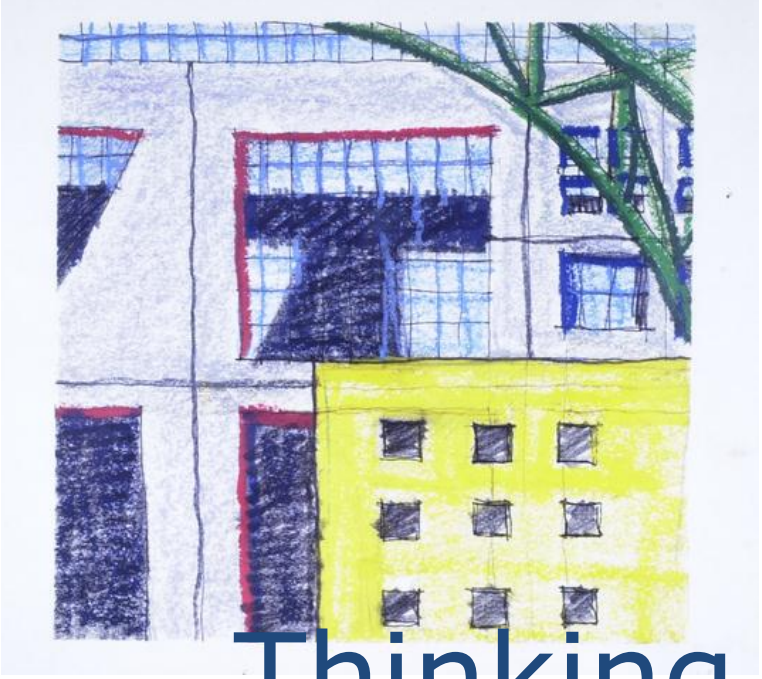


Thinking like Economists

Fei DING
HKUST ECON

Announcements

- Assigned Reading:
  - Textbook, Chapter 1, 2
- Please get ready to use PRS in class.
- **NO** tutorial Sep. 2-8
- Problem Set 1
  - Ch1: 5
  - Ch2: 8-9, 11-17, 20-21
  - Due date will be announced on CANVAS.

Are you an Economist?

- My friend is a biochemist. I always ask her stuffs: Mutation of virus (bird flu), how to lose weight faster and easier, healthy diets, etc.
  - Only specialists / professionals can comment on the above questions.
- BUT, you can hear from almost everyone talking and discussing economics! ☺
  - What does that mean?

Thinking like an economist

- Accountants, lawyers, doctors have their own ways of thinking about the world.
- **So do economists!**
- Economics is an "unique" way to analyze and understand people's choice under constraint.
  - Assumptions: maximization; choices and constraints
- The following are some basic "**principles**" of the **Economic Way of Thinking**.

tradeoff: give up sth for another thing

1. Choice is a tradeoff

- Resources are insufficient to satisfy ALL wants of a person or wants of ALL people in the society (scarcity).
- "**Scarcity**" is about "availability" and "want" **TOGETHER**. it's about both supply and demand!!!!
  - Not ONLY related to the quantity available → An item could be very limited in availability. But if no one wants it (or wants are less than availability), there is no scarcity.

1. Choice is a tradeoff

- IMPLICATION: When there is scarcity in society, which means NOT ALL people's wants can be satisfied,
  - Someone's gain means someone's loss at the same time.
  - Any government policies that "help" some to gain may "hurt" someone else.
- Who should get the scarce resources?
- How to decide "who gets what"?

2. Choices and Opportunity Cost

- Given scarcity, you have to choose among alternatives, if alternatives are available.
- With your time, you can do: (A) Study, (B) Games, (C) Dating.
- The cost of choosing (A) is the "choice" you must give up.
  - Choosing (A), you will give up EITHER (B) OR (C), BUT NOT (B) AND (C).
- Opportunity Cost is the best/highest valued alternative forgone.

Opportunity Cost: *Road Not Taken*

TWO roads diverged in a yellow wood,
And sorry I could not travel both
And be one traveler, long I stood
And looked down one as far as I could
To where it bent in the undergrowth;

Then took the other, as just as fair,
And having perhaps the better claim,
Because it was grassy and wanted wear;
Though as for that the passing there
Had worn them really about the same,

And both that morning equally lay
In leaves no step had trodden black.
Oh, I kept the first for another day!
Yet knowing how way leads on to way,
I doubted if I should ever come back.

I shall be telling this with a sigh
Somewhere ages and ages hence:
Two roads diverged in a wood, and I -
I took the one less traveled by,
And that has made all the difference.

Robert Frost (1874–1963).
Mountain Interval. 1. *The Road Not Taken*

2. Choices and Opportunity Cost

Please NOTE:

- When there is no alternative, it is not part of the cost.
- Cost is a forward-looking concept: When there is a change in the choices available, the cost of the same choice can change.
  - Things that already happened and cannot be reversed (sunk cost) should NOT be part of the opportunity cost. if something is reversible it is not a sunk cost

Example: Cost

- Are all operations of Bank of China in the BOC Tower?

Example: Cost

- Building cost? **No!**
  - irreversible
  - These costs (construction, land costs, etc.) are "Sunk Costs", not relevant to the choice.
- If BOC does not use the office space itself, any alternative uses for the space? **Yes!**
  - Alternative: Lease to others for rental income. For example: HK$50 per square feet.
  - "Rental income" is the cost for using the office space of BOC Tower.

Example: Cost – Change in Alternatives

- Suddenly, the market for office space in Central is heating up, rental rises to HK$80.

  cost of BOC using the office space increases

- Suddenly, HK gov't passed a law to prohibit the leasing of office space by owners.

no alternatives

cost of using the floor space is zero

Question (1)

You are earning $30,000 per year. Now, you have an opportunity to enroll in a one-year Master program that requires you to quit your job. Which of the following should NOT be included in the opportunity cost of study?

there's an opportunity cost to the money price of the textbook

1) the cost of tuition and books for study

2) the $30,000 salary that you could have earned if you retained your job

3) the $45,000 salary that you will be able to earn after having completed your graduate program

it's an opportunity not a cost

4) the value of insurance coverage and other employee benefits you would have received if you retained your job

Question (1)

Question (2)

When computing the opportunity cost of attending a concert, you should include

1) the price you pay for the ticket and the value of your time
2) the price you pay for the ticket, but not the value of your time
3) the value of your time, but not the price you pay for the ticket
4) neither the price of the ticket nor the value of your time

the cost of the ticket has already been incurred vs ticket has not been bought hence there's an alternative use to the money price of the tickets (answer depends on the timeline of the question)

TIME IS ALWAYS A COST!!

Question (2)

answer 1's decision is whether to attend the concert or not (oc includes time cost and money cost)

Question (3)

- You are selling your 1996 Toyota. You have already spent $10,000 on repairs.

$10000 is a sunk cost

- At the last minute, the transmission dies. You can pay $6,000 to have it repaired, or sell the car "as is."

1) Selling price is $65,000 if transmission works, $57,000 if it doesn't

should fix because you gain $8000 more which is higher than $6000

2) Selling price is $60,000 if transmission works, $55,000 if it doesn't

shouldn't fix bc only gain $5000 which is lower than $6000

Question (3)

3. Making a rational choice

- Decision making: Choosing the best alternative.
- In Economics, we assume individuals are **Rational.**
- My (not very formal) definition of rationality: Able to (1) rank choices under all situations, and (2) pick the best one.
- Too demanding on human beings?
  - You heard many times: Human being is not rational !!!

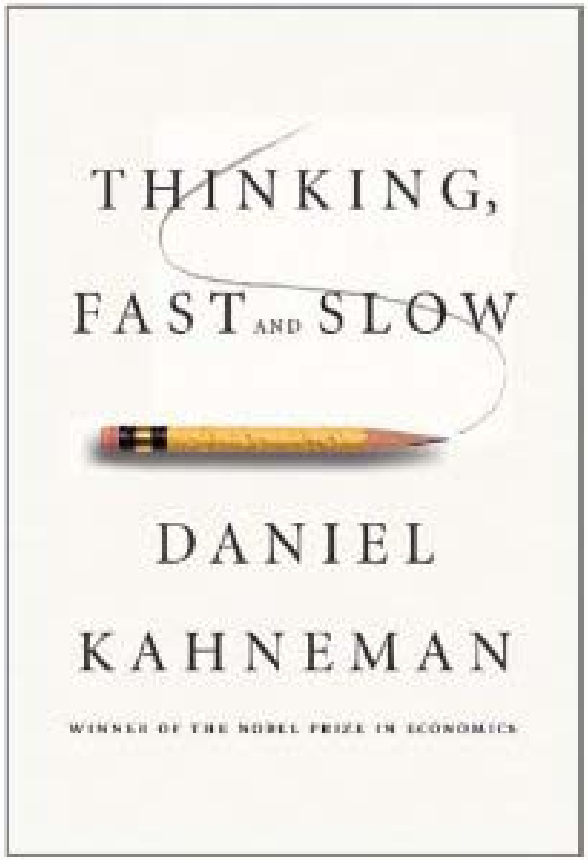
rationality is comparing costs and benefits and achieves the greatest benefit over the cost for the person making the choice

3. Making a rational choice

- Economists are proud of their **consistent** analysis framework.
- EXAMPLE: Is herding behavior in investment irrational?
  - Economists try to explain this behavior by regarding investors as rational but with incomplete information. not enough info hence they follow other people
- Can we explain some behaviors assuming people are rational, but then explain some others by saying people are irrational?
  - We can explain NOTHING!

Oops~~~

- Sometimes, human beings appear not quit “rational” as assumed by economic models.
  - We have apple and cherry pie: you choose apple.
  - Now, add peach pie: What will be your choice?
  - Will you choose cherry?
- Psychology meets Economics!
- Behavioral approach: Relaxation of rationality assumption.



Example

- Proposal of banning big soda cups in New York City
- **New York OKs nation's first ban on super-sized sugary drinks**
- Different ways of looking into human behavior

4. How many? Think at “margin”

- You want some chicken wings.
- Each costs HK$ 6.
- How many you want?

- Thinking

  - 5 wings costs me HK$ 30
  - Pleasure from 5 wing is worth HK$ 35

⇨ I eat 5 wings

Choosing at "margin"

one by one

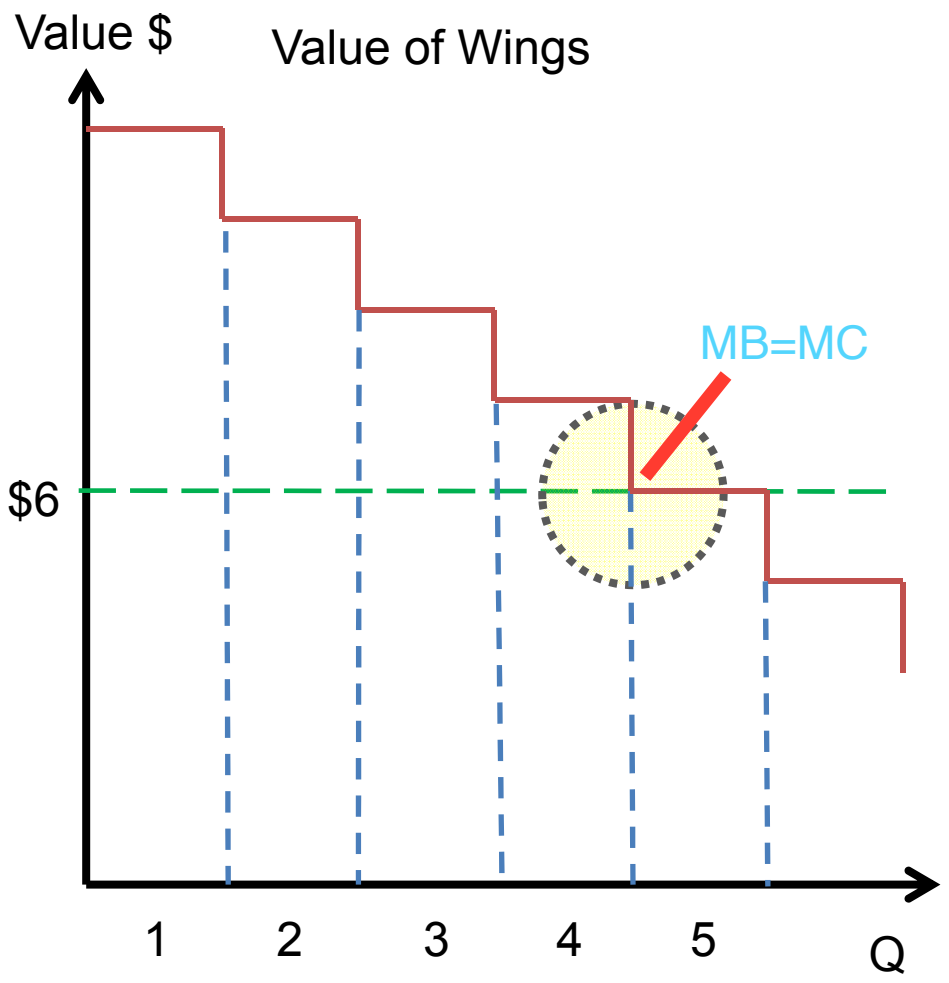
- The "**marginal unit**" is the "**additional**" unit.
  - "Marginal benefit/cost" is the benefit/cost of an additional unit.
- When considering how many units to buy or sell, we think at the "margin".

EXAMPLE: The 5th chicken wing?

- Let's say, after eating 4 wings, the pleasure (or benefit) from the 5th wing drops to HK$6.
- With HK$6 cost, the 5th wing is the indifferent point.

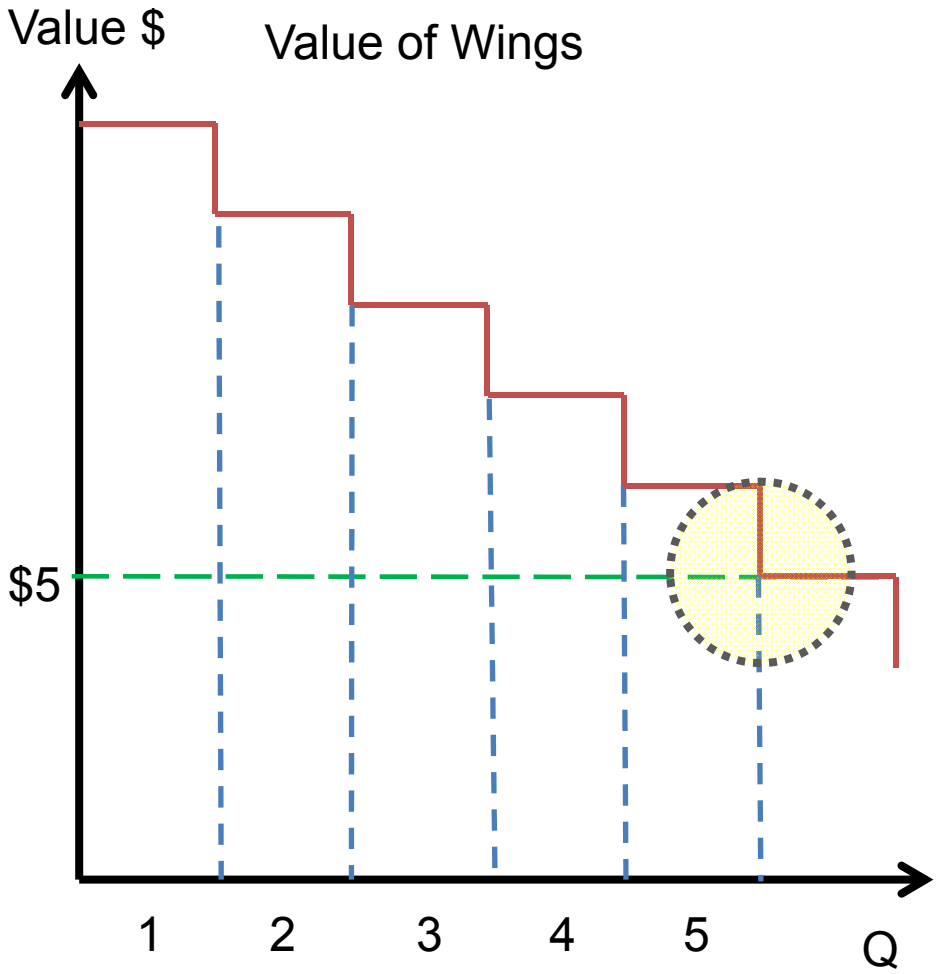
can decide to get one more or not

- We think at margin!
- **Maximize the gain from consumption!!!**



EXAMPLE: The 5th chicken wing?

- When the price changes slightly, say from $6 to $5, what will happen?
- You will consume 1 more wing!
- **Your decision is to be evaluated at the marginal unit!**



ANOTHER EXAMPLE: Buffet dinner

- Buffet Dinner:
  - Pay a fixed price, eat as much as you want.
- How much will you eat?
- Will a price change from HK$500 to HK$600 affect how much you will eat?

sunk cost

the increase in price only affects whether you go to the restaurant or not

marginal cost an additional plate of food is ZERO

you can decide whether or not to go to the buffet but if you go, the difference in fixed price has no impact on how much you will eat

5. Choices respond to incentives

- "**Incentives**" affect human behavior significantly.
  - Benefit and cost / Carrot and stick
- Why incentives are important in analyzing human behavior?
  - Human is not a machine. You cannot just tell a person to do something.
  - Change behavior by education?

Very simple example:

- **Optional reading = no point = NO / LOW incentive → Will you do it?**

EXAMPLE:

- Government policy without incentives would be ineffective.
- HK Government is studying to impose trash disposal fees.
  - Objective: Reduce the amount of trash created.
  - Two schemes: (i) Fixed-charge; (ii) Quantity-based → Which one would be more effective?
  - What potential problems may happen when implementing scheme (ii)?

people may use illegal means to dispose their trash

UNINTENDED CONSEQUENCE

Choices respond to incentives

- People respond to incentives smartly **– Out of policy makers' expectation/calculation!**
- EXAMPLE: Help the low income groups – rental cap (ceiling), but can it actually help?
- Landlords respond to rental cap "smartly":
  - More difficult to rent an apartment – shortage.
  - "Side-payment" may be asked.
  - Poor maintenance of apartments, etc.
- More discussion later in Government Policy

Question (4)

- Will compulsory use of seat belt reduce the no. of causality (death) from auto accident?

1) Yes
2) No
3) Don't know
4) None of the above

Question (4)

- Will compulsory use of seat belt reduce the no. of causality (death) from auto accident?

1) Yes
2) No
3) Don’t know
4) None of the above

EXAMPLE: Seat belts

- To promote auto safety, seat belts are required as standard equipment and passengers are required to use them.
- **Positive aspects:** Wearing seat belts protects passengers, and increases the chance of surviving an accident. HOWEVER,
- It also **changes** the **incentive** for the driver!
- Using seat belts lowers the chance of serious injury, and in response: Drivers drive faster!

Question: Protecting chickens

- To protect chickens: Limiting the eating of chicken wings?
- What would happen to the no. of chickens?

1) There would probably be more chickens.
2) There would probably be fewer chickens.
3) We need more information to answer the question.
4) None of the above

Chicken lose value if demand decreases

farmers may lose their incentives to stay in the chicken business

many chicken may be destroyed

Question: Protecting chickens

What is Economics?

- My definition of Economics:

Economics is the **"scientific study"** of **"human behavior"** associated with the **"production** and **distribution"** of the **"necessities and conveniences of life".**

"Necessities and Conveniences of life"

- What is it?
  - "Goods" and "services" that we want. EXAMPLE: Foods, iPhone, iPad, Galaxy
- Contained in the first sentence of Adam Smith's 1776 book:

An Inquiry into the Nature and Causes of the Wealth of Nations

Production

- Production: Transformation of primary factors of production (inputs) into final goods and services (output)
- What are needed to produce an iPhone5?

Distribution

- Not the same meaning as in our daily usage
- In Economics, distribution refers to the "movement/flow" of economic resources among different "economic players".
  - Inputs: Distribute (sell) inputs to producers for production.
  - Outputs: Distribute (sell) outputs to consumers for consumption.

Human Behavior

how people make decisions

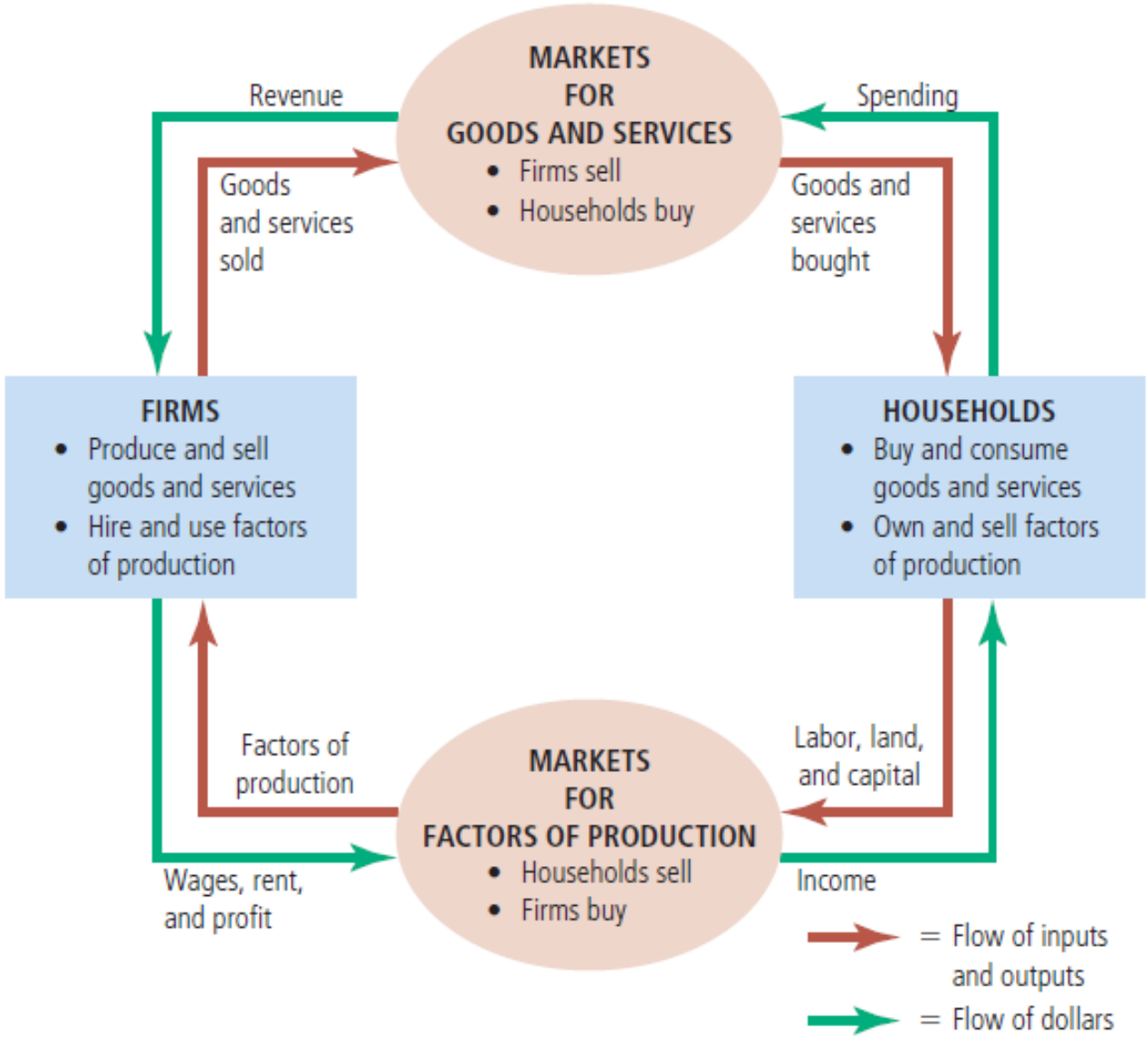
- Economics is **NOT** about production technology itself – that is engineering.
  - It is about how people organize themselves for the production and distribution of goods and services.
  - It is about what people do in order to create necessities and conveniences.
- Therefore, it is about an aspect of human behavior.

Economics: Scientific Study

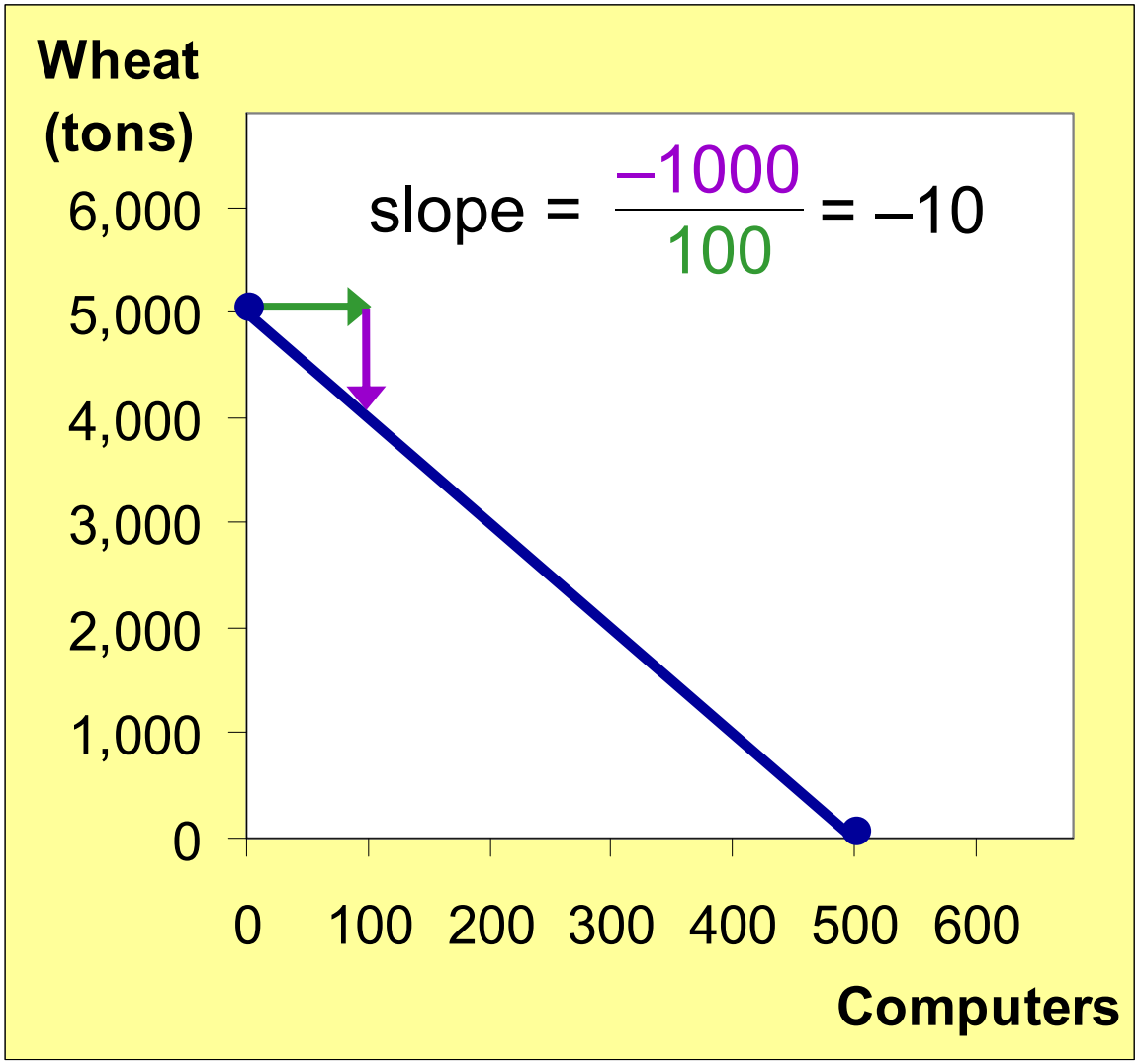
- Economists treats Econ as a natural science.
- **Explanation** is provided for **observable phenomena** that we are interested in.
- Usually, explanation is provided through an **intentionally** "simplified world".
  - Simplified world = economic model
  - Allow us to focus on the significant relevant factors and their interactions.
  - Demand & Supply is a "simplified world"!

EXAMPLE: Circular-Flow

- Textbook examples:
  - Circular-Flow model
  - Production Possibilities Frontier



EXAMPLE: Production Possibility Frointer



The slope of a line equals the "**rise** over the **run**," the amount the line rises when you move to the right by one unit.

Here, the opportunity cost of a computer is 10 tons of wheat.

Economics: Scientific Study

- Power of a theory or model is judged by its explanatory power. how well the model can predict what happen in the future
  - Predictions (under what conditions, what will happen: If A then B) by the theory are compared (tested) against real world observations.
  - Difficult part: Unlike natural science, "control experiments" are uncommon in economics.
  - "Conditions" (for example, under condition A) are impossible to be set exactly the same as those that appear in the model.

Economics: Scientific Study

- "Assumptions" are used by our theory or model to derive results. They are not necessarily "**real**".
  - Example: Rationality, PPF (two goods are produced in an economy) angle
- Economists believe "**unreal**" assumptions should not be an aspect to be attacked.
- Instead, we should admire the "creativity" behind the assumptions used for building a theory or model with good explanatory power.

there's an answer that everyone will agree
something that can be tested

Positive vs. Normative analysis

- Positive: What is; Normative: What should be
- Normative analysis involves value-judgment of individuals.
  - Subjective: Wealth distribution should be more equal; everyone should have an apartment, etc.
  - These are important questions, but not in the scope of positive analysis.
- Positive analysis is on "cause-consequence" or "correlation": e.g. More equal wealth distribution leads to higher economic growth.
  - Can be tested by evidence.

Economist as policy adviser

- Economics cannot help with the normative part—the goal.
- But for a given goal, economics provides a method of evaluating alternative solutions—comparing marginal benefits and marginal costs.

Question (5)

Statement: Building more gov't subsidized housing helps more HK people having their own housing, so it is appropriate for HK Gov't to do that.

positive statement

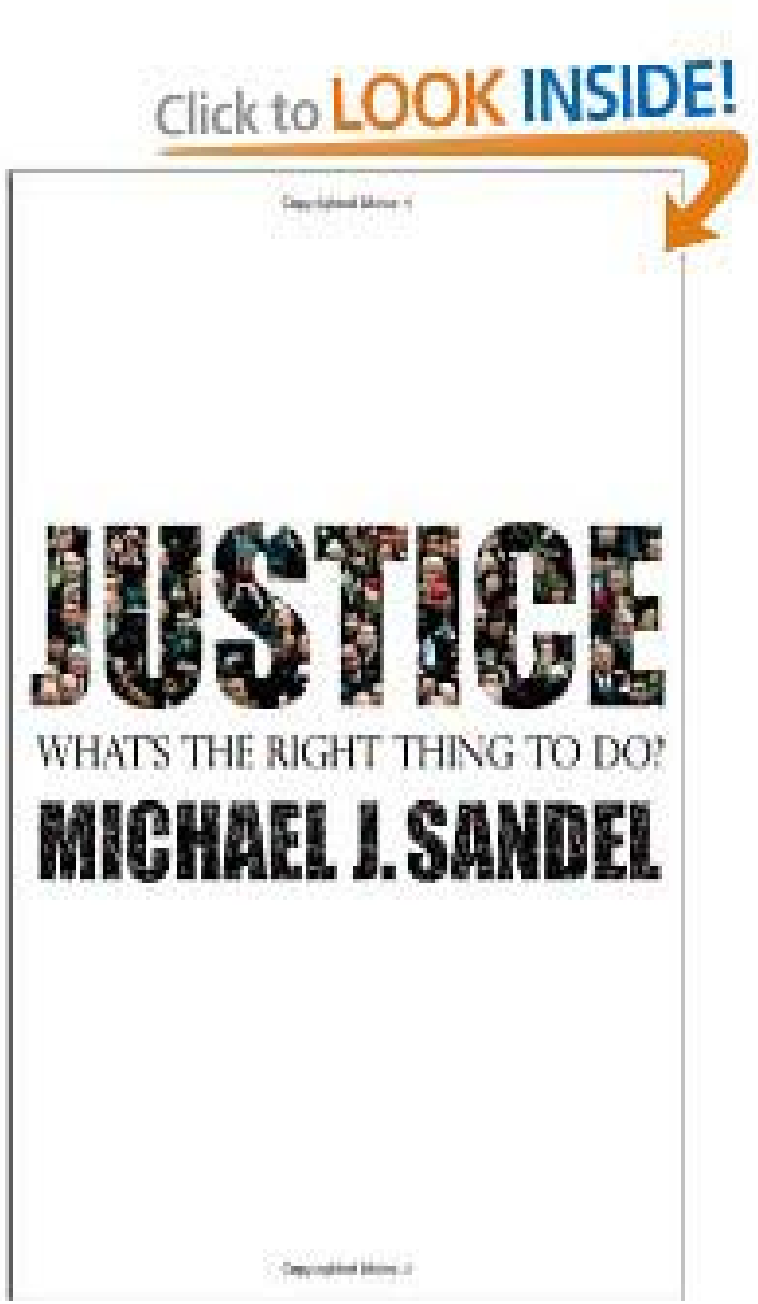
cannot be tested

- Which of the following is correct?

1) It is a normative statement.
2) It is a positive statement.
3) We need more information to decide.
4) None of the above

Question (5)

- Michael Sandel: Harvard professor
- Popular lectures/ books



Why Economists disagree

- Economists have different opinions!
  - Example: The analysis of causes and treatment of the 2008 financial crisis
- However, this can be due to disagreement on scientific judgment.
  - Economists disagree on how much government can help. Under some theories, gov't can have limited help or should do nothing.
- Problem: Natural experiment is impossible, so insufficient data to judge the explanatory power of different model/theory precisely.

Why Economists disagree

- It can also be due to disagreement on value judgment.
  - Patients should get the same quality of treatment, so gov't should spend more money on public hospital system.
  - High income group should help the low income group. Our taxation system should be more progressive.
- Values could be subjective (e.g. who is more beautiful or handsome), so some economists believe Economics should focus only on the "positive" area.

Thank you very much

End for today ☺

See you next time !