ECO 181 Lecture 01 - (05/31/2023)

Yushang Wei

Department of Economics

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- What is economics?
  - An **economy** is a system for coordinating society's productive activities.
  - **Economics** is the social science that studies the production, distribution, and consumption of goods and services.
- What can you do with a degree in economics?
- Macroeconomics vs Microeconomics
  - **Microeconomics** is the branch of economics that studies how people make decisions and how these decisions interact.
  - **Macroeconomics** is the branch of economics that is concerned with overall ups and downs in the economy.

- **How individual behave?**
  1. Resources are scarce.
     - A **resource** is anything that can be used to produce something else.
     - Resources are **scarce**: not enough of the resources are available to satisfy all the various ways society wants to use them.
  2. Making decisions comes with a cost.
     - cost vs opportunity cost
     - The real cost of an item is its **opportunity cost**: what you must give up in order to get it.
  3. People respond to incentives.
     - An **incentive** is anything that offers rewards to people who change their behavior.
  4. People think at the margin.
     - Decisions about whether to do a bit more or a bit less of an activity are **marginal decisions**.
     - Decisions involve a **trade-off**: a comparison of costs and benefits.

Opportunity Cost

- **the opportunity cost** of choice is the value of the best alternative forgone where, given limited resources, a choice needs to be made between several mutually exclusive alternatives.

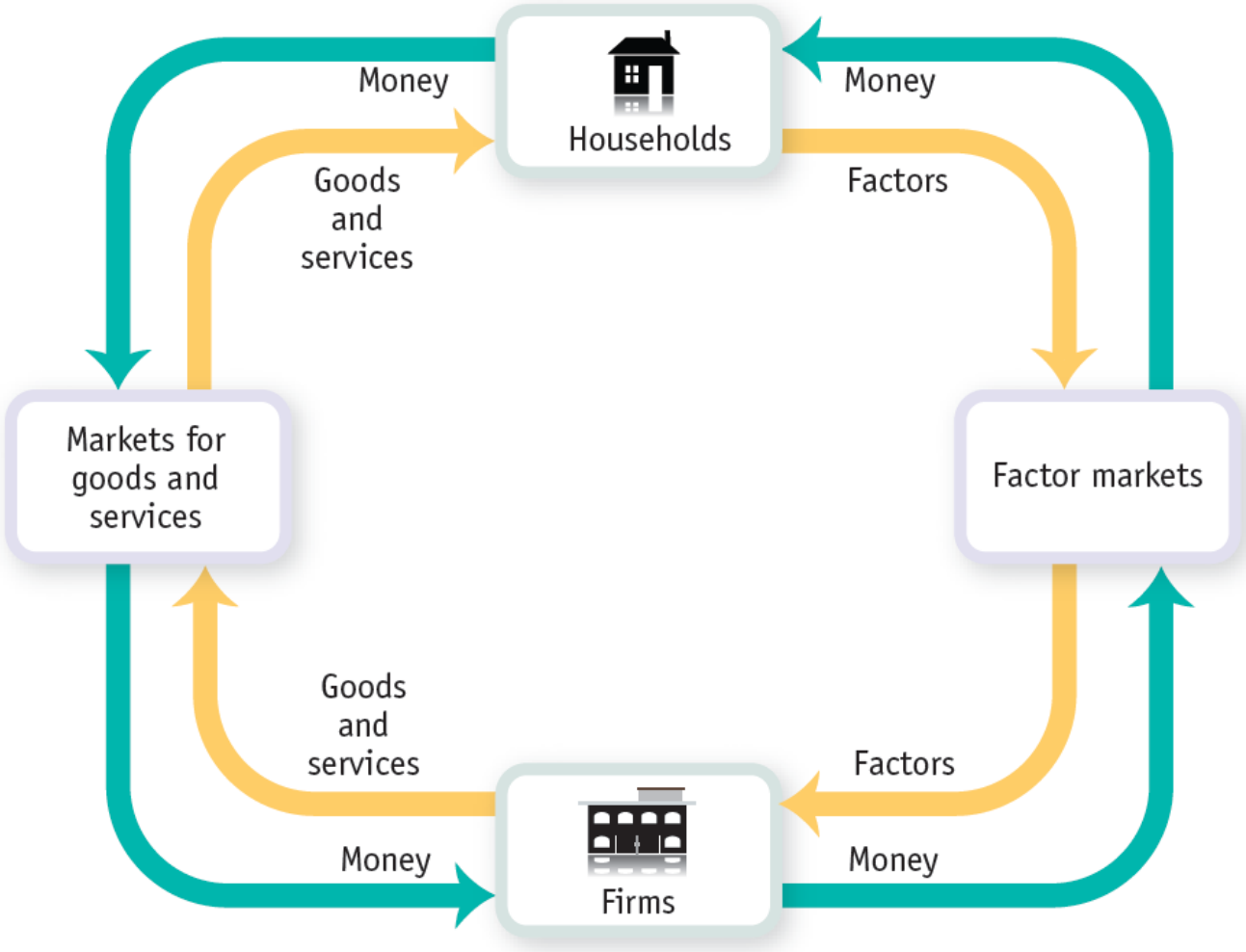
How Economies Work?

1. There are gains from trade.
   - **Trade**: individuals provide goods and services to others and receive goods and services in return.
2. Markets move toward equilibrium.
   - An economic situation is in **equilibrium** when no individual would be better off doing something different.
3. Markets lead to efficient outcomes.
   - An economy is **efficient** if it takes all opportunities to make some people better off without making other people worse off.
4. The efficient use of resources is optimal for society.
5. When markets fail, government intervention can improve society's welfare.

- **How economics work?**
  1. One person's spending is another person's income.
  2. Overall spending does not have to equal production (in an economy).
     - **Inflation**: overall spending to be too high if the economy occurs inflation.
  3. Government policies can change spending.

- Models in Economics
  - **Model** is a simplified representation of a real situation that is used to better understand real-life situations.
- Assumptions
  - Assumptions are initial conditions made before a micro or macroeconomic analysis is built. Assumptions are used for simplification.
  - The **other things equal assumption** means that all other relevant factors remain unchanged.
  - **Ceteris paribus:** a Latin phrase meaning "all else equal".

The Circular-Flow Diagram



Positive versus Normative Economics

- **Positive economics** is the branch of economic analysis that describes the way the economy actually works.
  1. Income isn't equal in all countries.
  2. When the Government levies more taxes on tobacco, people started smoking less.
  3. An increase in the minimum wage increases unemployment among teenagers.

- **Normative economics** makes prescriptions about the way the economy should work.
  1. We ought to do more to help the poor.
  2. People in the United States should save more for retirement.

Positive versus Normative Economics

- **Positive economics**: the focus of most economic research—is the analysis of the way the world works, in which there are definite right and wrong answers. It often involves making **forecasts**.

- **Normative economics**: makes prescriptions about how things ought to be; there are often no right answers and only value judgments.

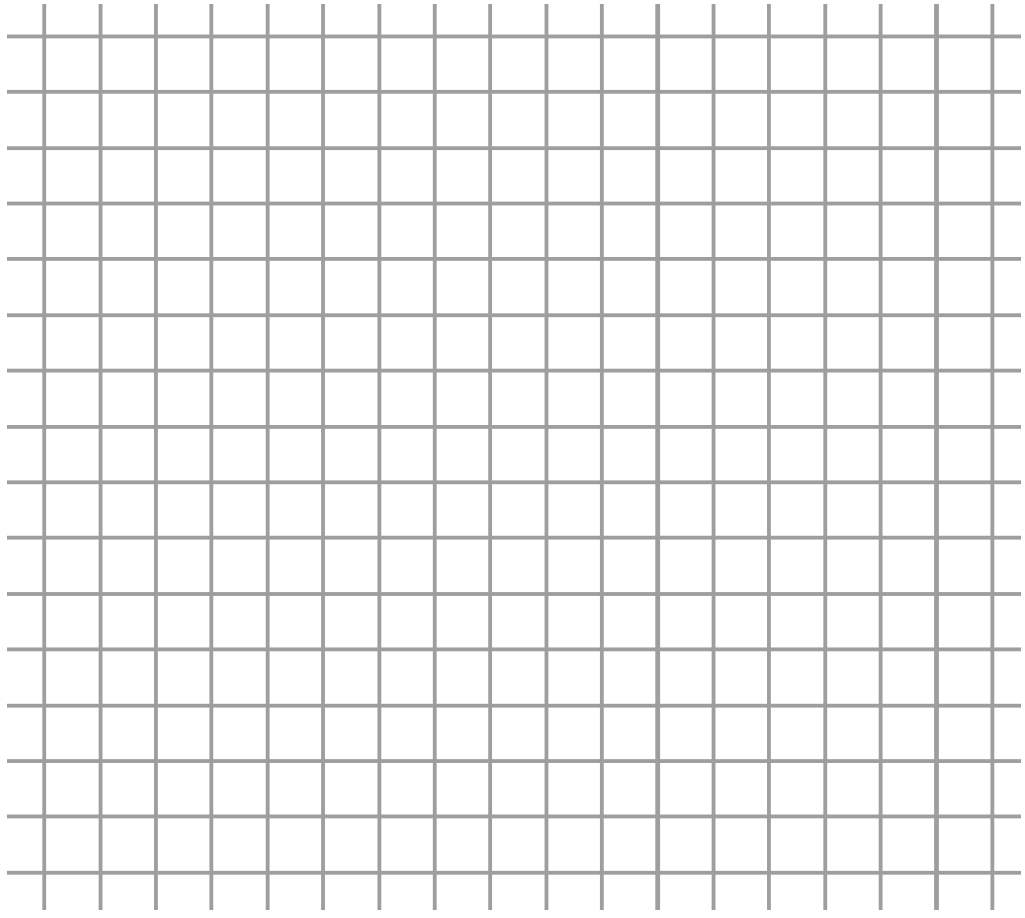
The Production Possibility Frontier

- **Production possibility frontier (PPF)**
  - The Production Possibilities Frontier (PPF) illustrates the trade-offs facing an economy that produces only two goods. It shows the maximum quantity of one good that can be produced for any given quantity produced of the other.
  - The PPF captures the concepts of scarcity, choice, and trade-offs.

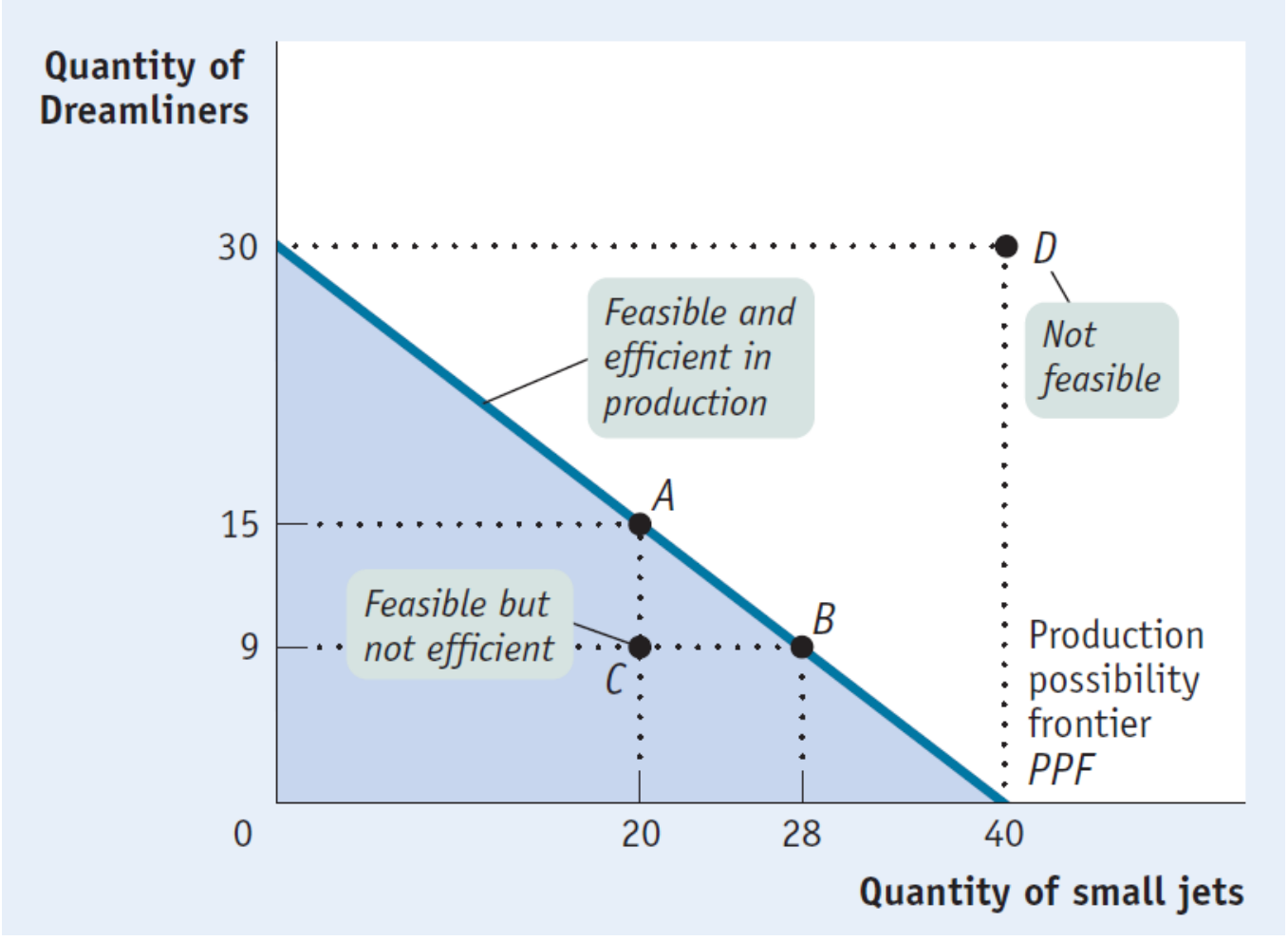
The Production Possibility Frontier

Cake Shop	Birthday Cake	Cup Cake
A	0	21
B	1	20
C	2	18
D	3	14
E	4	8
F	5	0

The Production Possibility Frontier



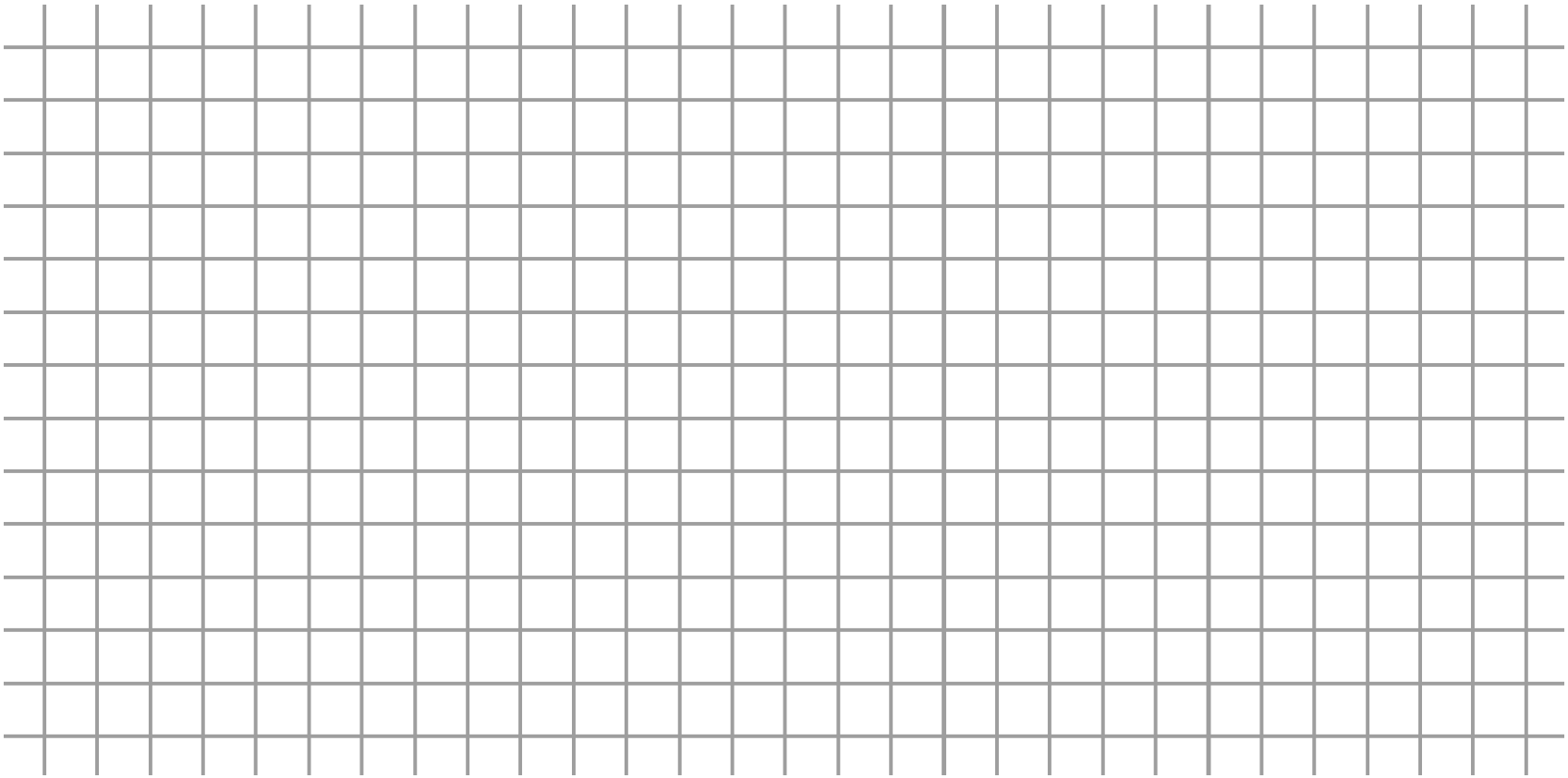
The Production Possibility Frontier



The Production Possibility Frontier

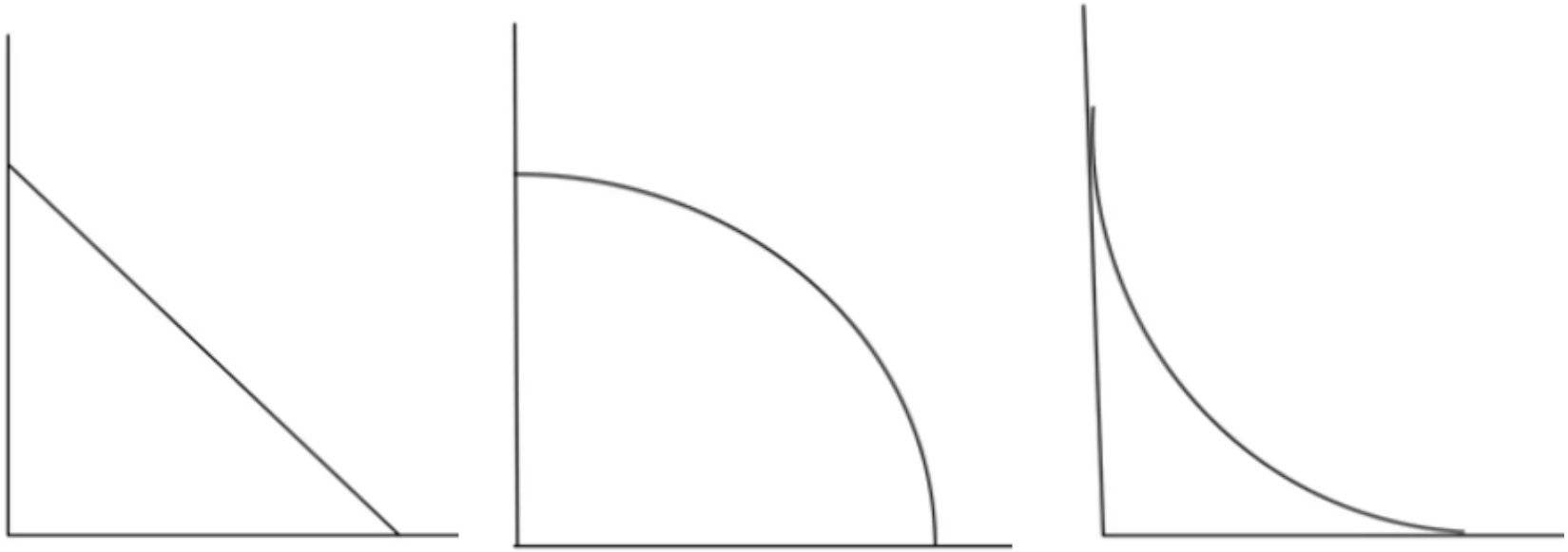
Cake Shop	Birthday Cake	Cup Cake	Birthday Cake	Cup Cake
A	0	21	0	25
B	1	20	1	20
C	2	18	2	15
D	3	14	3	10
E	4	8	4	5
F	5	0	5	0

The Production Possibility Frontier



The Production Possibility Frontier

- Shapes of PPF



The Production Possibility Frontier

- Why is a PPF always bowed outward in the real world?
  - increasing opportunity cost
  - The PPF is bowed outward because resources are not all equally productive in all activities.

  e.g. People with many years of experience working for cake shops are good at producing cakes but not very good at producing sandwiches. So if we move some of these people from cake shops to Subway, we get a small increase in the number of sandwiches but a large decrease in the number of cakes.

The Production Possibility Frontier

- **Change in PPF**
  1. Types of shifts
     - Technology
     - Resources

     An outward shift represents an expansion of the production possibilities of the economy; an inward shift represents shrinkage in the production possibilities of the economy.
  2. Movement along the PPF

     Any movement along the PPF represents the economy's choice about the relative amounts of each product to produce.

The Production Possibility Frontier

- **Resource** (economic resources)
  1. **Land**: natural resources such as minerals and oil
  2. **labor**: work contributed by humans
  3. **Physical capital**: equipment, tools and etc.
  4. **Human capital**: the economic value of a worker's experience and skills. (education, training)

PPF, Absolute Advantage and Comparative Advantage

- **Absolute Advantage**: when one country can use fewer resources to produce a good compared to another country; when a country is more productive compared to another country.
- **Comparative Advantage**: A country has a comparative advantage in producing a good or service if its opportunity cost of producing the good or service is lower than other countries'.

- Consider a hypothetical world with two countries, China and the United States, and two products, rice and corn. Assume that consumers in both countries desire both these goods.

	China	United States
rice	5000	500
corn	1000	4000

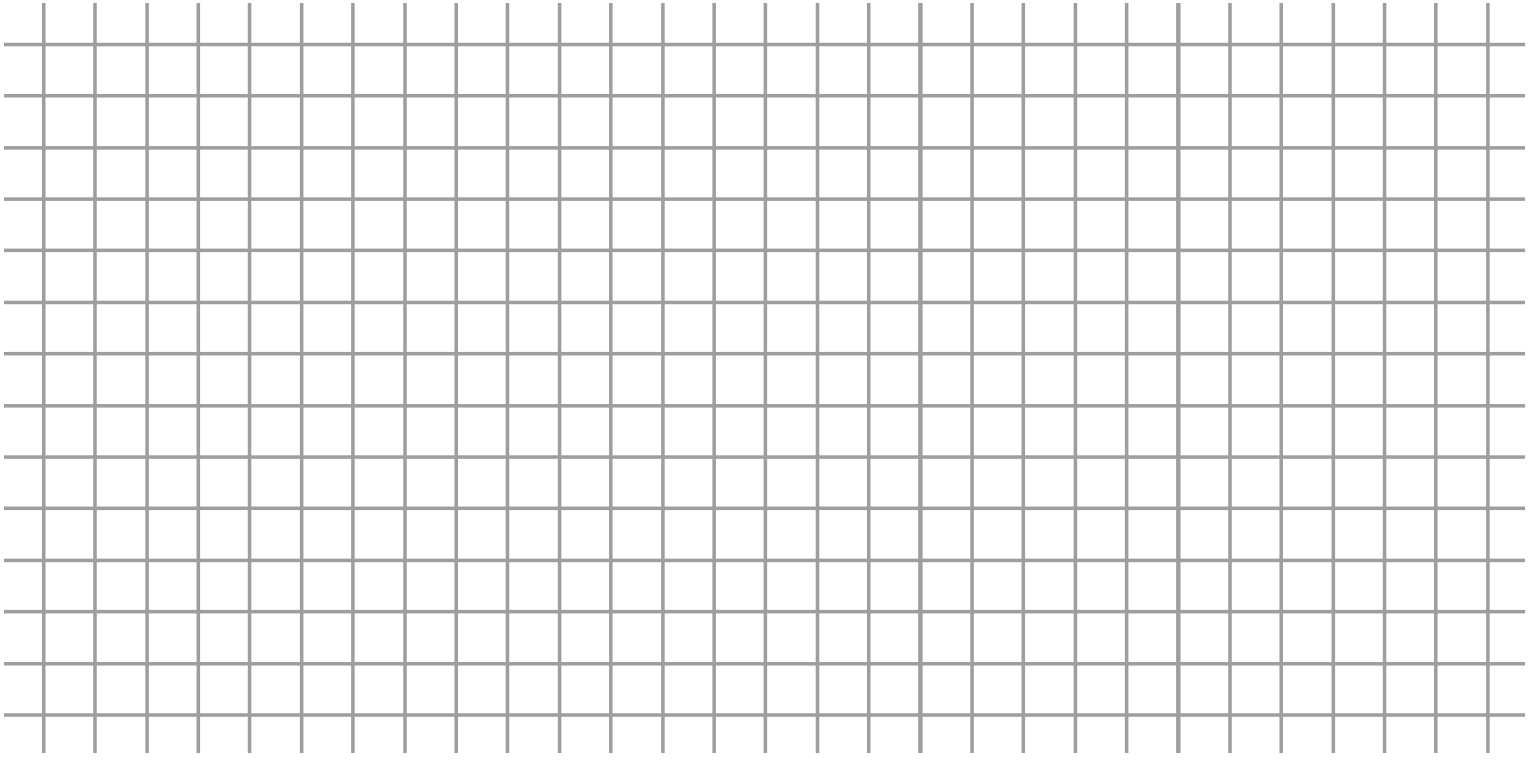
Q1 Please draw the PPF of these two countries.

Q2 Which country has the absolute advantage in producing rice?

Q3 Which country has the comparative advantage in producing corn?

Q1-PPF

	China	United States
rice	5000	500
corn	1000	4000



Q2-Absolute Advantage

	China	United States
rice	5000	500
corn	1000	4000

Q3-Comparative Advantage

	China	United States
rice	5000	500
corn	1000	4000

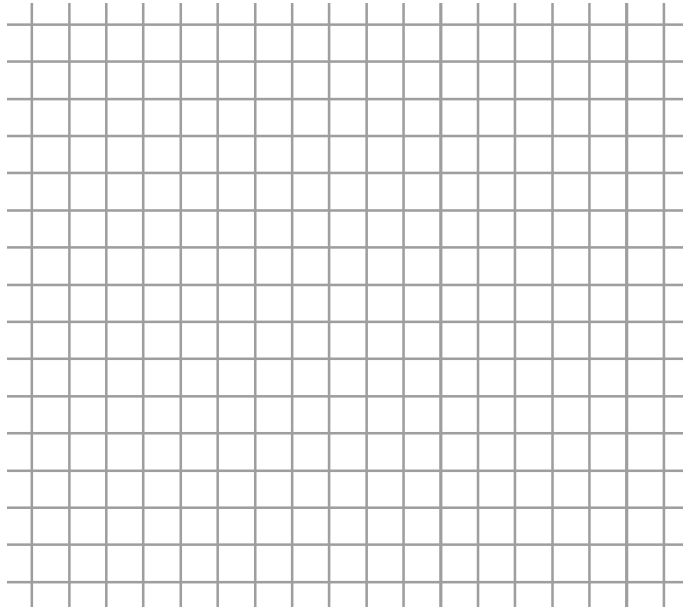
$$\text{Opportunity Cost of Good A} = \frac{\text{Quantity of Good B}}{\text{Quantity of Good A}}$$

Q3-Comparative Advantage

Demand

- **Demand Schedule**: a table showing how much of a good or service consumers will want to buy at different prices.

Scenario	Price ($)	Quantity Demanded
A	2	400
B	4	300
C	6	200
D	8	100



Demand

- **Law of Demand**: price $\uparrow$, quantity demanded $\downarrow$; price $\downarrow$, quantity demanded $\uparrow$.
- **Demand**: all of the quantities of a good or service that buyers would be willing and able to buy at all possible prices.
- **Quantity Demanded**: the actual amount of a good or service consumers are willing to buy at some specific price.

Change in Qd vs Change in D

- **Change in quantity demanded(Qd)** : movement along the demand curve

Change in Qd vs Change in D

- **Change in demand(D)** : shift of the demand curve
  - a change in the quantity demanded at any given price, represented by the shift of the original demand curve to a new position, denoted by a new demand curve.

What caused the demand curve to shift?

1. Changes in the prices of related goods or services
2. Changes in income
3. Changes in tastes
4. Changes in expectations
5. Changes in the number of consumers

What caused the demand curve to shift?

1. **Changes in the prices of related goods or services**
   - **Substitutes**: a rise in the price of one of the goods leads to an increase in the demand for the other good

What caused the demand curve to shift?

1. **Changes in the prices of related goods or services**
   - **Complements**: a rise in the price of one good lead to a decrease in the demand for the other good

What caused the demand curve to shift?

2. **Changes in income**
   - **Normal good**: a rise in income increases the demand for a good

What caused the demand curve to shift?

2. **Changes in income**
   - **Inferior good**: a rise in income decreases the demand for a good

What caused the demand curve to shift?

3. **Changes in tastes**

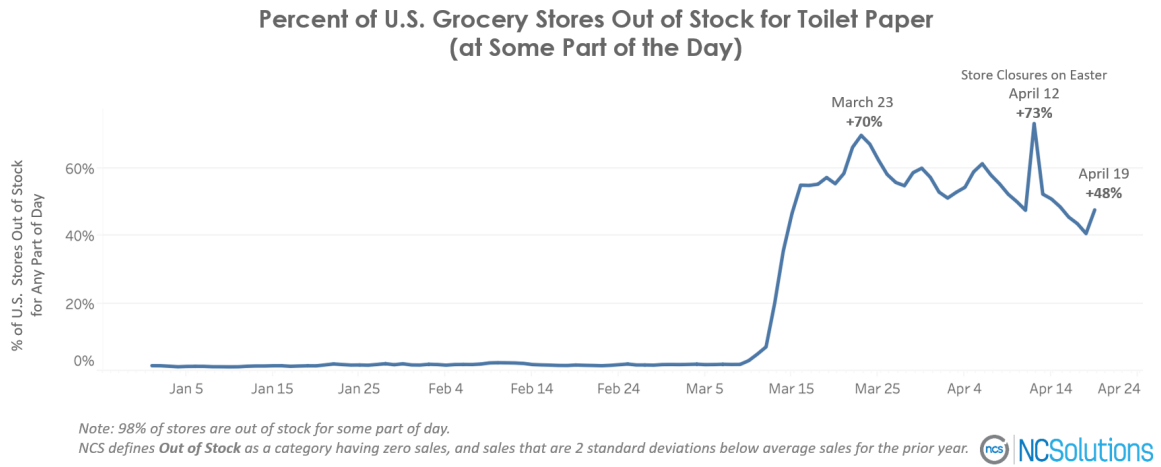
What caused the demand curve to shift?

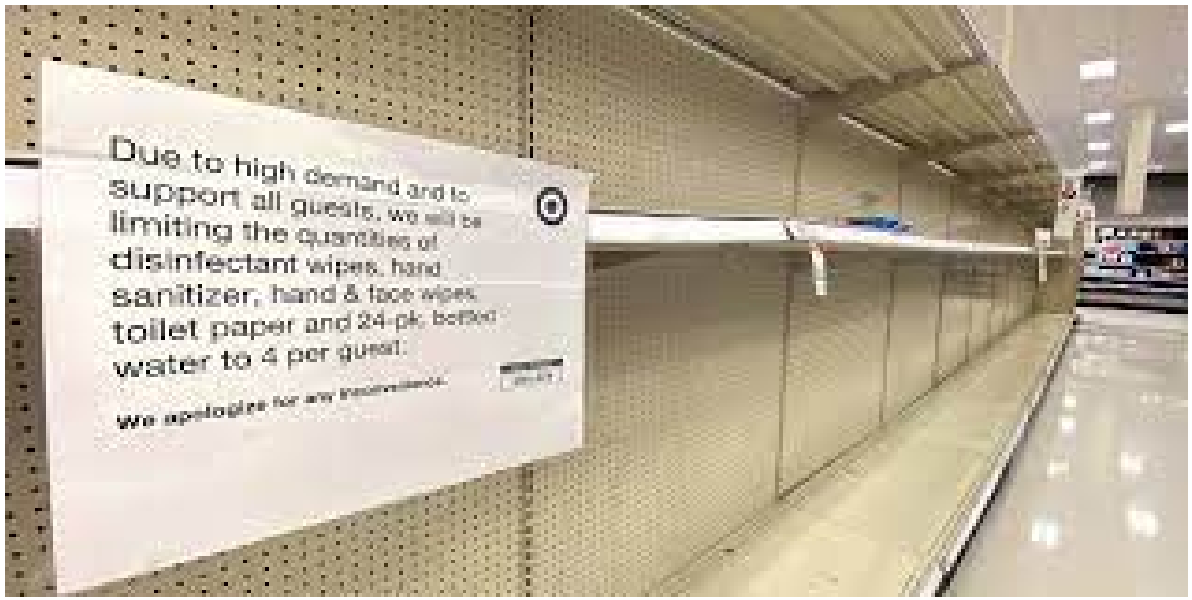
4. **Changes in expectations**

What caused the demand curve to shift?

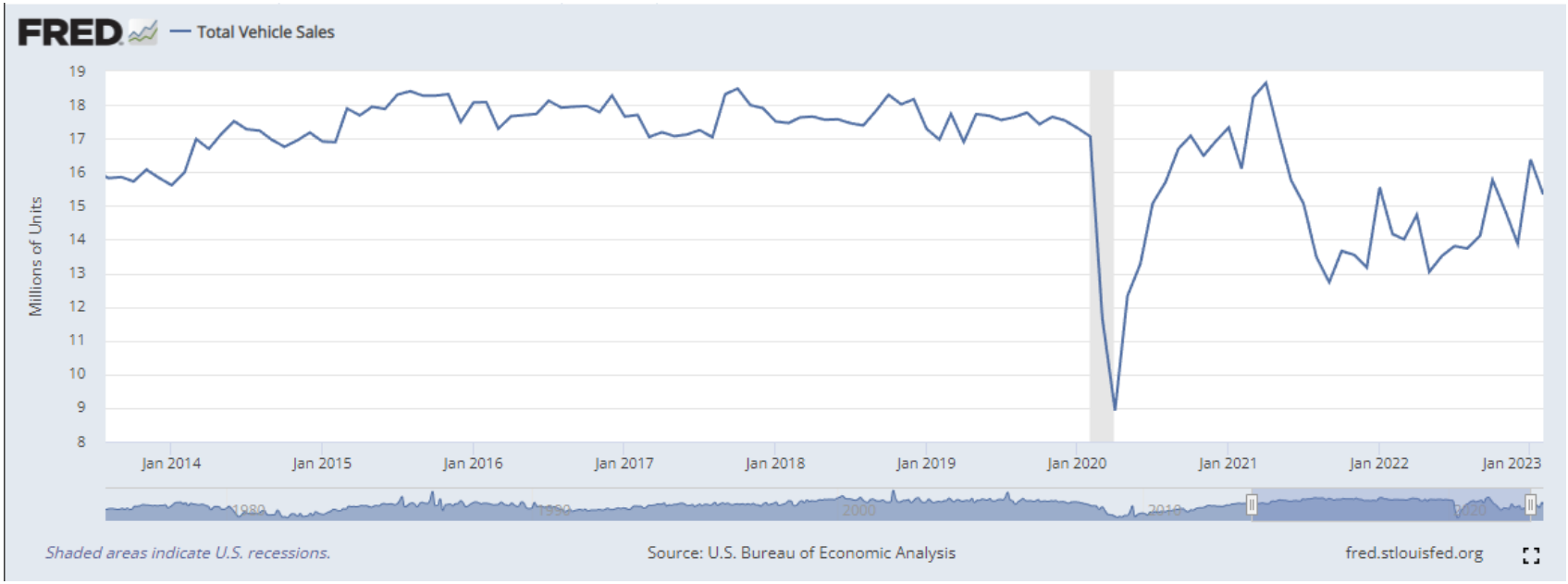
5. **Changes in the number of consumers**

Change in Demand - Real World Example



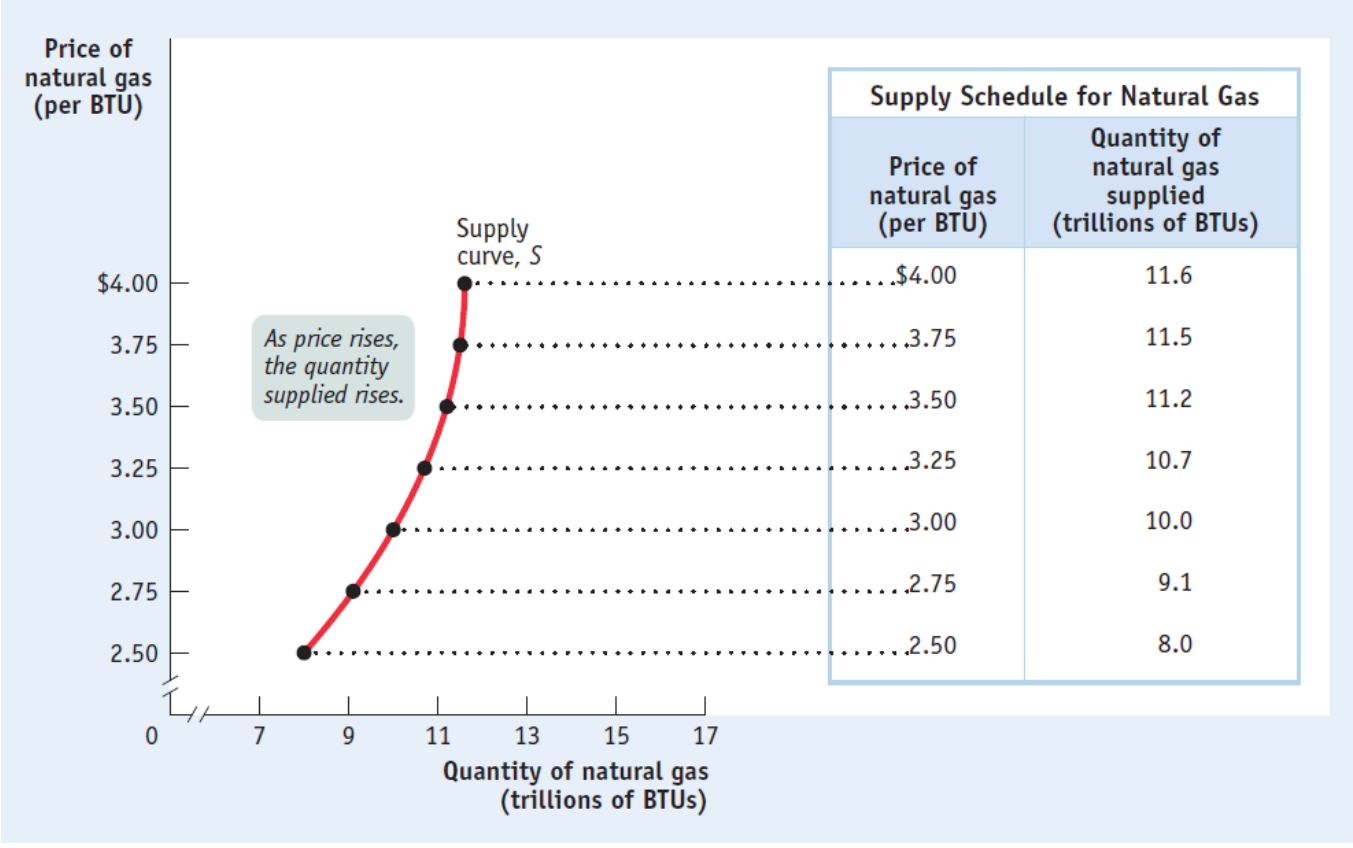


Change in Demand - Real World Example



Supply

- **Supply Schedule**: shows how much of a good or service would be supplied at different prices.
- **Supply Curve**: shows the relationship between quantity supplied and price.



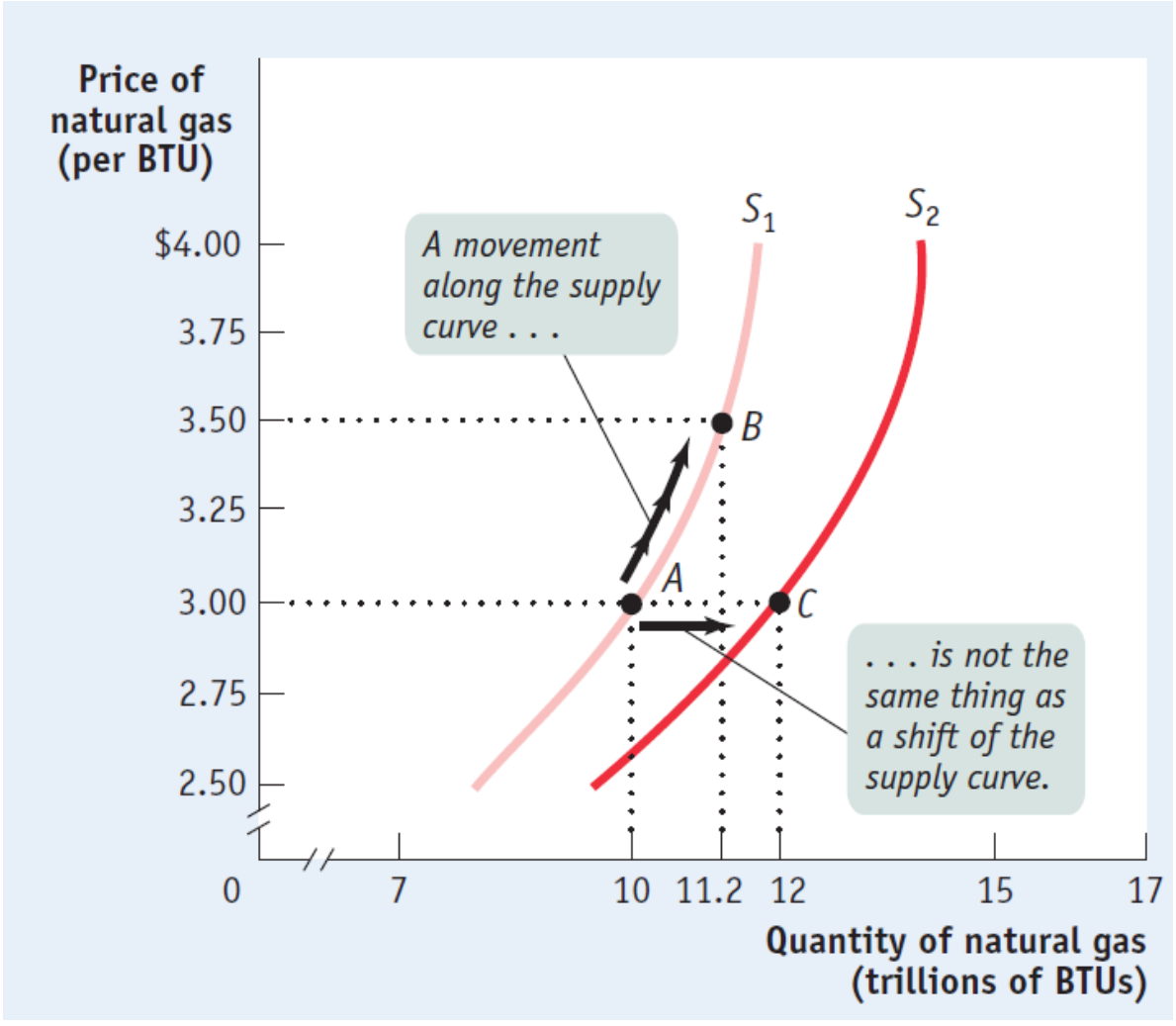
Supply Schedule for Natural Gas

Price of natural gas (per BTU)	Quantity of natural gas supplied (trillions of BTUs)
$4.00	11.6
3.75	11.5
3.50	11.2
3.25	10.7
3.00	10.0
2.75	9.1
2.50	8.0

Supply

- **Law of Supply**: : price ↑, quantity supplied ↑; price ↓, quantity supplied ↓
- **Quantity supplied**: the actual amount of a good or service people are willing to sell at some specific price
- **Change in supply(S)** : shift of the supply curve
  - a change in the quantity supplied at any given price, represented by the shift of the original supply curve to a new position, denoted by a new supply curve.
- **Change in quantity supplied(Qs)** : movement along the supply curve

Change in Qs vs Change in S



What caused the supply curve to shift?

1. **Changes in input prices**
2. **Changes in the prices of related goods or services**
3. **Changes in technology**
4. **Changes in expectation**
5. **Changes in the number of producers**

What caused the supply curve to shift?

1. **Changes in input prices**

What caused the supply curve to shift?

2. **Changes in the prices of related goods or services**

What caused the supply curve to shift?

3. **Changes in technology**

What caused the supply curve to shift?

4. **Changes in expectation**

What caused the supply curve to shift?

5. **Changes in the number of producers**