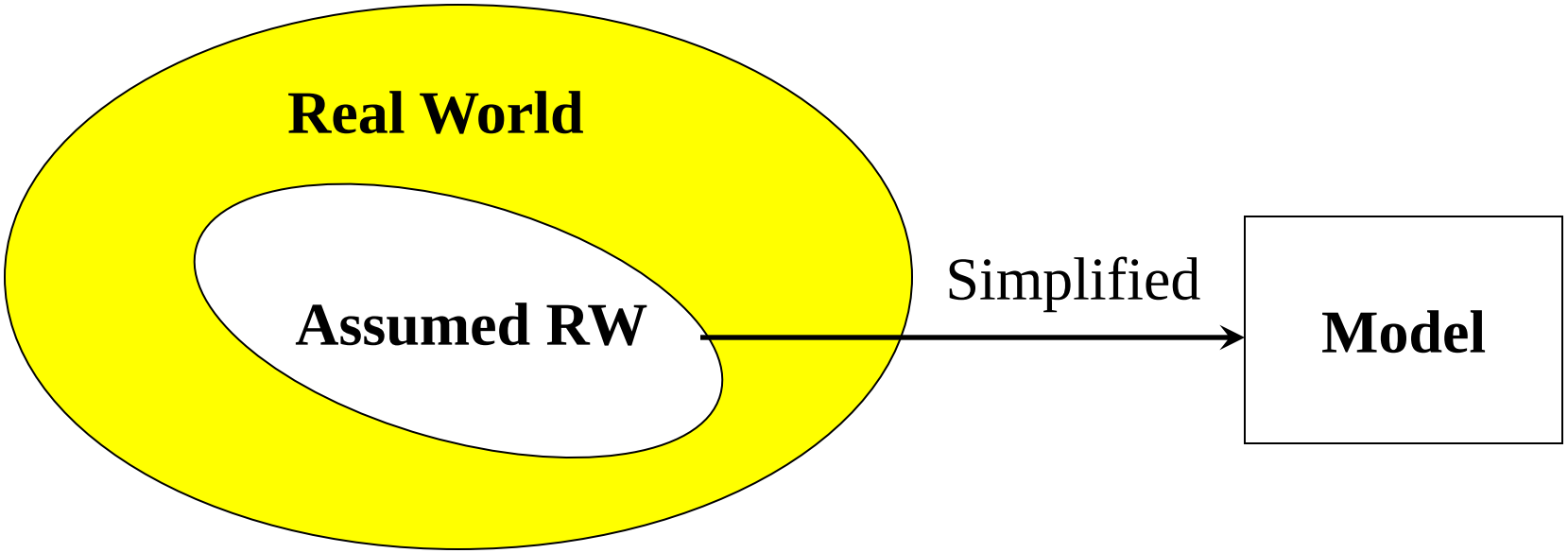
1. **Market**
2. **Budget Constraint**
3. **Utility**
4. **Choice**
5. **Demand**
6. **Consumer' Surplus**

1. MARKET

Typical example of economic analysis

Model: simplified representation of reality

> elimination of irrelevant detail



Principle of behavior of agents (people)

The optimization principle

- to choose the **best** pattern of consumption that they can afford
  : reasonable to assume that people try to choose things they want rather than things they don't want.

The equilibrium principle

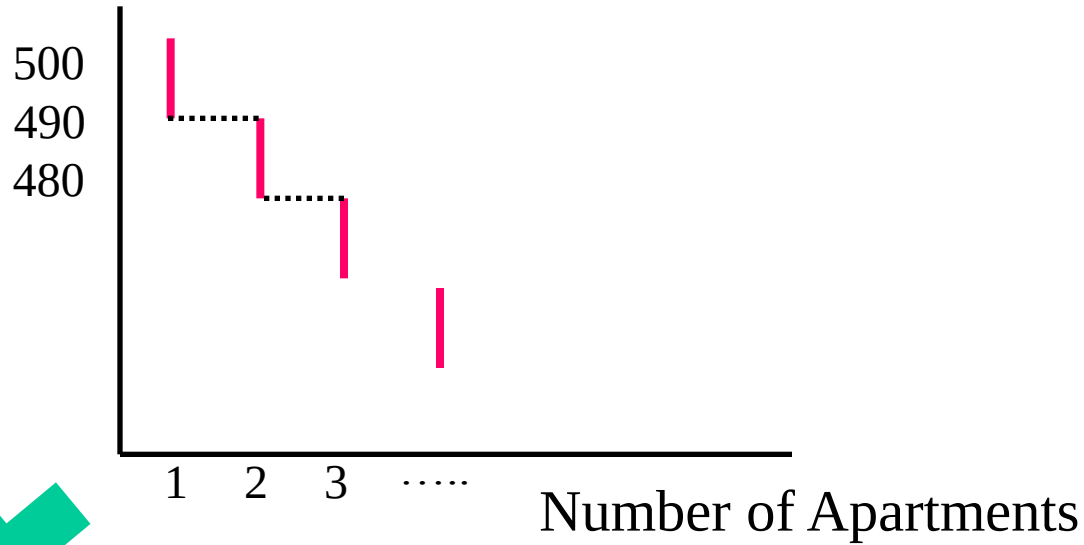
- **Prices** adjust until the amount that people demand of something is equal to the amount that is supplied

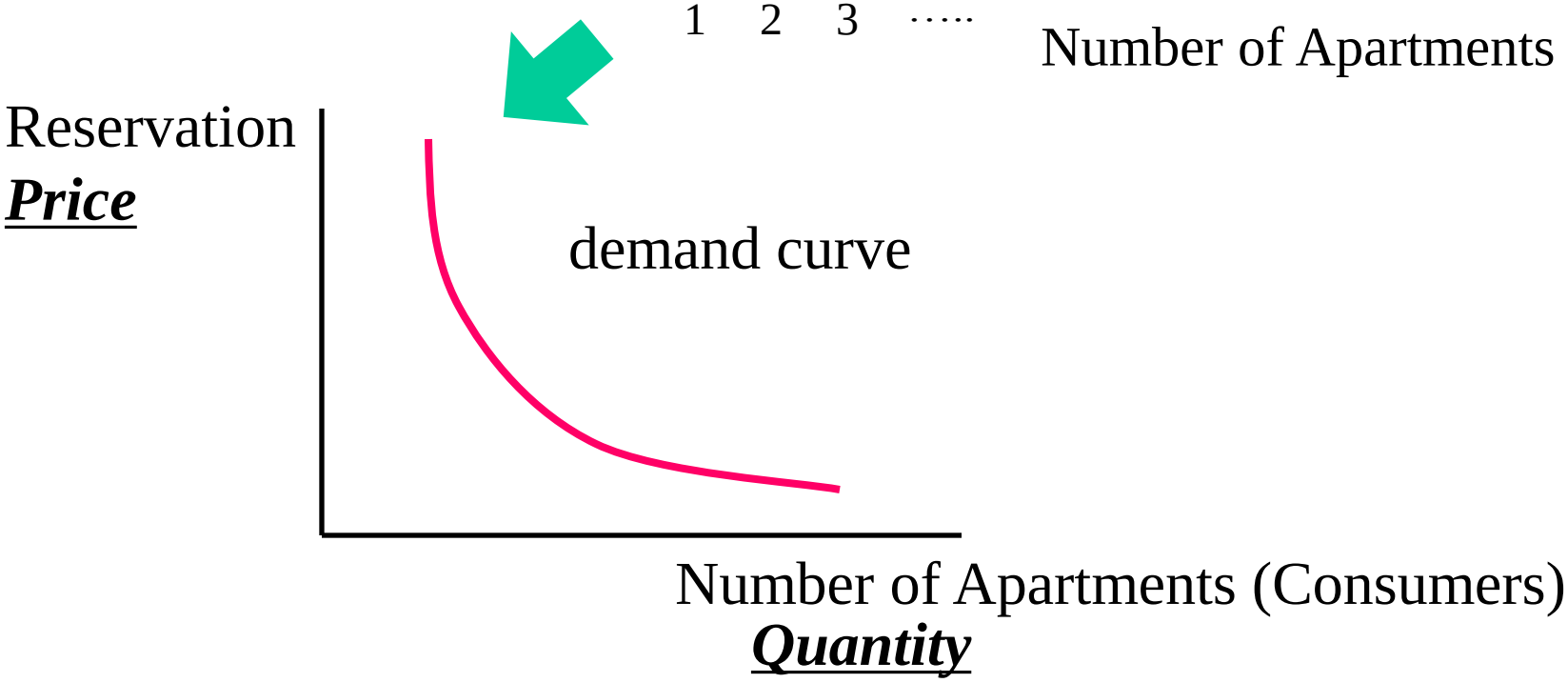
Demand Side: Consumer

Supply Side: Producer

Demand Curve

Reservation Price
= Willingness to Pay
(**WTP**)



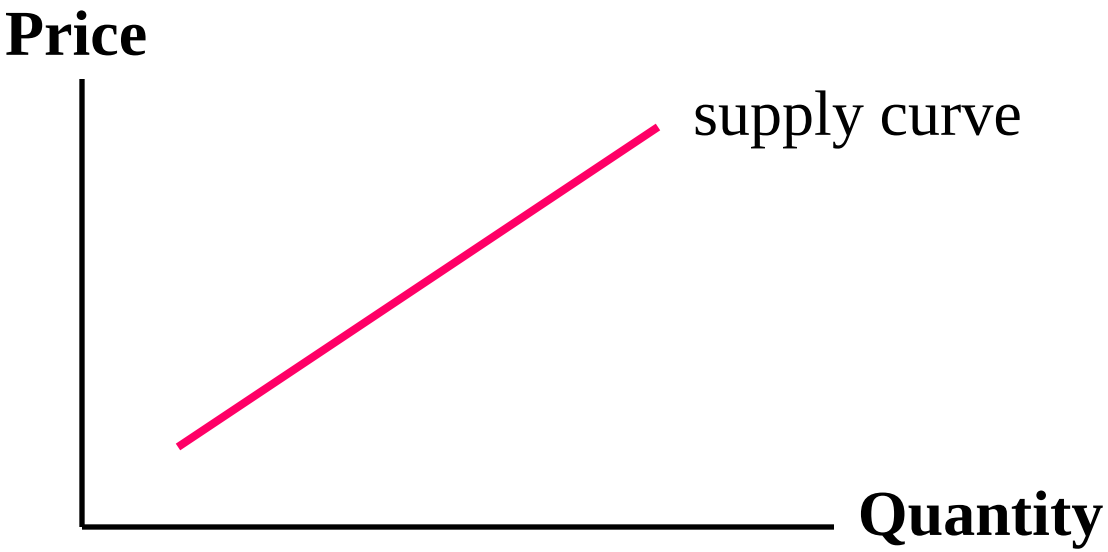


Supply Side

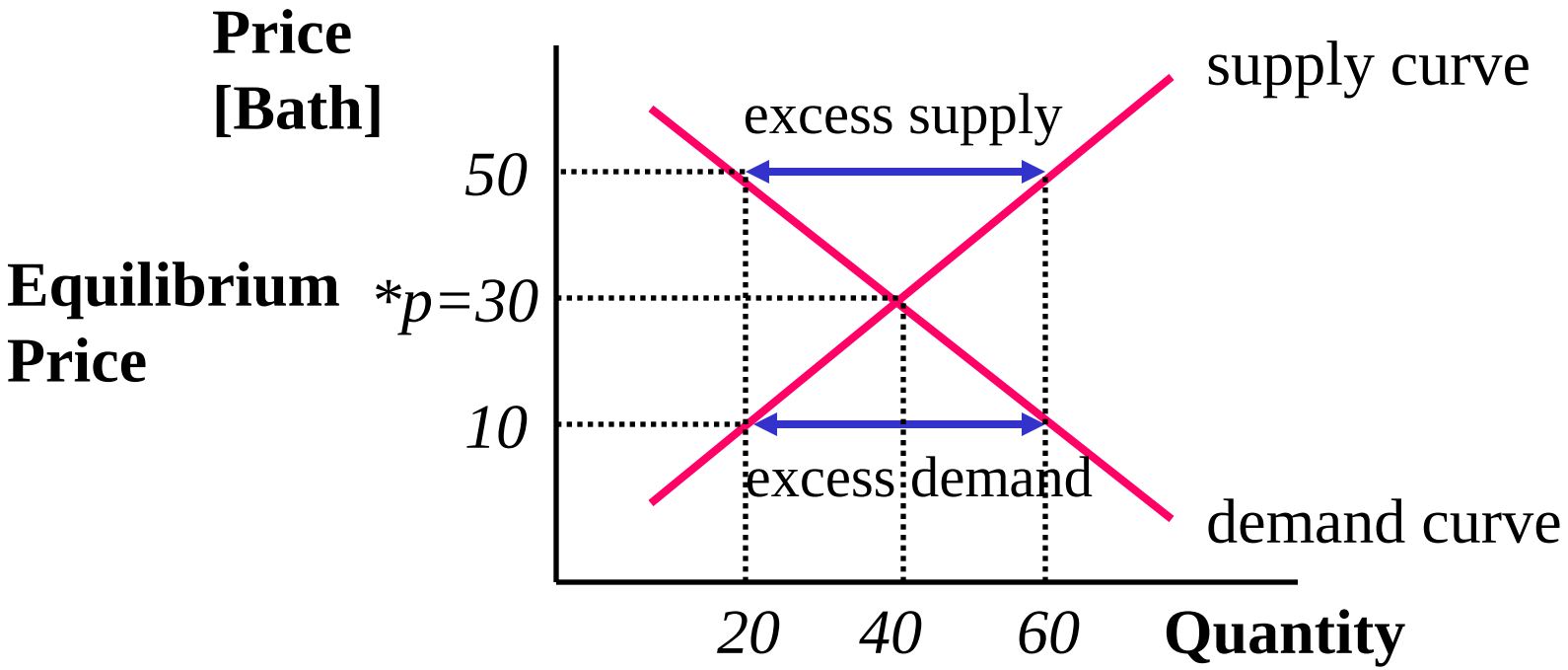
- Competitive Market - Basic market

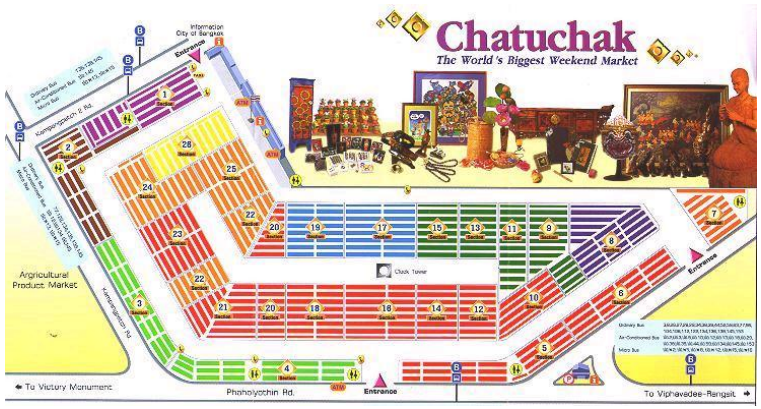
  many independent suppliers

- Monopoly
- Oligopoly (Duopoly)
- Control or Regulation (by Government)



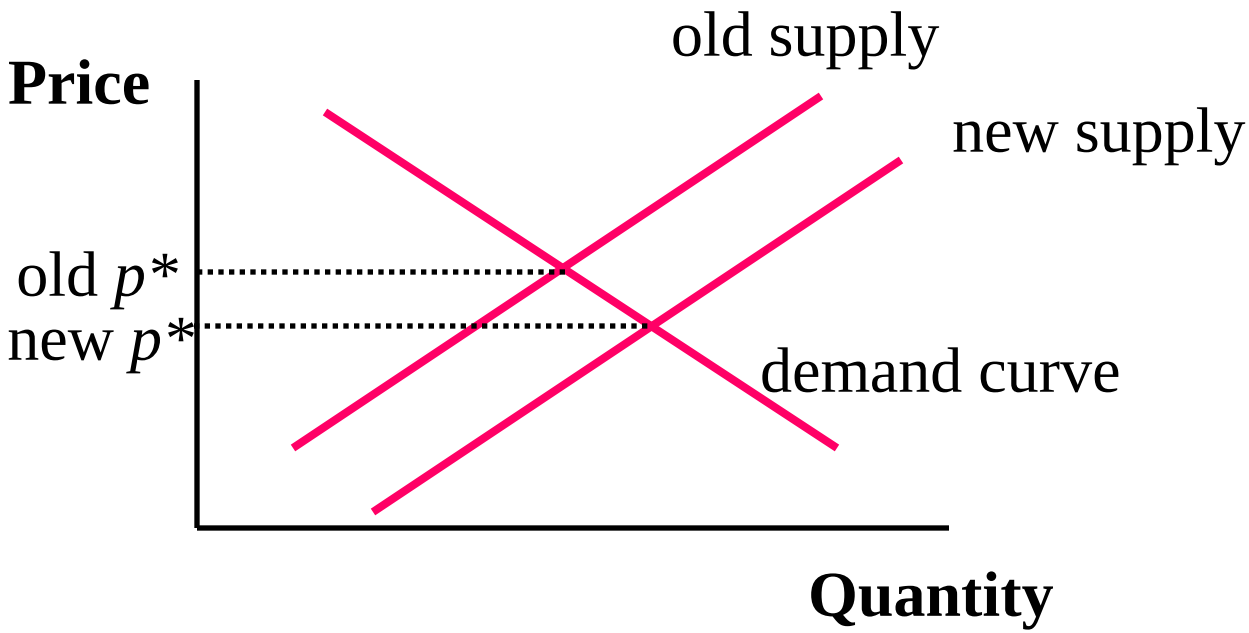
Market Equilibrium





Weekend Market in Bangkok

Comparative Statics



Evaluate “conditions change”

(ignore dynamic change)

Pareto Efficiency

Most important **criterion** on microeconomics theory

Efficiency = **Pareto Efficiency**

We cannot find a way to make some people better off without making anybody else worse off

if something is *not* Pareto efficient, then there *is* some way to make some people better off without making someone else worse off.

Pareto Improvement → **Pareto Inefficiency**

No Pareto Improvement → **Pareto Efficiency**

* The outcome of the competitive market is Pareto efficient

2. BUDGET CONSTRAINT

Good(s)
anything that increases utility

Bad(s)
anything that decreases utility

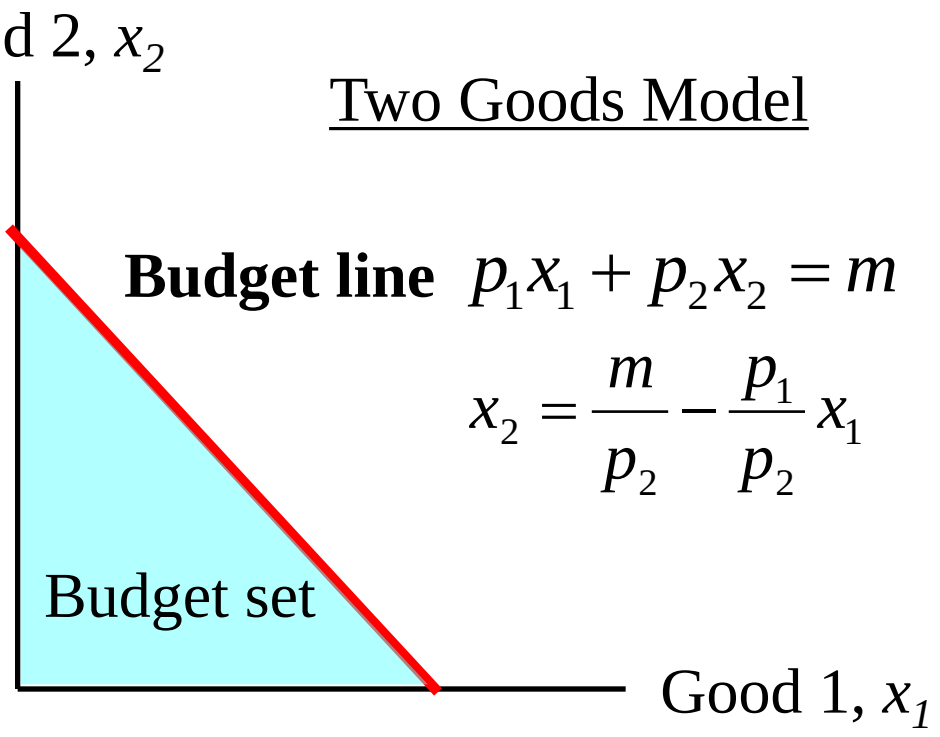
x_2 : Composite goods

(all other goods except goods 1)

Budget set

$$p_1 x_1 + p_2 x_2 \leq m$$

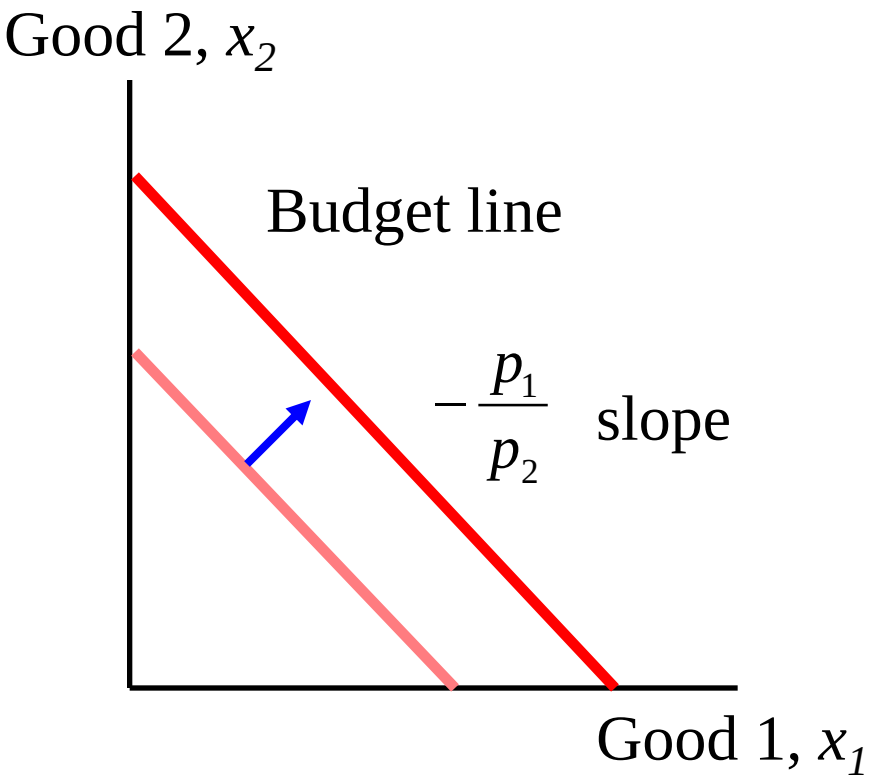
x : consumption volume
p : price of good
m : (disposal) income



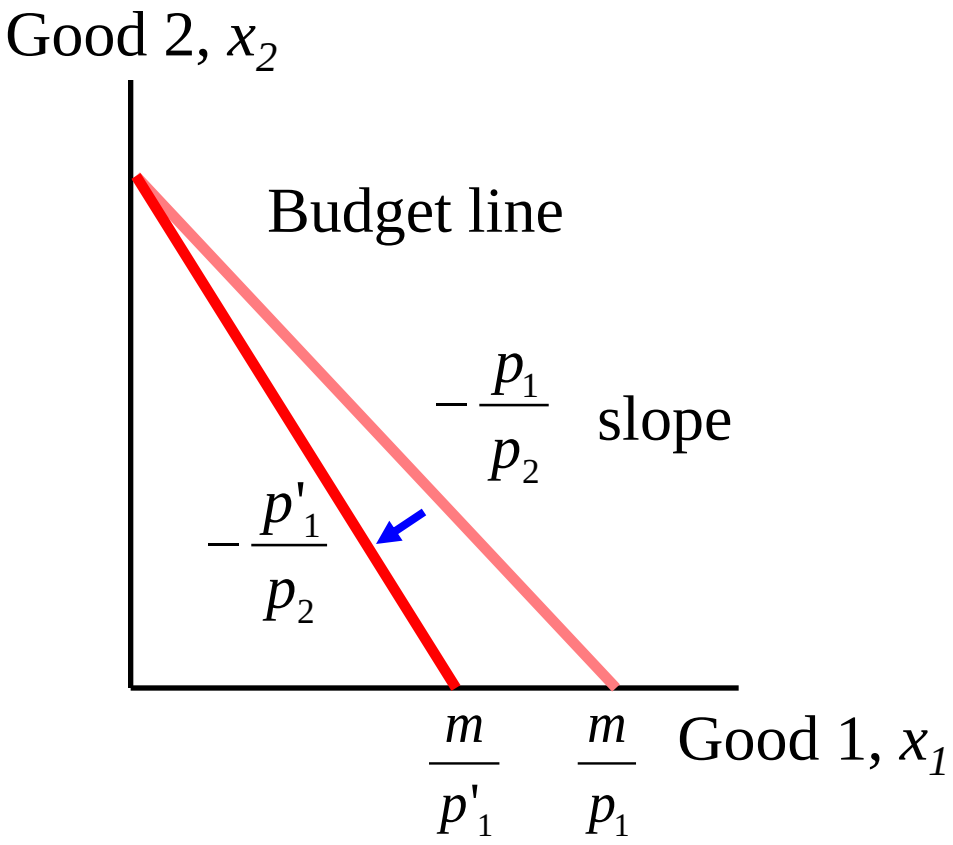
$-\frac{p_1}{p_2}$ Slope of budget line is **opportunity cost**.

More consumption of good 1 by giving up some consumption of good 2

Budget Line Changes



Incomes change
increase



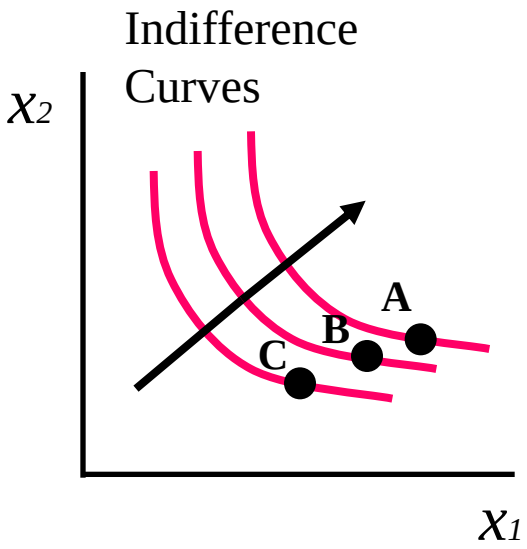
Prices change
increase

3. UTILITY

Utility: A way of describing *preferences*

(A person's happiness) (x_1 , x_2) <=> $u\,(x_1 , x_2)$

Utility Function: A way of *assigning a number (ordering)* to consumption bundle



Constructing (ordinal) utility function

⟶ **Ordinal utility**

no matter of the size of the utility difference between any two consumption

***Cardinal utility**

Utility theory that attach a significance to the *magnitude* of utility

Marginal Utility

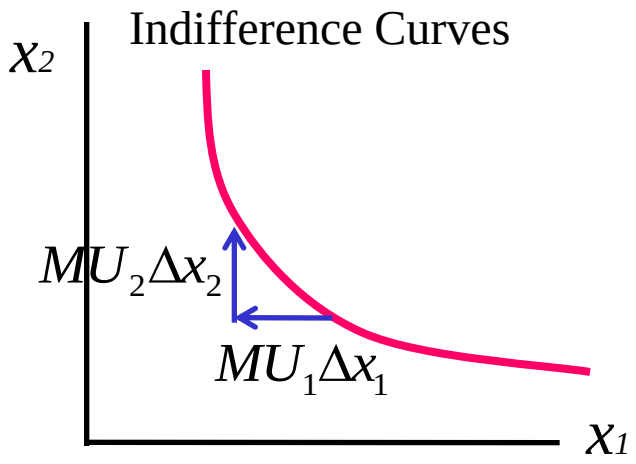
Utility = **90**

= **100**

What is Marginal Utility (*MU*) ?

Changing Rate of Utility

Law of Diminishing Marginal Utility



Marginal Rate of Substitution

$$MU_1\Delta x_1 + MU_2\Delta x_2 = 0$$

$$MRS = \frac{\Delta x_2}{\Delta x_1} = -\frac{MU_1}{MU_2}$$

(Absolute value)

Utility for Commuting

Mode choice for commuting:

travel time, waiting time, fares, comfort….

$U(x_1, x_2, ...x_n) = \beta_1 x_1 + \beta_2 x_2 + ... + \beta_n x_n$ β_1, β_2 : parameters

The economic characteristics of transport

Derived nature of the demand

- benefit to travel as short as possible
- “joy riders”, “tourists” to be in the minority

Mode choice model bus or car

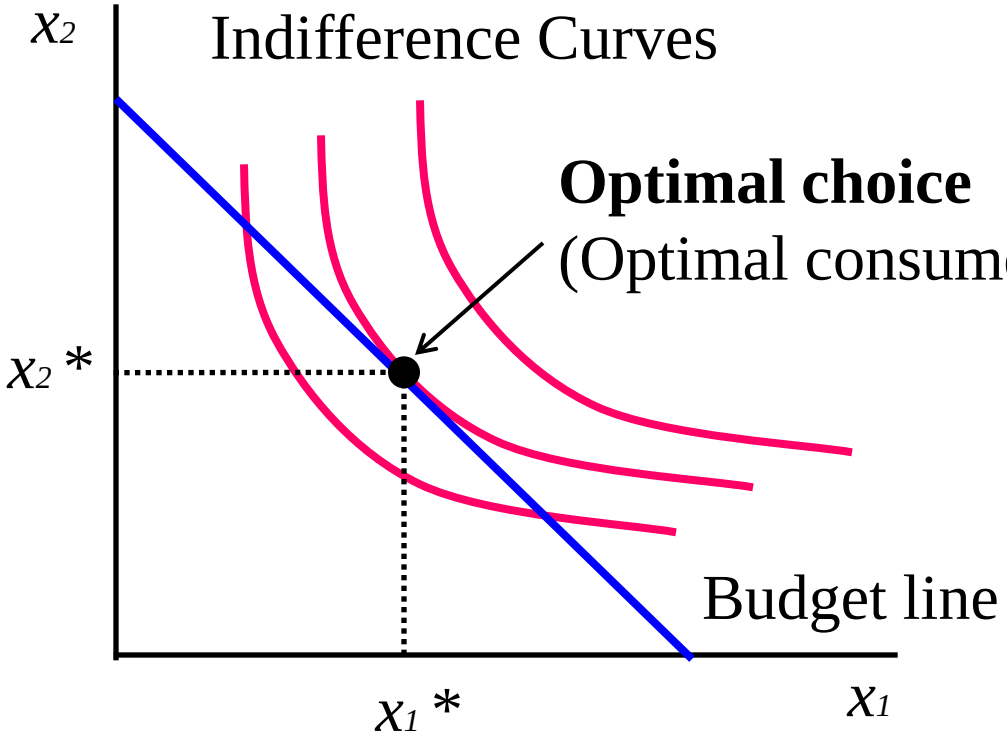
$U = -0.147TW - 0.0411TT - 2.24C$

TW: access time (total walking time to and from bus or car)
TT: total time of trip
C: total cost of trip

Money value of travel time savings?

4. CHOICE

Consumers choose the most preferred bundle from their budget set.



Optimal choice * Interior optimum
(Optimal consumer bundle)

* Slope of the budget line

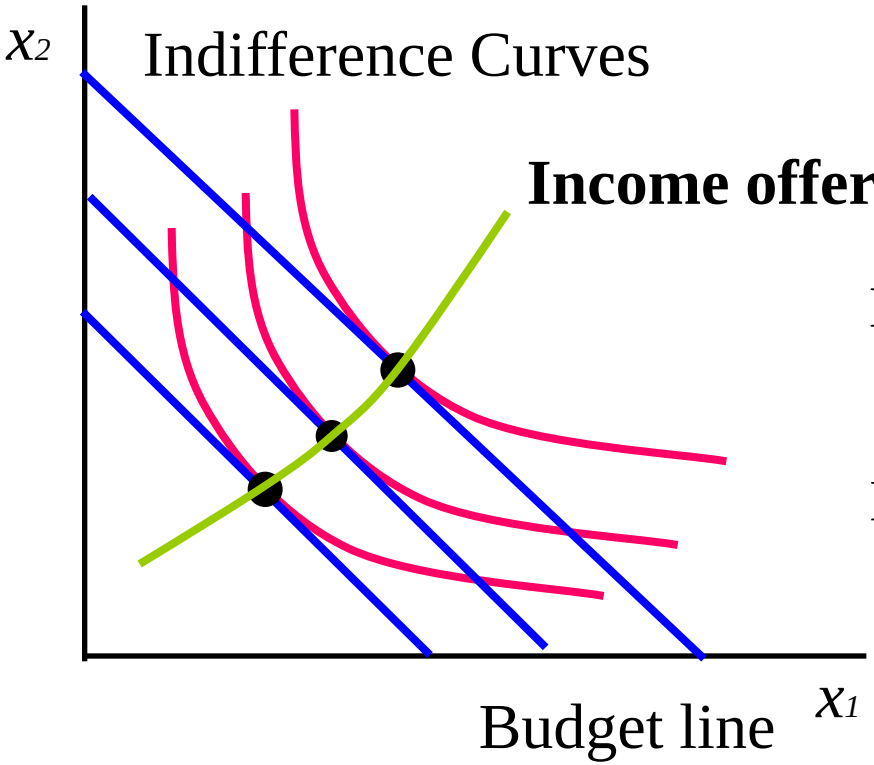
$$= \text{MRS} = \frac{\Delta x_2}{\Delta x_1} = \frac{p_1}{p_2}$$

5. DEMAND

Demand function

$$x_1 = x_1(p_1, p_2, m) \qquad x_2 = x_2(p_1, p_2, m)$$

<u>Income change</u>

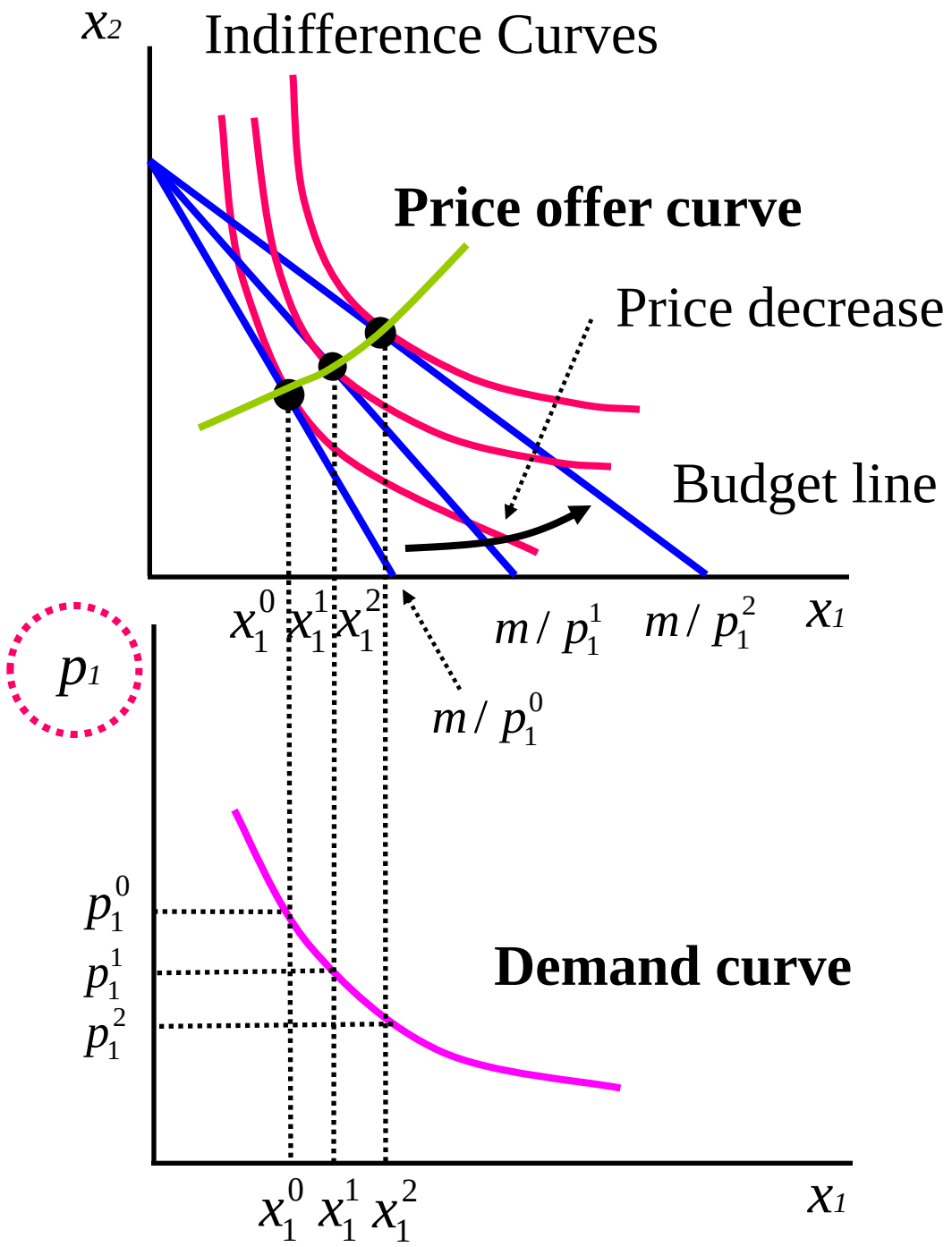


Normal Goods

Demand <u>increase</u> as income increase

Inferior Goods

Demand <u>decrease</u> as income increase



Relationship among goods

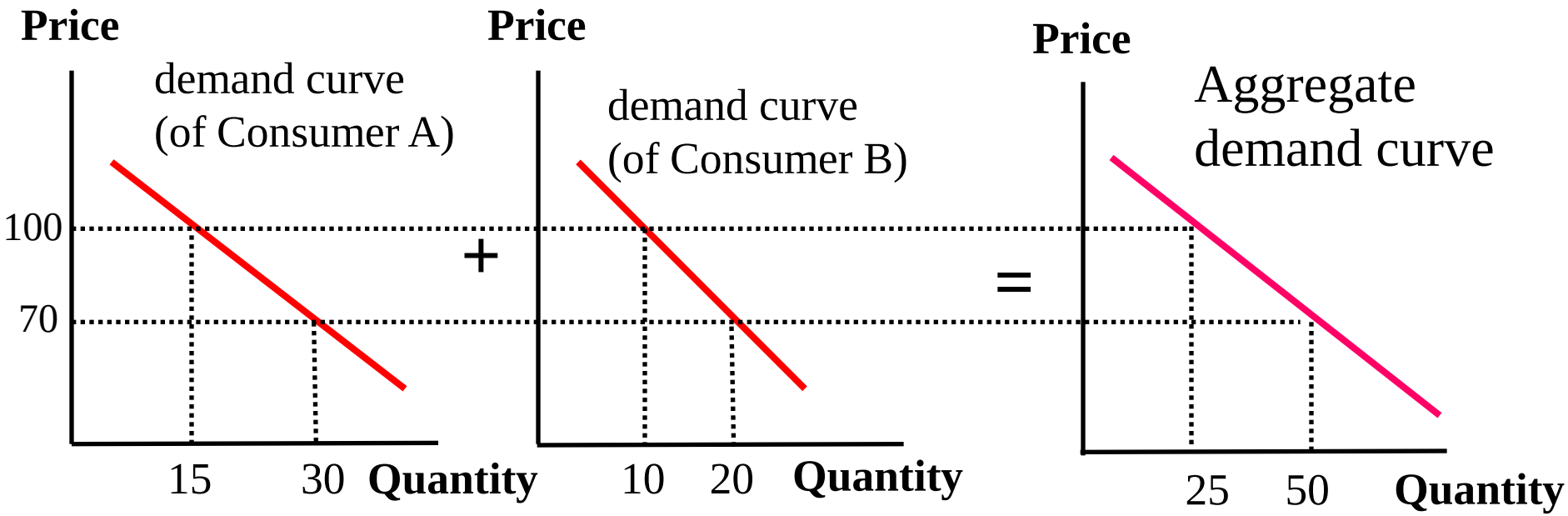
Substitutes

Demand for good 1 goes *up* when price of good 2 goes *up*.

Complements

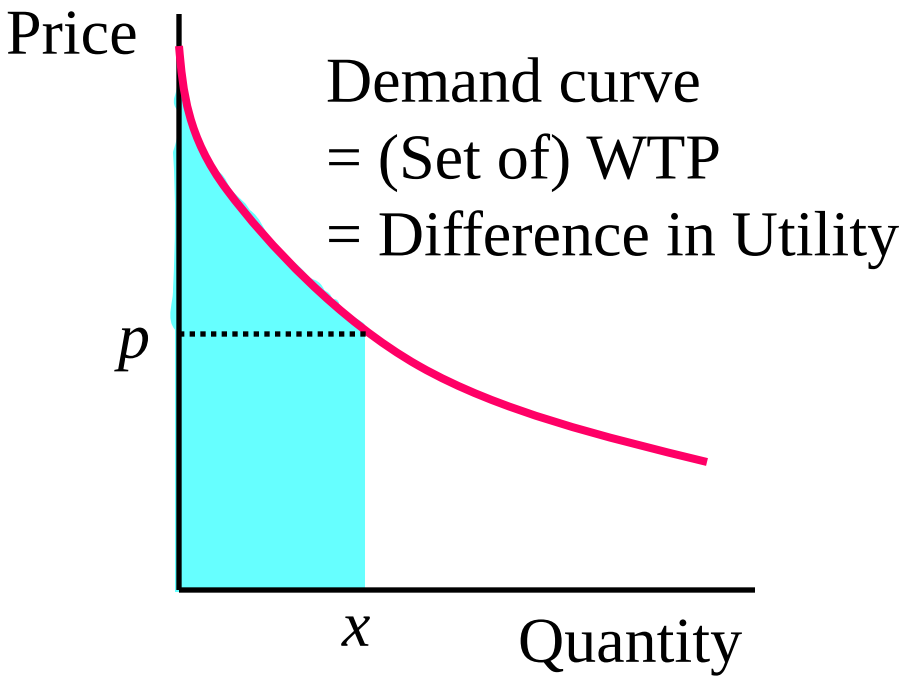
Demand for good 1 goes *down* when price of good 2 goes *up*.

Market Demand

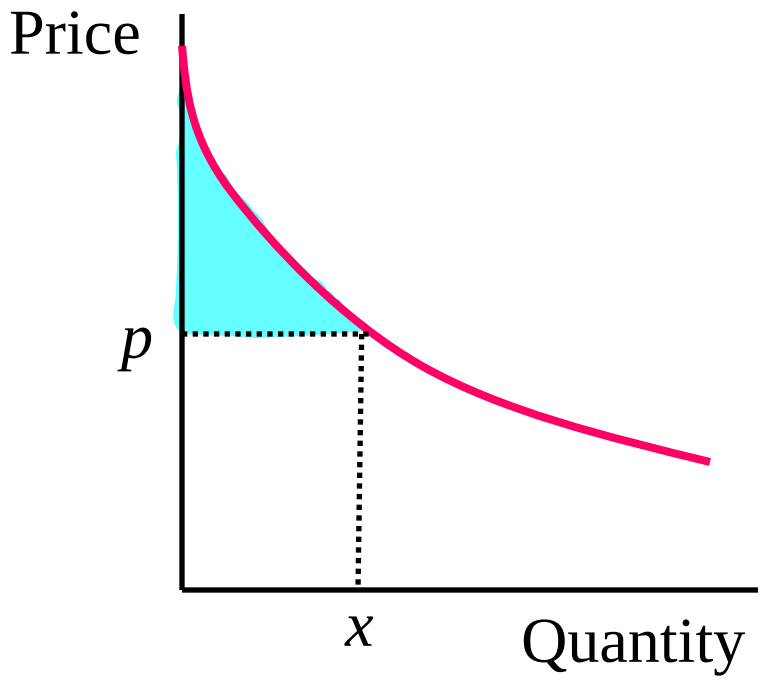


Note: All the price of other goods and incomes are fixed

6. CONSUMER'S SURPLUS



Gross Surplus



Net Surplus

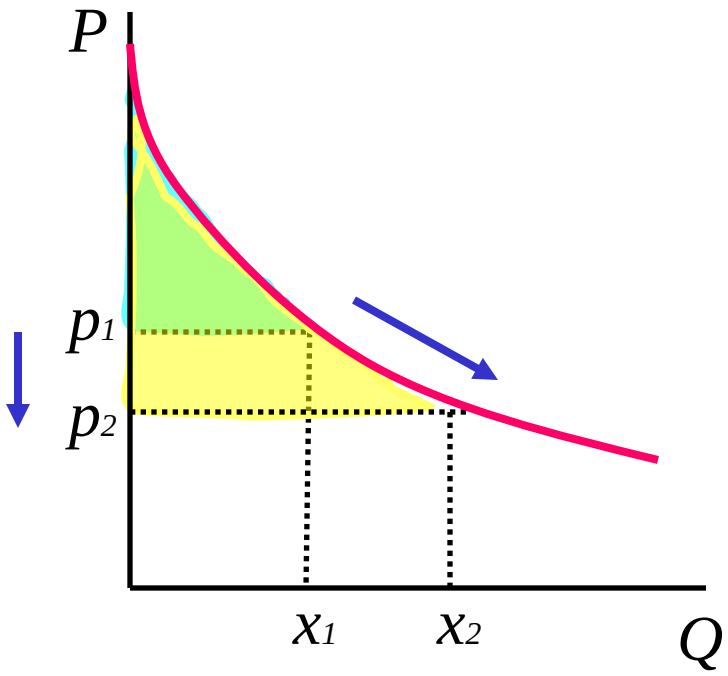
→ **Consumer's surplus**

From single consumer's surplus to all the consumer's surplus

aggregate measure

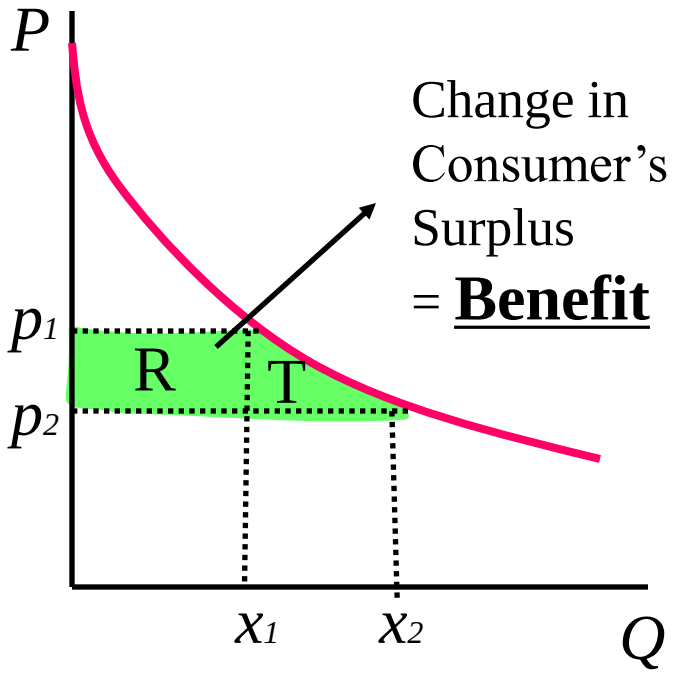
Interpreting the Change in Consumer's Surplus

Impacts on the results from some policy change



Price change

e.g. fare of public transport



R: Benefit to pay less

T: Benefit to increase consumption