UNIVERSITY OF ALBERTA
EDMONTON·ALBERTA·CANADA

ECON 101 Introduction to Microeconomics

WEEK 2 (Fall 2023)

Mon, Sept 11

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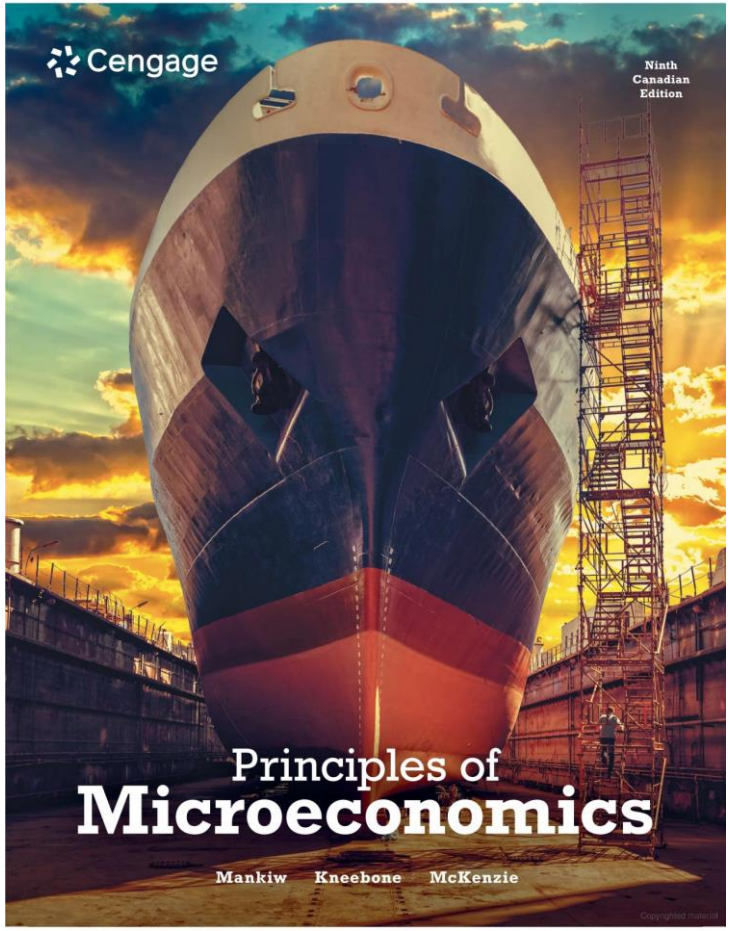
University of Alberta

Chapter 2: Thinking Like an Economist



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Learning Objectives

Chapter 2: Thinking Like an Economist

- To learn the economist's way of thinking
- To learn how economists apply the methods of science
- To examine the roles of assumptions and models
- To learn two simple models: the circular flow diagram and the production possibilities frontier
- To learn the difference between positive and normative statements
- To examine the role of economists in making policy
- To consider why economists sometimes disagree with one another

INTRODUCTION

Economists play two roles:

1. ECONOMIST AS SCIENTISTS

- Economists try to address economic issues with a scientist's objectivity.
- Often economists are asked to explain the causes of economic events.
- For example: In biology, genetic changes lead to (cause) variations in an organism's physical characteristics (eye color or height).
- For examples: In economics, employment leads to (cause) economic development.

  Minimum-wage laws lead to (cause) unemployment.

2. ECONOMIST AS POLICY ADVISORS

- Sometimes economists are asked to recommend policies to improve economic outcomes.
- For example: what should the government do to increase the employment rate?

1. THE ECONOMIST AS SCIENTIST, Part 1

Economists try to address economic issues with a scientist's objectivity.

(1) Scientific Method

(2) The Role of Assumptions

(3) Economic Models

1. First Model: The Circular-Flow Diagram
2. Second Model: The Production Possibilities Frontier

1. THE ECONOMIST AS SCIENTIST, Part 2

(1) Scientific Method

- The scientific method involves observation, theory, and more observation.
- Economists use theory and observation like other scientists, but they do face an obstacle that makes their task especially challenging:
  - Experiments are often difficult in economics.

1. THE ECONOMIST AS SCIENTIST, Part 3

(2) The Role of Assumptions

Assumptions are employed to make the complex world easier to understand (e.g., two countries or two goods rather than many)

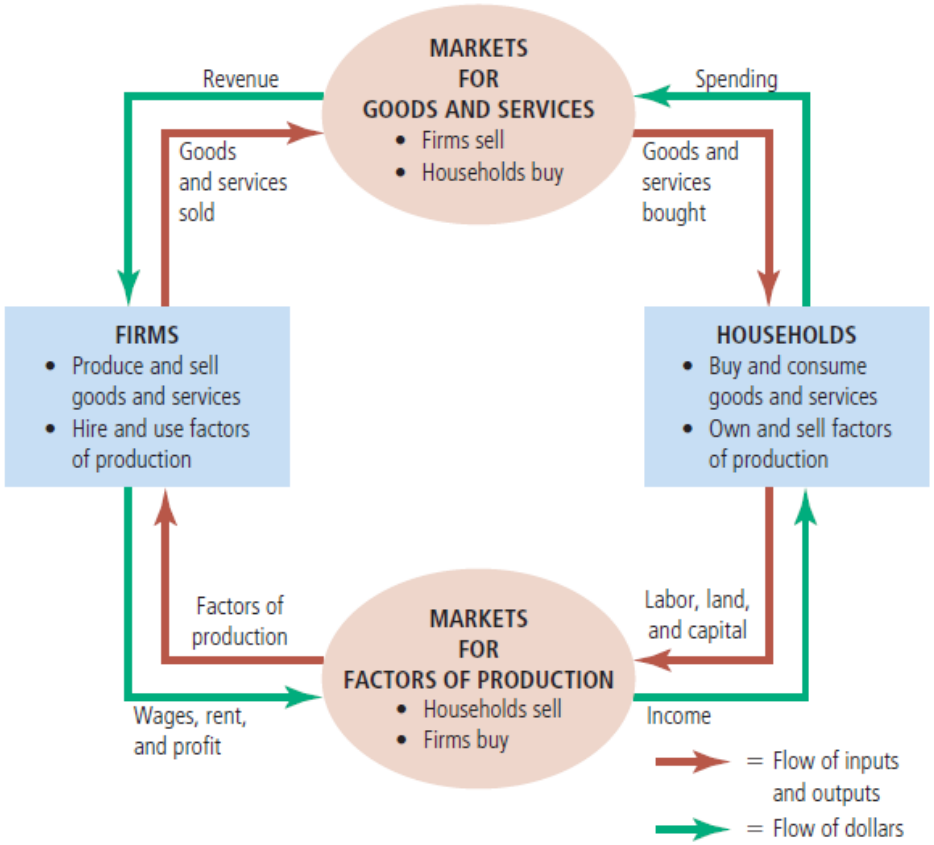
The art in scientific thinking is deciding which assumptions to make.

Economists use different assumptions to answer different questions

1. THE ECONOMIST AS SCIENTIST, Part 4

(3) Economic Models (2)

First Model: The Circular-Flow Diagram



- There are two types of decision makers in the economy: households and firms. (simplified)
- The *circular-flow diagram* shows how inputs, outputs and dollars flow through markets among households and firms in an economy

1. THE ECONOMIST AS SCIENTIST, Part 5

(3) Economic Models (2)

Second Model: The Production Possibilities Frontier (PPF)

A graph that shows various combinations of outputs that the economy can possibly produce, given

- the available factors of production and
- the available production technology.

In other words, given the level of inputs, the *production possibilities frontier* shows the level of *potential* outputs for a person/ group/ country.

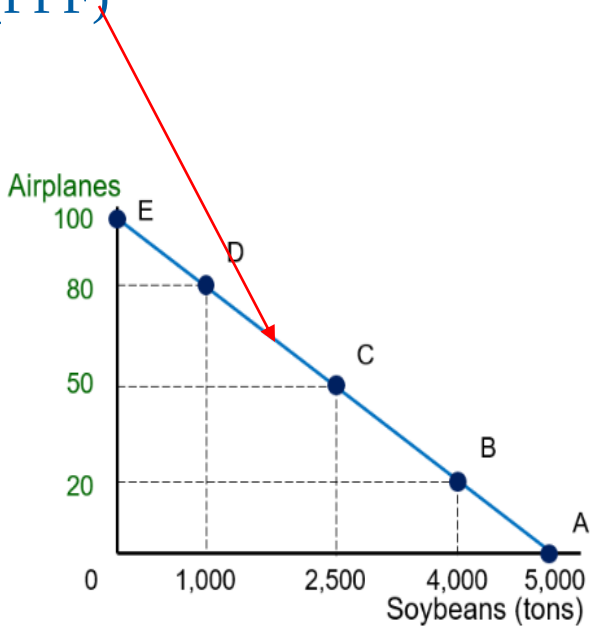
1. THE ECONOMIST AS SCIENTIST, Part 6

(3) Economic Models (2)

Second Model: The Production Possibilities Frontier (PPF)

EXAMPLE 1: The PPF

- Assume the following:
  - A country produces only two goods: airplanes and soybeans.
  - It has a fixed amount of resources (labor).
  - And it has a fixed amount and quality of technology.
  - The available resources and technology can be used to produce:
    - Only soybeans (5,000 tons)
    - Only airplanes (100 airplanes)
    - Or a combination of soybeans and airplanes



1. THE ECONOMIST AS SCIENTIST, Part 7

(3) Economic Models (2)

Second Model: The Production Possibilities Frontier (PPF)

EXAMPLE 1: The PPF and output combinations

	Airplanes	Tons of Soybeans
A	0	5,000
B	20	4,000
C	50	2,500
D	80	1,000
E	100	0

- These are just a few of the possible production combinations.
- To increase the production of airplanes from 0 to 20, how many tons of soybeans do we have to give up?

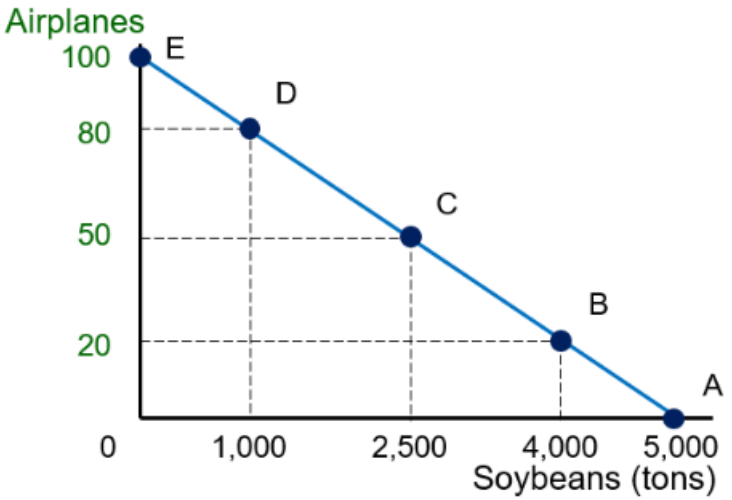
1. THE ECONOMIST AS SCIENTIST, Part 8

(3) Economic Models (2)

Second Model: The Production Possibilities Frontier (PPF)

EXAMPLE 1: Drawing the PPF

	Airplanes	Tons of Soybeans
A	0	5,000
B	20	4,000
C	50	2,500
D	80	1,000
E	100	0



- Efficient: the economy is getting all it can from the scarce resources available – points on the PPF (A, B, C, D, E)
- Inefficient levels of production: points inside the PPF
- Not feasible: points outside the PPF

1. THE ECONOMIST AS SCIENTIST, Part 9

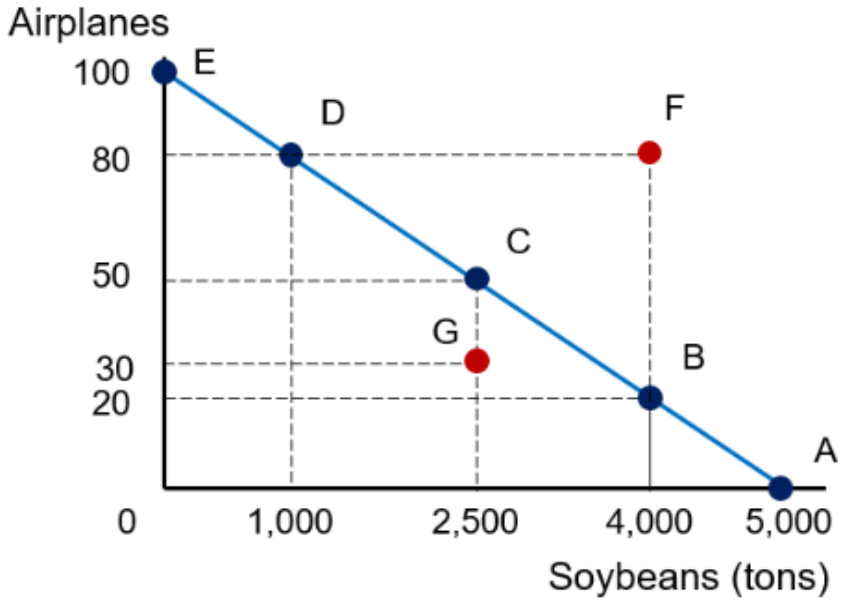
(3) Economic Models (2)

Second Model: The Production Possibilities Frontier (PPF)

Active Learning 1: Points off the PPF

Use the graph from the previous example.

- Would it be possible for the economy to produce the following combinations of the two goods?
  - Point F: 80 airplanes and 4,000 tons of soybeans
  - Point G: 30 airplanes and 2,500 tons of soybeans



1. THE ECONOMIST AS SCIENTIST, Part 10

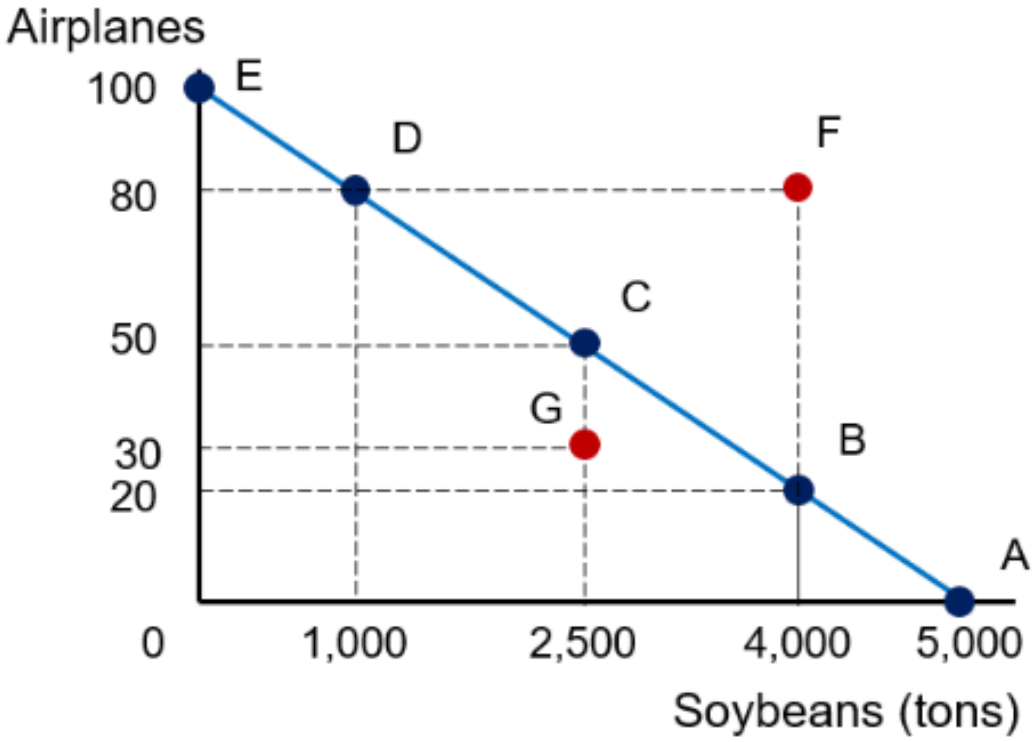
(3) Economic Models (2)

Second Model: The Production Possibilities Frontier (PPF)

Active Learning 1: Answers

Point F (80 airplanes, 4,000 tons of soybeans): Not possible

Point G (30 airplanes, 2,500 tons of soybeans): Possible but not efficient (can produce more)



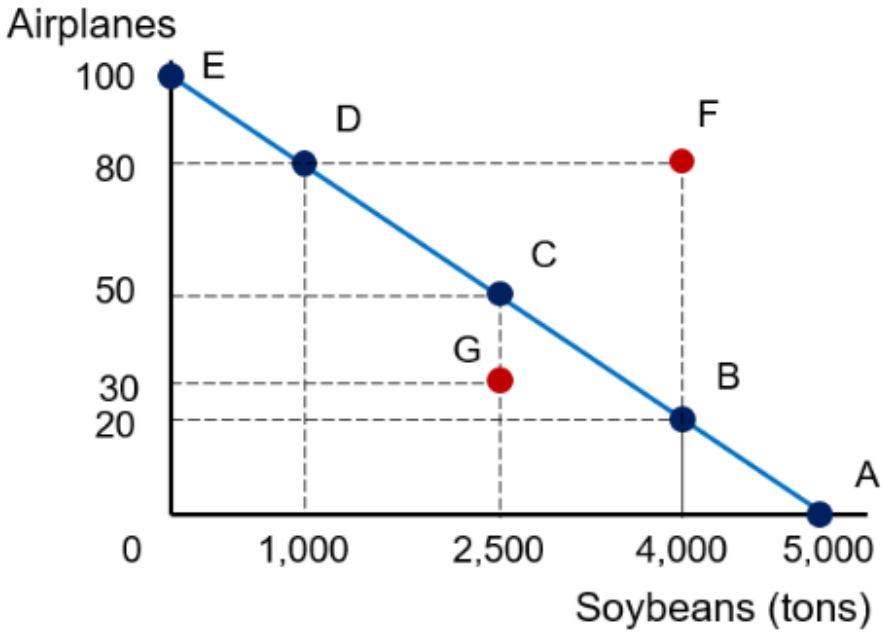
1. THE ECONOMIST AS SCIENTIST, Part 11

(3) Economic Models (2)

Second Model: The Production Possibilities Frontier (PPF)

The PPF: What We Know So Far

- Points on the PPF (like A – E): efficient
  - Efficient: all resources are fully utilized
- Points under the PPF (like G): possible
  - Not efficient: some resources ar underutilized (e.g., workers unemployed, factories idle)
- Points above the PPF (like F)
  - Not possible



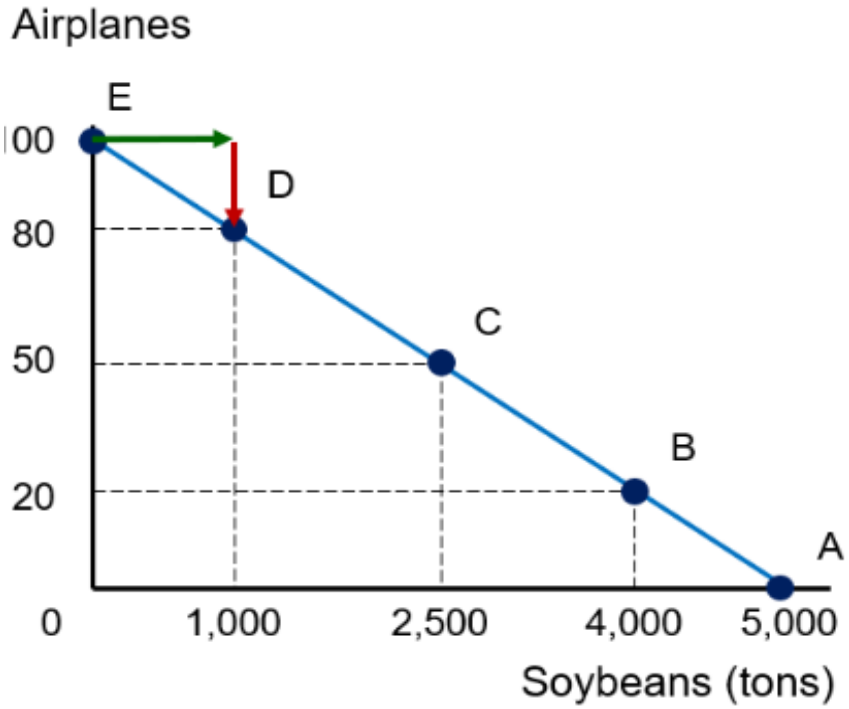
1. THE ECONOMIST AS SCIENTIST, Part 12

(3) Economic Models (2)

Second Model: The Production Possibilities Frontier (PPF)

Moving Along the PPF

- Moving along a PPF
  - Involves shifting resources from the production of one good to the other
- Society faces a tradeoff.
  - Getting more of one good requires sacrificing some of the other.
- The slope of the PPF
  - The opportunity cost of one good in terms of the other

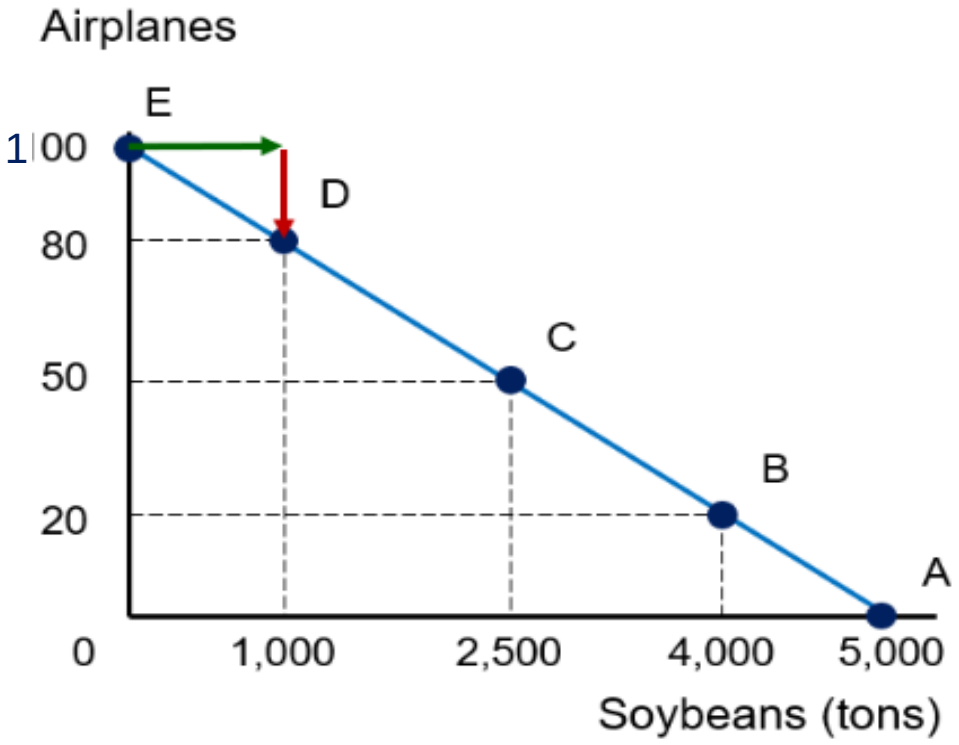


1. THE ECONOMIST AS SCIENTIST, Part 13

(3) Economic Models (2)

Second Model: The Production Possibilities Frontier (PPF)

EXAMPLE 2: The PPF and opportunity cost



To produce the first 1,000 tons of soybeans: give up 20 airplanes

- Opportunity cost of 1 ton of soybeans = _____
- Opportunity cost of 1 airplane = _____

1. THE ECONOMIST AS SCIENTIST, Part 14

(3) Economic Models (2)

Second Model: The Production Possibilities Frontier (PPF)

- Shape of the PPF
  - Straight line: constant opportunity cost
    - Previous example: the opportunity cost of 1 airplane is 50 tons of soybeans
  - Bowed outward: increasing opportunity cost
    - As more units of a good are produced, we need to give up increasing amounts of the other good produced.

Exam Note: Midterm-I, Midterm-II, and Final

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Midterm-I test (W6: Oct 10 to Oct 13) [MCQs], Midterm-II test (W10: Nov 06 to Nov 10) [MCQs], and Final exam (Dec 13 to Dec 19) [MCQs] will take place in person at the Learning Assessment Centre (LAC) (located in the Faculty of Education) and the Academic Success Centre (for those with accommodations/special needs).

LAC and the Academic Success Centre will provide you with computers to participate in MCQs. You will NOT bring your own computers.

Your should be able to register for the midterms and final via "**Book your exam**" (see below). With any questions you may have regarding bookings, please contact edlac@ualberta.ca .

This is an in-person course. It does NOT administer remote online test/exam. Please do NOT request that we conduct the test/exam remotely.

Book the time slots as soon as possible to choose the one that suits you best. A last-minute booking may not get you the best time slots.

Practice questions (MCQs) for Midterm-I will be available from eClass shortly.

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Thank you

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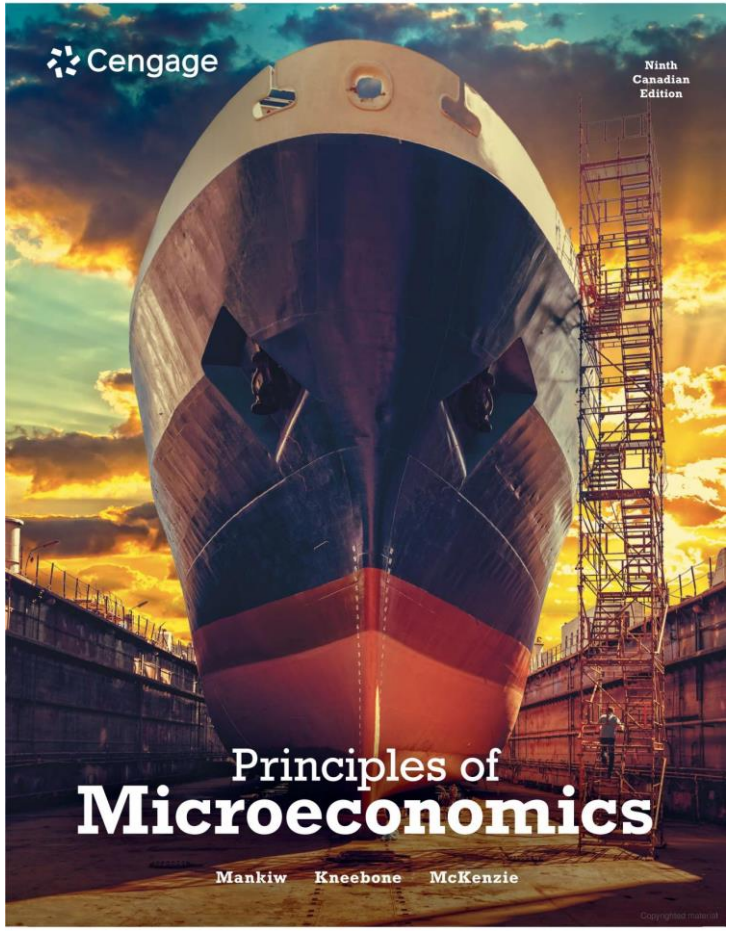

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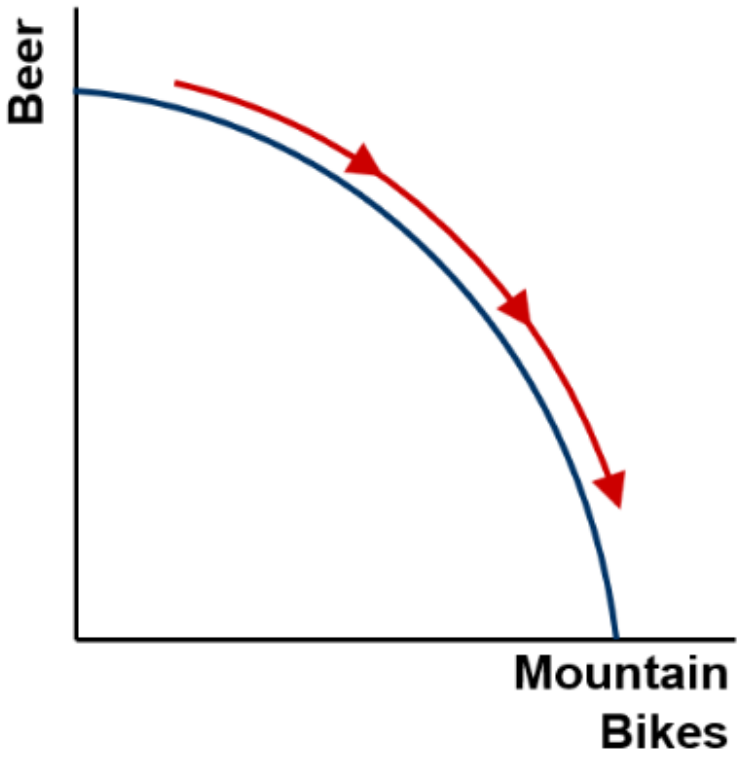
(3) Economic Models (2)

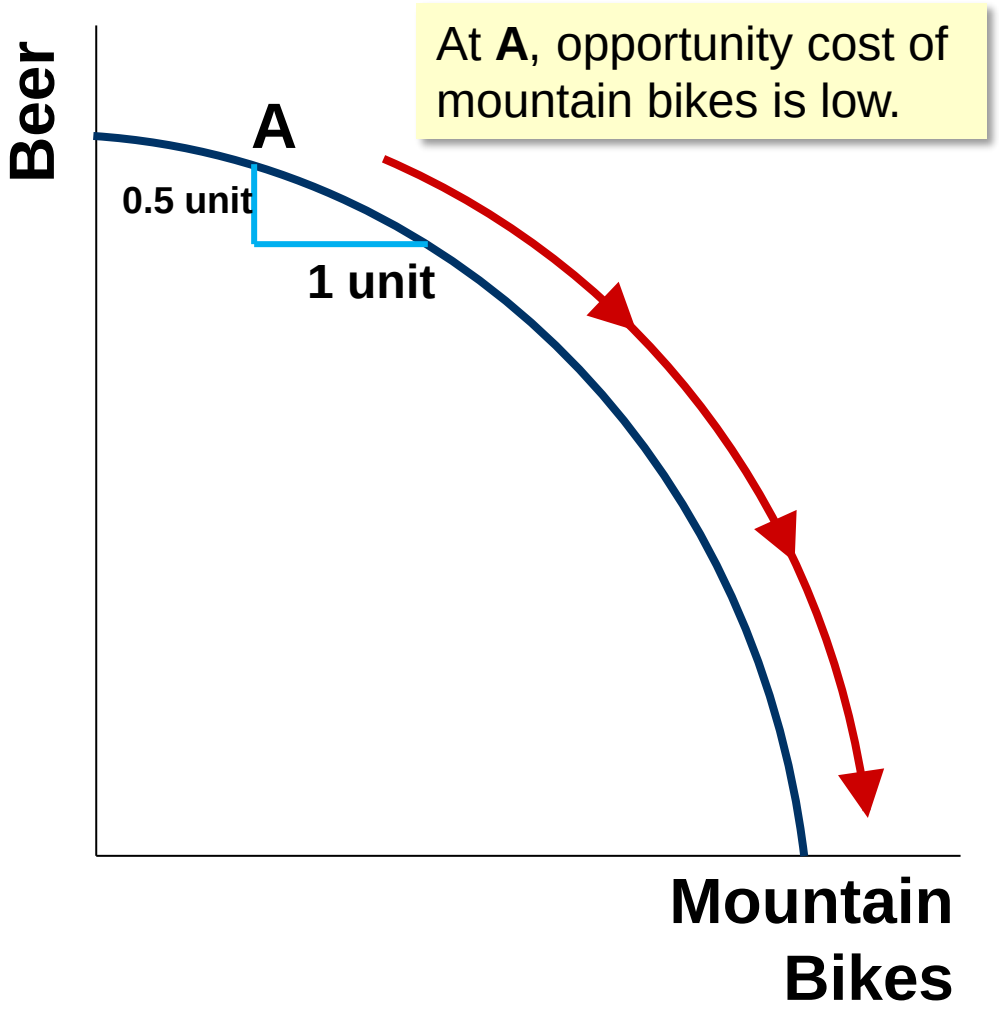
Second Model: The Production Possibilities Frontier (PPF)



- As the economy shifts resources from beer to mountain bikes:
  - PPF becomes steeper
  - and the opportunity cost of mountain bikes increases.

Why the PPF Might Be Bowed Outward?

1. THE ECONOMIST AS SCIENTIST, Part 16

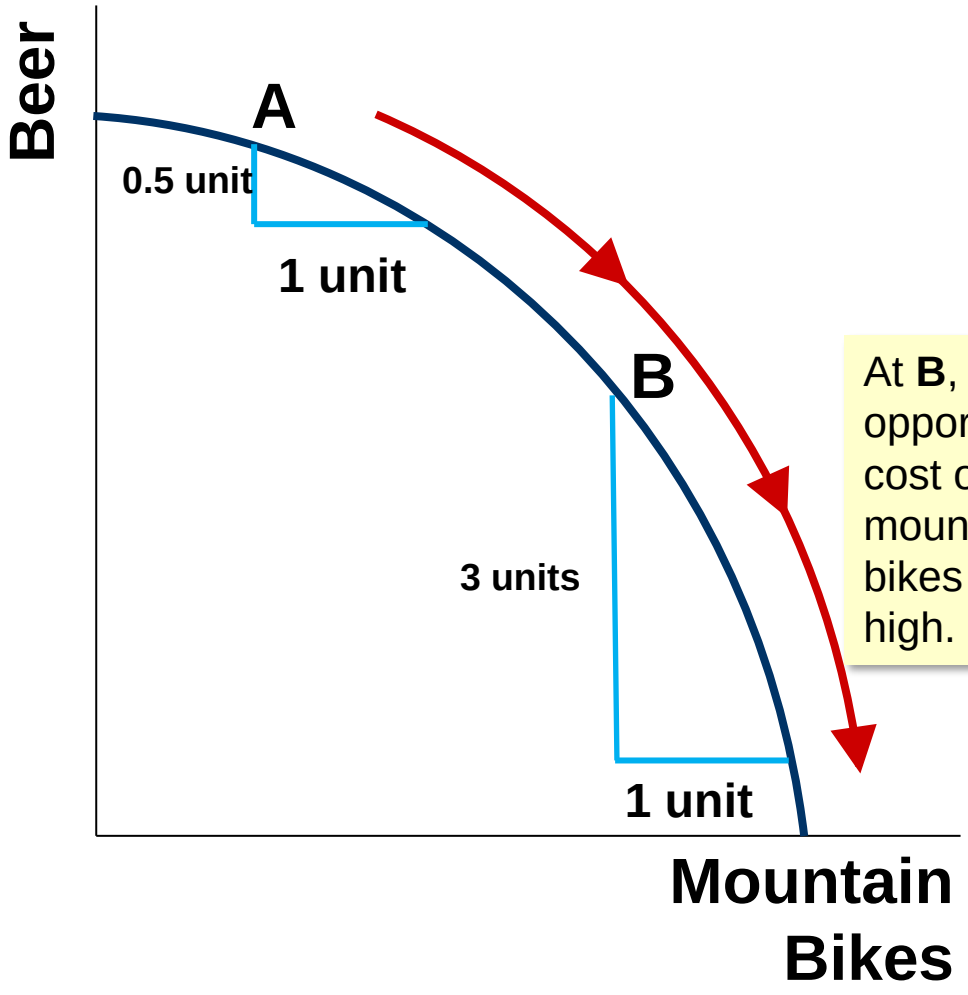


At point A, most workers are producing beer, even those who are better suited to building bikes.

So, do not have to give up much beer to get more bikes.

Why the PPF Might Be Bowed Outward?

1. THE ECONOMIST AS SCIENTIST, Part 17



At **B**, opportunity cost of mountain bikes is high.

At B, most workers are producing bikes.
The few left in beer production are the best brewers.

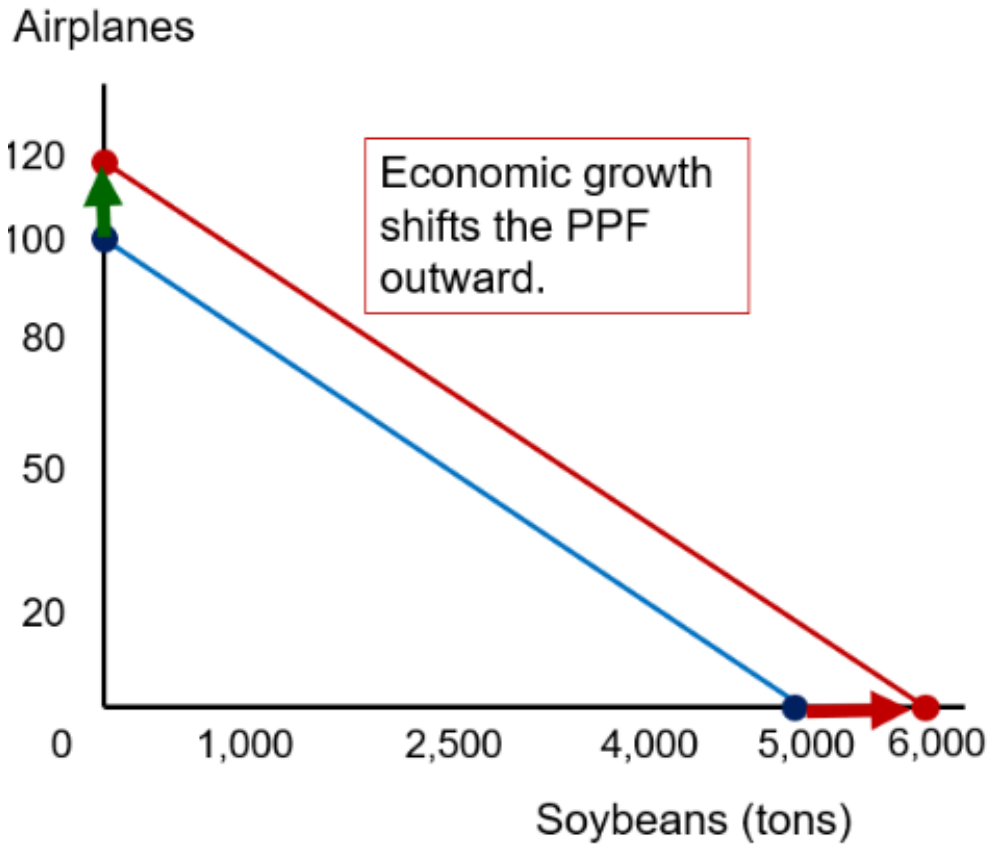
Producing more bikes would require shifting some of the best brewers away from beer production causing a big drop in beer output.

Why the PPF Might Be Bowed Outward?

(3) Economic Models (2)

Second Model: The Production Possibilities Frontier (PPF)

Economic growth and the PPF



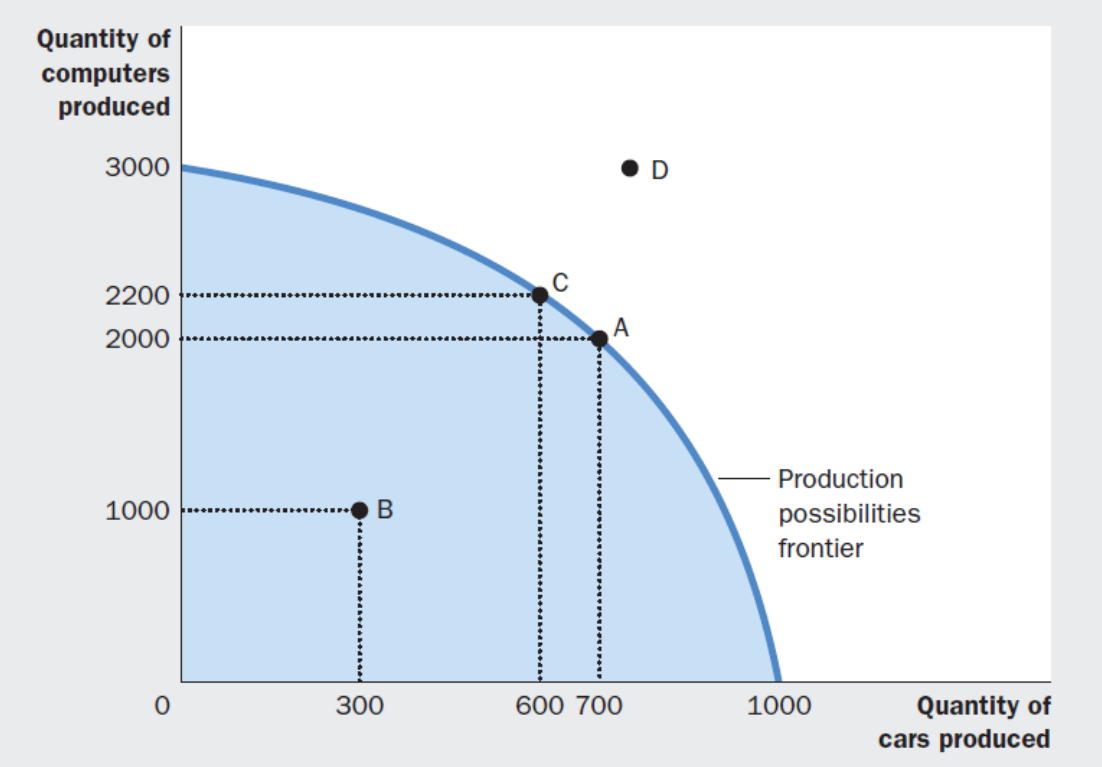
- With additional resources or an improvement in technology, the economy can produce:

- more soybeans,
- more airplanes,
- or any combination in between.

(3) Economic Models (2)

Second Model: The Production Possibilities Frontier (PPF)

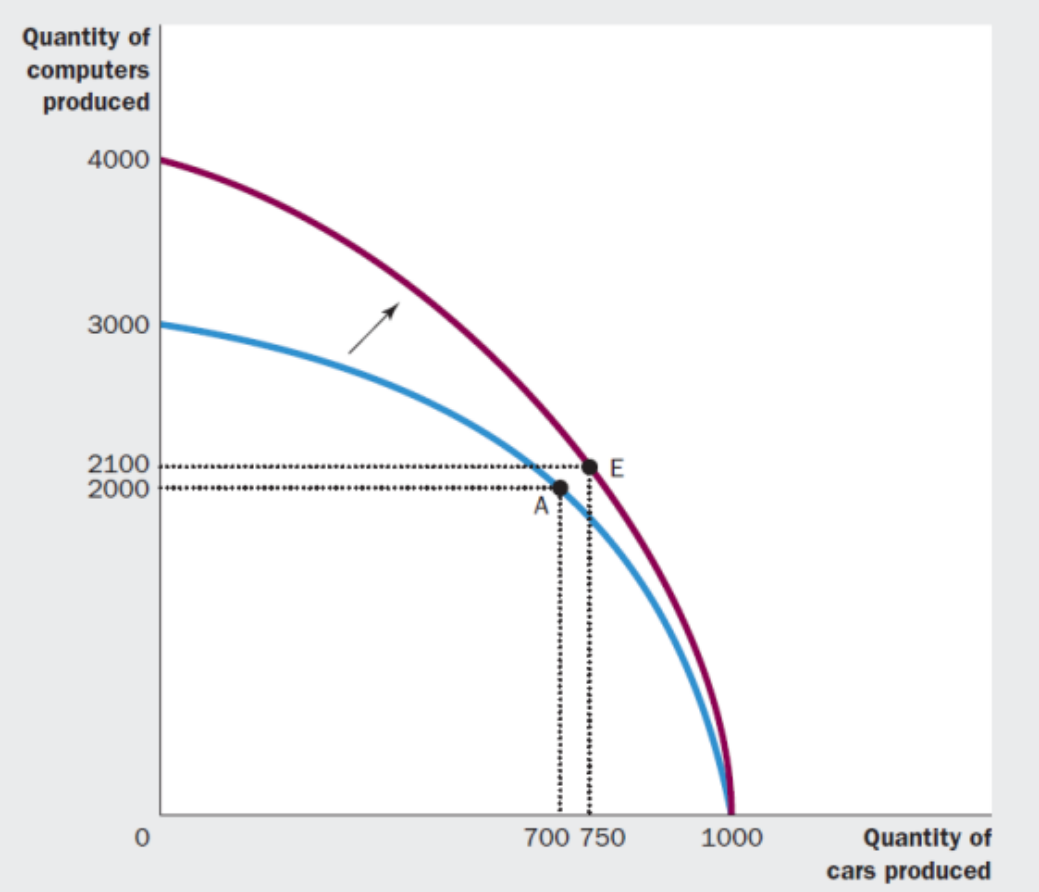
The PPF of an economy which produces only cars and computers (simplified assumption)



1. THE ECONOMIST AS SCIENTIST, Part 20

(3) Economic Models (2)

Second Model: The Production Possibilities Frontier (PPF)



Technological Change: A shift in the PPF

- A technological advance in the computer industry
  - Enables the economy to produce more computers for any given number of cars.
  - The production possibilities frontier shifts outward.
  - If the economy moves from point A to point E, then the production of both cars and computers increases.

2. THE ECONOMIST AS POLICY ADVISER, Part 1

- *When economists are trying to explain the world, they are scientists.*
- When economists are trying to help improve the world, they are policy advisers.
  - Economists recommend policies to improve economic outcomes
  - **Example**: What should the government do to improve the economic well-being of teenagers?

2. THE ECONOMIST AS POLICY ADVISER, Part 2

Positive Statements are **descriptive**. These statements

- Describe the world as it is.
- Describe the relationship and the relationship can be confirmable, falsifiable, or testable.
- Describe cause and effect relationship;
- Are value free.

Examples:

- Minimum-wage laws cause unemployment.
- An increase in unemployment rate leads to an increase in crime rate.

Normative Statements are **prescriptive**. These statements

- Prescribe how the world should be.
- Give an opinion about something that should or should not be done.
- Involve making value judgments.
- Not testifiable
- Not value free

Examples:

- Minimum-wage laws should cause unemployment.
- The government should raise the minimum wage.
- An increase in unemployment rate should be leading to an increase in crime rate.

Active Learning 2: Positive or normative?

Which of these statements are "positive" and which are "normative"? How can you tell the difference?

A. Prices rise when the government increases the quantity of money.

B. The government should print less money.

C. A tax cut is needed to stimulate the economy.

D. An increase in the price of burritos will cause an increase in consumer demand for movie streaming.

Active Learning 2: Answers

A. Prices rise when the government increases the quantity of money.

Positive: describes a relationship, could use data to confirm or refute.

B. The government should print less money.

Normative: this is a value judgment; cannot be confirmed or refuted.

Active Learning 2: Answers

C. A tax cut is needed to stimulate the economy.

Normative: another value judgment.

D. An increase in the price of burritos will cause an increase in consumer demand for movie streaming.

Positive: describes a relationship.

2. THE ECONOMIST AS POLICY ADVISER, Part 6

Which of the following statements suggest a positive statement and which a normative statement?

a) If the United States lifts the prohibition on imports of Cuban cigars, the price of cigars will fall.

b) A freeze in Florida will lead to an increase in the price of orange juice.

c) To provide revenues for public schools, taxes on alcohol, tobacco, and gambling casinos should be raised instead of increasing income taxes.

d) Telephone companies should be allowed to offer cable TV service as well as telephone service.

e) If telephone companies are allowed to offer cable TV service, the price of both types of service will fall.

f) Government subsidies to farmers are too high and should be phased out over the next decade.

g) If the tax on cigarettes is increased by 50 cents per pack, the equilibrium price of cigarettes will rise by 30 cents per pack.

ECONOMISTS IN OTTAWA (1)

- Economists at Finance Canada help design tax policy.
- Economists at the Competition Bureau help design and enforce Canada's competition laws.
- Economists at Global Affairs Canada help negotiate trade agreements with other countries.

2. THE ECONOMIST AS POLICY ADVISER, Part 7

ECONOMISTS IN OTTAWA (2)

- Economists at Employment and Social Development Canada analyze data on workers and on those looking for work to help formulate labor market policies.
- Economists at Environment and Climate Change Canada help design environmental regulations.
- Statistics Canada employs economists to collect the data analyzed by other economists and then give policy advice.
- Economists at the Bank of Canada analyze financial markets (e.g., stock market and bond markets) and macroeconomic developments.
- Economists at the C.D. Howe Institute, the Fraser Institute, the Institute for Research on Public Policy, and the Canadian Centre for Policy Alternatives publish reports on current issues such as poverty, unemployment, and the deficit.

2. THE ECONOMIST AS POLICY ADVISER, Part 8

WHY ECONOMISTS' ADVICE IS NOT ALWAYS FOLLOWED

- Government does not always follow what economists recommend.
- There are many factors that a government must take into account when making policy decisions, such as political considerations, public opinion, feasibility, and implementation of the policy.

WHY ECONOMISTS DISAGREE (1)

- There are two basic reasons:
  - They can disagree about the validity of alternative positive theories about how the world works.
  - They can have different values and, therefore, different normative views about what a policy should try to accomplish.

WHY ECONOMISTS DISAGREE (2)

DIFFERENCES IN SCIENTIFIC JUDGMENTS

- Economists often disagree about the direction in which truth lies.
- Some economists believe that more government involvement is necessary to ensure economic growth and stability, while others argue for a free-market approach which allows the market to dictate its own direction.
- Economists disagree about whether the government should levy taxes based on a household's income or its consumption.

WHY ECONOMISTS DISAGREE (3)

DIFFERENCES IN VALUES

- Suppose that Peter and Paula both take the same amount of water from the town well. To pay for maintaining the well, the town taxes its residents. Peter has income of $50,000 and is taxed $5,000. Paula has income of $10,000 and is taxed $2,000.
- Is this policy fair?
- If not, who pays too much and who pays too little?

WHY ECONOMISTS DISAGREE (4)

PERCEPTION VERSUS REALITY

- Because of differences in scientific judgments and differences in values, some disagreement among economists is inevitable.
- But they do often share a common view.

  Examples:
  - A ceiling on rents reduces the quantity and quality of housing available.
  - Tariffs and import quotas usually reduce general economic welfare.
  - The government should not restrict employers from outsourcing work to foreign countries.

Summary

- Economists are scientists.
  - Make appropriate assumptions and build simplified models
  - Use the circular-flow diagram and the production possibilities frontier
- A positive statement is an assertion about how the world is.
- A normative statement is an assertion about how the world ought to be.
- As policy advisers, economists make normative statements.
- Economists sometimes offer conflicting advice.
  - Differences in scientific judgments
  - Differences in values

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On Friday, we will discuss questions as posted on eClass. Please review the questions in advance so that you can better understand and participate in the discussion.

Next week, we will cover **Chapter 3** Interdependence and the Gains from Trade

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Thank you