

Crash Course in Economics

(Alma Mater Studiorum – Università di Bologna – Rimini Campus)

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- Materials and link to the recorded lessons:

Microsoft Teams platform:

[***https://teams.microsoft.com/meet/338216212406989?p=DV9LIwHsm4RQqWuy7N***](https://teams.microsoft.com/meet/338216212406989?p=DV9LIwHsm4RQqWuy7N)

Lesson 2

Introduction to Economics Models

Economic Models

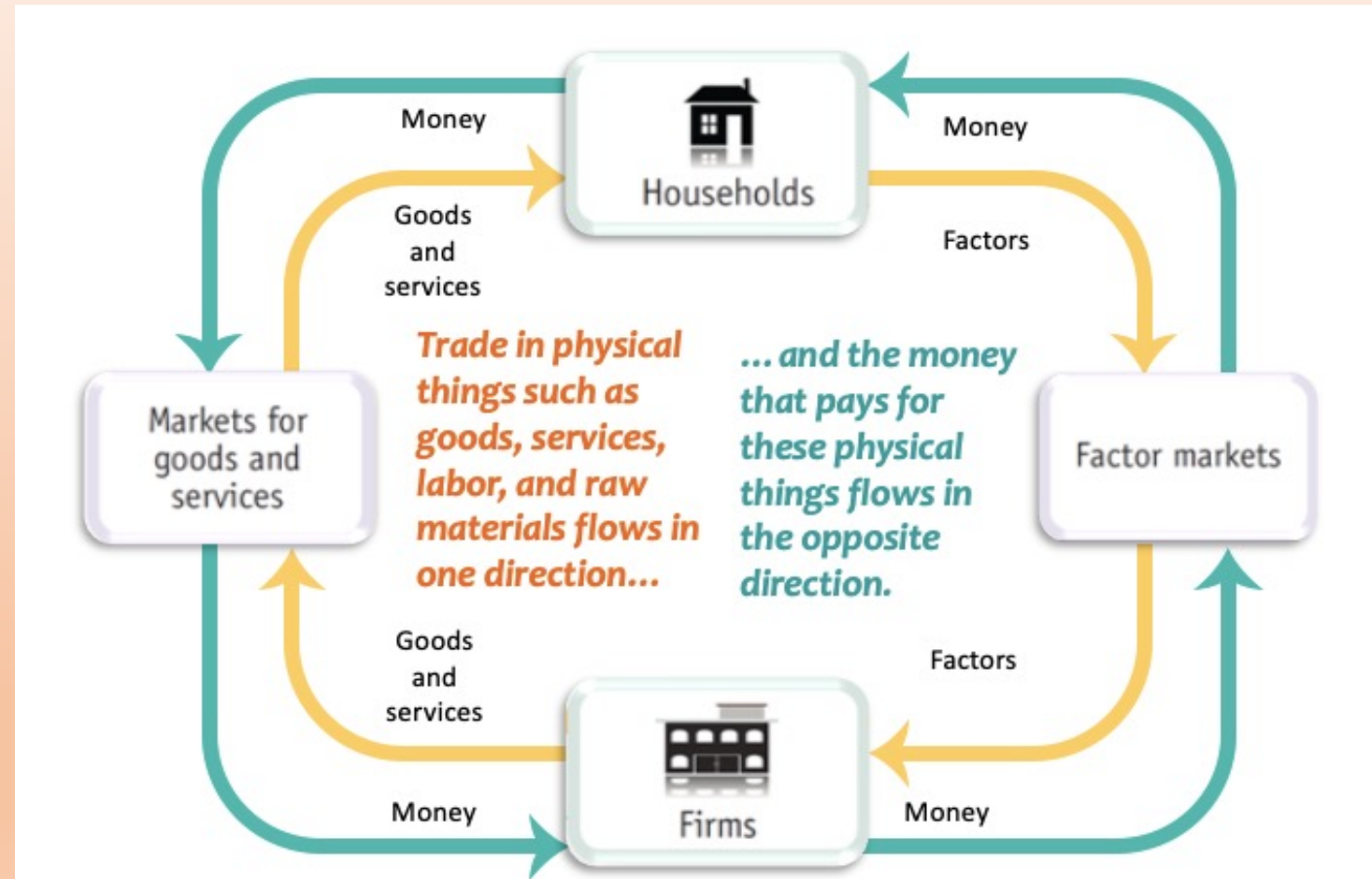
Economic models are simplified and stylized reproductions of reality to be studied.

- Formed by:
 - *endogenous variables* (the value of which is determined by the model).
 - *exogenous variables* (the value of which is assumed/determined outside the model).
 - *functional relationships between variables* (reproduce a behavior).
 - "on the same terms as the other conditions" (*ceteris paribus*): *all other relevant (variable) factors remain unchanged.*



Economics Circular Flowchart

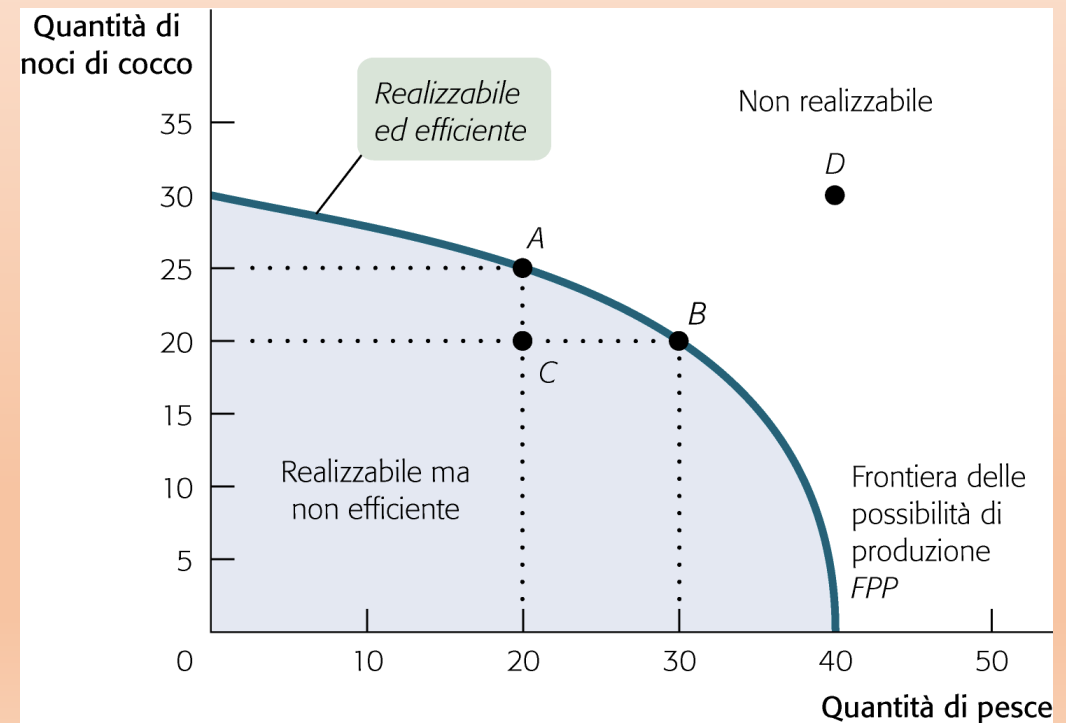
- The *basic model* of the economy:
 - *two agents* (businesses/families)
 - *two markets* (goods/productive factors)
 - *two flows* (real/monetary)
 - simplifications: lack of other subjects (e.g. state), other markets (e.g. money), etc.



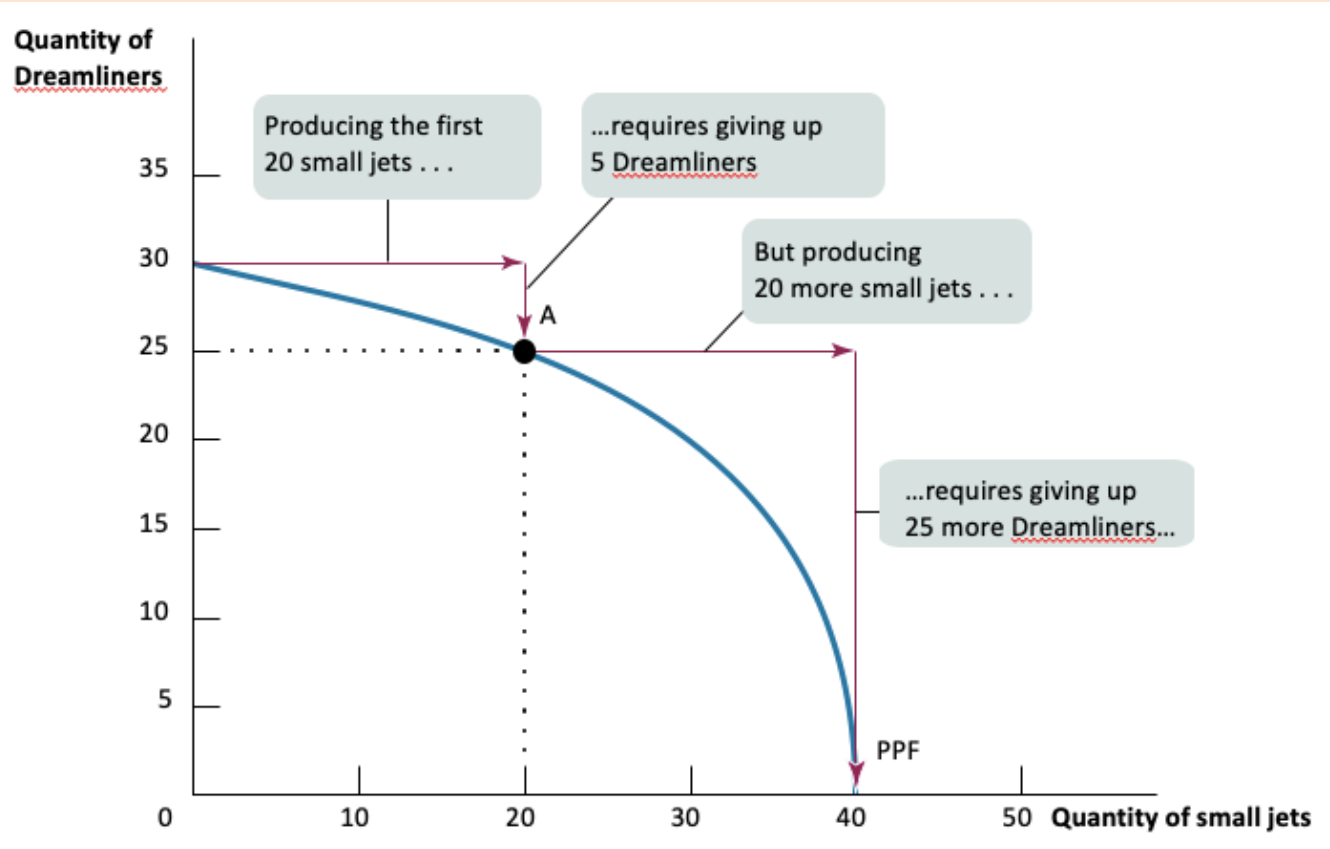
Production Possibilities Frontier (PPF)

The Production Possibilities Frontier (PPF) illustrates the trade-offs faced by an economy that produces only two goods.

- Shows the *maximum amount of a good that can be produced* for each given level of production of the other.
- *Combinations of production* that an economic system can obtain given the available resources and the state of the technology.
- *Efficient combinations* lie on the FPP.
- The *combinations inside are inefficient*.
- Those on the *outside are impossible*.

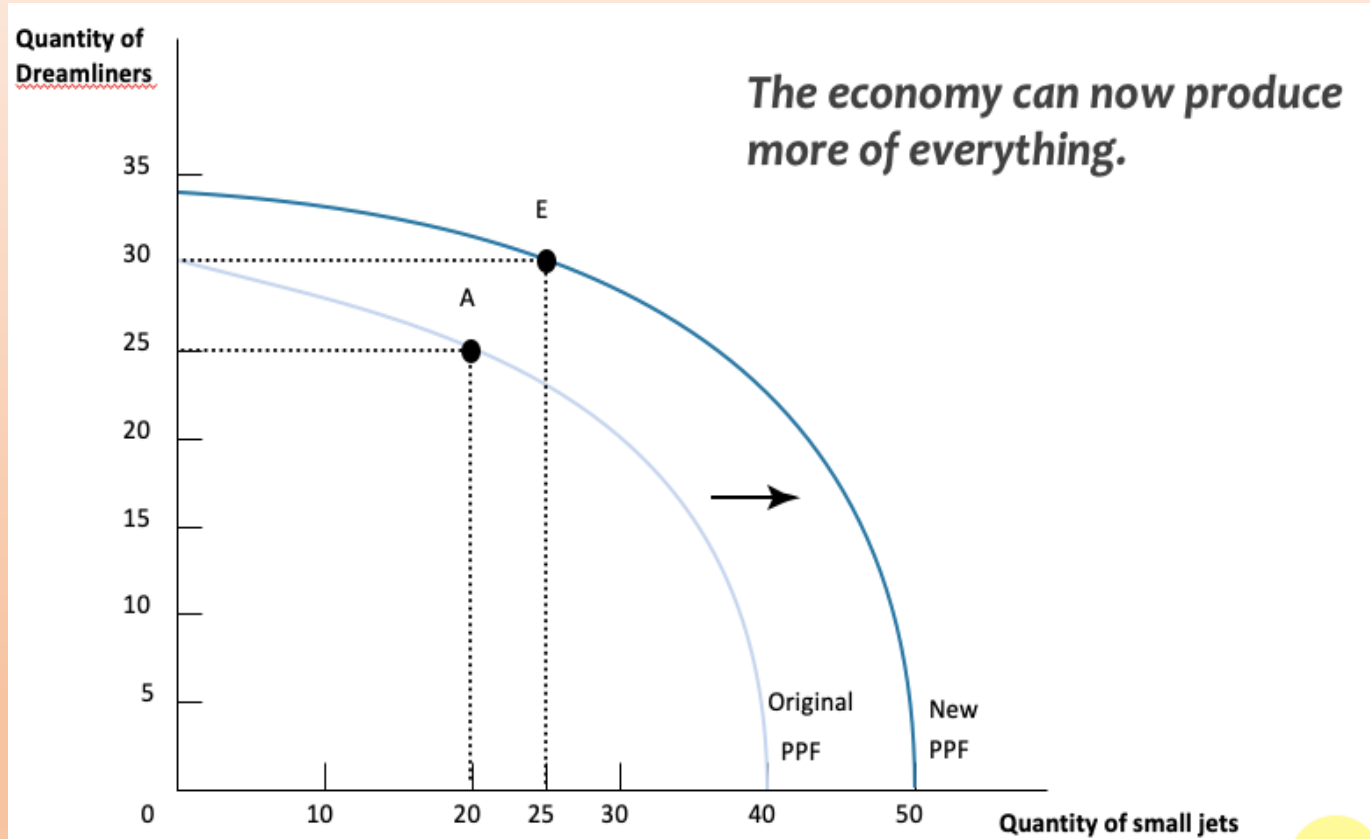


Increasing Opportunity Cost



- *PPF concave.*
- *Declining marginal productivity of resources.*
- *Increasing the quantity produced of one good becomes increasingly expensive in terms of giving up on producing the other good.*

Economic Growth



- *Long-term goal* of any economic system.
- Generated as a result of an *increase in technological progress*.
- Economic growth implies a *shift outwards* of the PPF as production possibilities have increased.

Comparative Advantage

An individual (a country) has a comparative advantage in the production of a good or service if the cost-opportunity for that individual (nation) to produce the good is lower than others.

An individual (a nation) has an absolute advantage in the production of a good or service if he can do it better than others (specialization).

- *Having an absolute advantage is not the same as having a comparative advantage.*



Origin of the Idea



- *David Ricardo* (1772–1823)
- Argued against Corn Laws in British Parliament.
- *Corn Laws: high tariffs on imported grain* that protected British landowners.
- His *theory of comparative advantage* is still the ideological foundation for free trade.

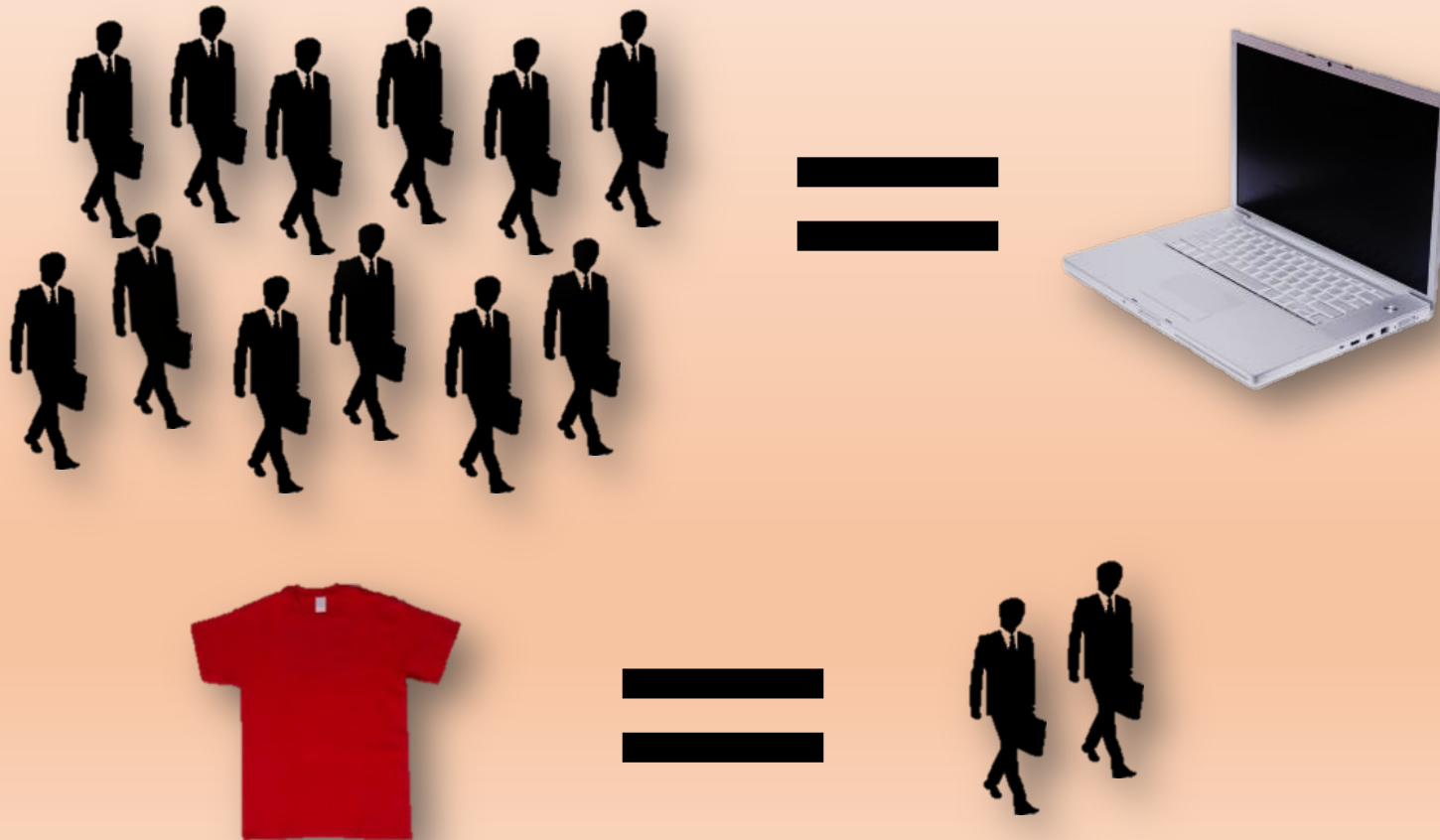
Comparative Advantage and Gains from Trade

- Suppose that there are just *two goods*, computers and shirts, and *one input*, labor.



Comparative Advantage and Gains from Trade

- Assume that in Mexico, it *takes 12 units of labor to make one computer and 2 units of labor to produce one shirt*



Comparative Advantage and Gains from Trade

- Suppose that Mexico has 24 units of labor.
- It can produce 2 computers and 0 shirts...
- ...or 0 computers and 12 shirts



Comparative Advantage and Gains from Trade

- The PPF is about *trade-offs*.
- If Mexico *wants to produce more shirts*, it *must produce fewer computers*.
- Each *computer “costs” 12 workers*, who *could produce 6 shirts*.
- So a *computer “costs” 6 shirts* in Mexico.



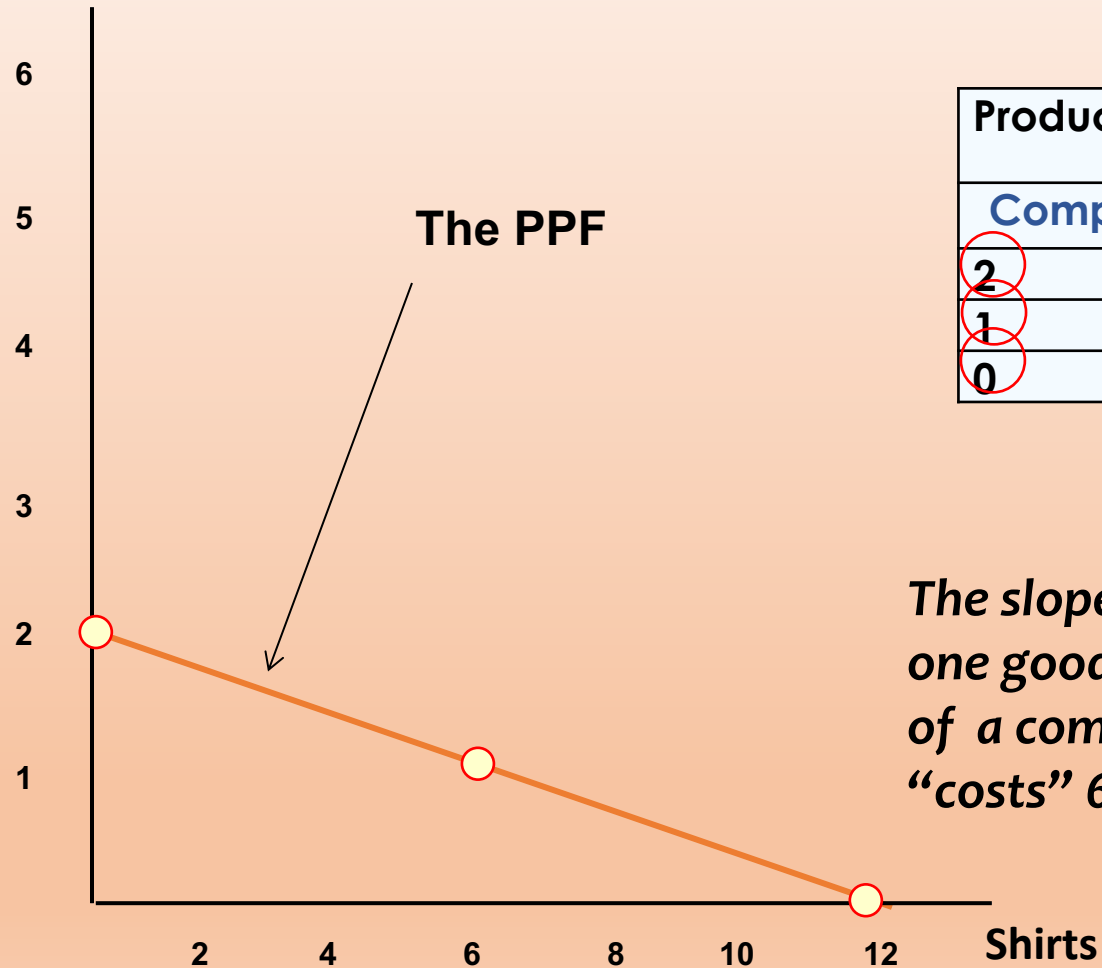
Comparative Advantage and Gains from Trade

- Each shirt “costs” 2 workers, who could produce one-sixth of a computer.
- So *a shirt “costs” one-sixth of a computer in Mexico.*



Mexico's Production Possibilities Frontier

Computers



Production Possibilities

Computers

Shirts

2

0

1

6

0

12

The slope = the trade-off (“cost”) of one good for the other. (One-sixth of a computer = 1 shirt: 1 shirt “costs” 6 computers.)



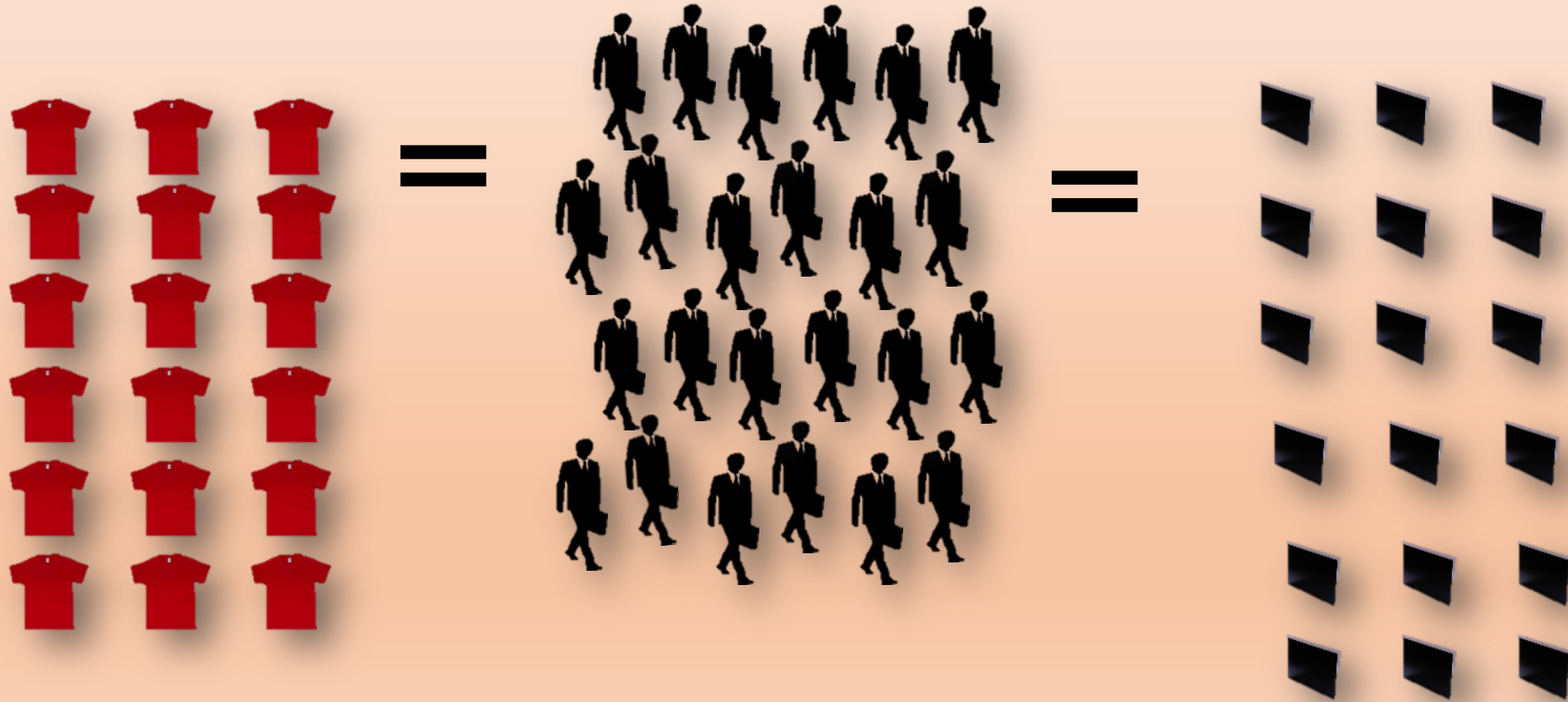
Comparative Advantage and Gains from Trade

- Enter the U.S. with its own production and cost ratios.



Comparative Advantage and Gains from Trade

- Assume that in the United States, there are *24 units of labor*, and it takes *1 unit of labor to produce either good*.



Comparative Advantage and Gains from Trade

- Each shirt “costs” 1 worker, who could produce 1 computer.
- So a *shirt “costs” 1 computer in the United States.*



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Comparative Advantage and Gains from Trade

- Summary of costs: *each country has a different opportunity cost for each good.*
- Take a look at the *opportunity costs for computers:*



- The opportunity cost *in Mexico* to produce a computer is 6 shirts.
- The opportunity cost *in United States* to produce a computer is 1 shirt.
- So *United States* has a comparative advantage respect to *Mexico* in the production of computers.

Absolute Advantage

Absolute advantage: *a country can produce more output per worker than other countries.*

- *Absolute advantage* and *comparative advantage* are two important concepts in *economics* and *international trade*.
- *Absolute advantage* refers to the *uncontested superiority and efficiency* of a country or firm to *produce a particular good better*.
- *Comparative advantage* introduces *opportunity cost* as a factor for analysis in choosing between different options for *production diversification*.

Practice Learning

1. In an economic model, how are endogenous variables distinguished from exogenous variables?
 - a) *Endogenous variables are determined outside the model.*
 - b) *Endogenous variables are determined within the model.*
 - c) *Exogenous variables are always held constant by definition.*
 - d) *Endogenous variables cannot be measured empirically.*

Practice Learning

2. In the simple Circular-Flow Diagram, which flow occurs in the market for factors of production?

- a) *Firms provide goods and services to households.*
- b) *Households spend money to purchase final goods.*
- c) *Households provide labor and capital to firms.*
- d) *Firms pay taxes directly to households.*

Practice Learning

3. What does a production point located strictly inside the Production Possibilities Frontier (PPF) signify?

- a) *An unattainable output combination given current technology.*
- b) *Inefficient use or underemployment of resources.*
- c) *An optimal allocation of resources.*
- d) *Absolute advantage in both goods.*

Practice Learning

4. Why is a typical Production Possibilities Frontier (PPF) bowed outward (concave to the origin)?

- a) Resources are equally suited to producing all goods.*
- b) Opportunity cost decreases as output expands.*
- c) Resources are not equally suited to producing all goods.*
- d) Total resources expand automatically with output.*

Practice Learning

5. How does an economy experience economic growth on a PPF diagram?

- a) The economy moves along the existing curve.*
- b) The economy moves from a point inside to a point on the curve.*
- c) The entire frontier shifts outward.*
- d) The frontier rotates inward toward the origin.*

Practice Learning

6. Country A requires 8 hours of labor to produce 1 unit of wine and 2 hours to produce 1 unit of cheese. What is Country A's opportunity cost of producing 1 unit of wine?

- a) *0.25 units of cheese.*
- b) *2 units of cheese.*
- c) *4 units of cheese.*
- d) *16 units of cheese.*

Practice Learning

7. Country A needs 6 hours for a computer and 2 hours for a shirt. Country B needs 10 hours for a computer and 5 hours for a shirt. Which country has the comparative advantage in producing computers?

A) Country A.

B) Country B.

C) Both countries have the same comparative advantage.

D) Neither country.

Practice Learning

8. Which statement accurately describes the relationship between absolute advantage and comparative advantage?

- a) A country with absolute advantage in all goods cannot gain from trade.*
- b) Comparative advantage depends on absolute productivity differences only.*
- c) A country can have an absolute advantage in both goods but a comparative advantage in only one.*
- d) Absolute advantage determines the terms of trade.*

Practice Learning

9. Which of the following statements represents a normative economic statement?

- a) *Higher inflation decreases purchasing power.*
- b) *The unemployment rate was 4% last quarter.*
- c) *The government should lower tariffs to boost consumer welfare.*
- d) *An increase in supply, ceteris paribus, lowers price.*

Practice Learning

10. According to David Ricardo's theory of comparative advantage, what forms the basis for mutually beneficial trade between nations?

- a) *Equal productivity across all sectors.*
- b) *Differences in opportunity costs between countries.*
- c) *Differences in total population size.*
- d) *Absolute superiority in total production capacity.*