Basic Principles II

Principles in Practice

BECO-3310 Fall 2025

What is economics?

- Study of individual choice and human action.
- How do individuals make decisions to cope with scarcity?
- How do individuals respond to incentives?

Economics as a *Positive* Science

- Positive Statements
  - Statements about how things are.
- Normative Statements
  - Statements about how things ought to be.

Economics as a *Positive* Science

- Positive Statements
  - Statements about how things are.
  - “Higher regulatory requirements make it harder for new businesses to enter the market”
- Normative Statements
  - Statements about how things ought to be.
  - “We should introduce more regulations because consumer safety is more important”

Subjective Value

- The value individuals place in a given choice or action is subjective to them.
  - Individuals have their own desired ends and value them differently than others.
  - Whether or not they ought to have these values is irrelevant when doing standard economic analysis.

Assumptions of Human Choice/Action

(Going back)

- Individuals are *rational.*
- Individuals are *self-interested*.
- Individuals make choices ***at the margin***.

Marginal Analysis

Marginal Analysis

- Marginal Benefit (MB)
  - Additional benefit of one more unit of activity
  - $$\text{MB} = \frac{\Delta\, Total\ Benefit}{\Delta\, Quantity}$$
- Marginal Cost (MC)
  - The additional cost of one more unit of activity
  - $$\text{MC} = \frac{\Delta\, Total\ Cost}{\Delta\, Quantity}$$

Pirate Jim's Benefits and Costs

Days Spent Diving (days per week)	Total Benefit (dollars)	Marginal Benefit (dollars)	Total Cost (dollars)	Marginal Cost (dollars)
1	$1,000		$ 100	
2	1,800		250	
3	2,500		450	
4	3,000		700	
5	3,300		1,000	
6	3,500		1,350	
7	3,600		1,750	

$$\mathbf{MB} = \frac{\Delta\, Total\ Benefit}{\Delta\, Quantity} = \frac{New\ Benefit - Old\ Benefit}{New\ Quantity - Old\ Quantity} = \frac{1000-0}{1-0} = 1000$$

$$\mathbf{MC} = \frac{\Delta\, Total\ Cost}{\Delta\, Quantity} = \frac{New\ Cost - Old\ Cost}{New\ Quantity - Old\ Quantity} = \frac{100-0}{1-0} = 100$$

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$$\mathbf{MB} = \frac{\Delta\, Total\ Benefit}{\Delta\, Quantity} = \frac{New\ Benefit - Old\ Benefit}{New\ Quantity - Old\ Quantity} = \frac{1800-1000}{2-1} = 800$$

$$\mathbf{MC} = \frac{\Delta\, Total\ Cost}{\Delta\, Quantity} = \frac{New\ Cost - Old\ Cost}{New\ Quantity - Old\ Quantity} = \frac{250-100}{2-1} = 150$$

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$$\mathbf{MB} = \frac{\Delta\, Total\ Benefit}{\Delta\, Quantity} = \frac{New\ Benefit - Old\ Benefit}{New\ Quantity - Old\ Quantity} = \frac{2500-1800}{3-2} = 700$$

$$\mathbf{MC} = \frac{\Delta\, Total\ Cost}{\Delta\, Quantity} = \frac{New\ Cost - Old\ Cost}{New\ Quantity - Old\ Quantity} = \frac{450-250}{3-2} = 200$$

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Marginal Analysis

- Decreasing Marginal Benefit
  - The more of a good consumed, the lower the marginal benefit with each additional unit.
- Increasing Marginal Cost
  - The more of a good produced, the higher the marginal cost with each additional unit.

How many days should Pirate Jim dive for treasure?

Pirate Jim's Benefits and Costs

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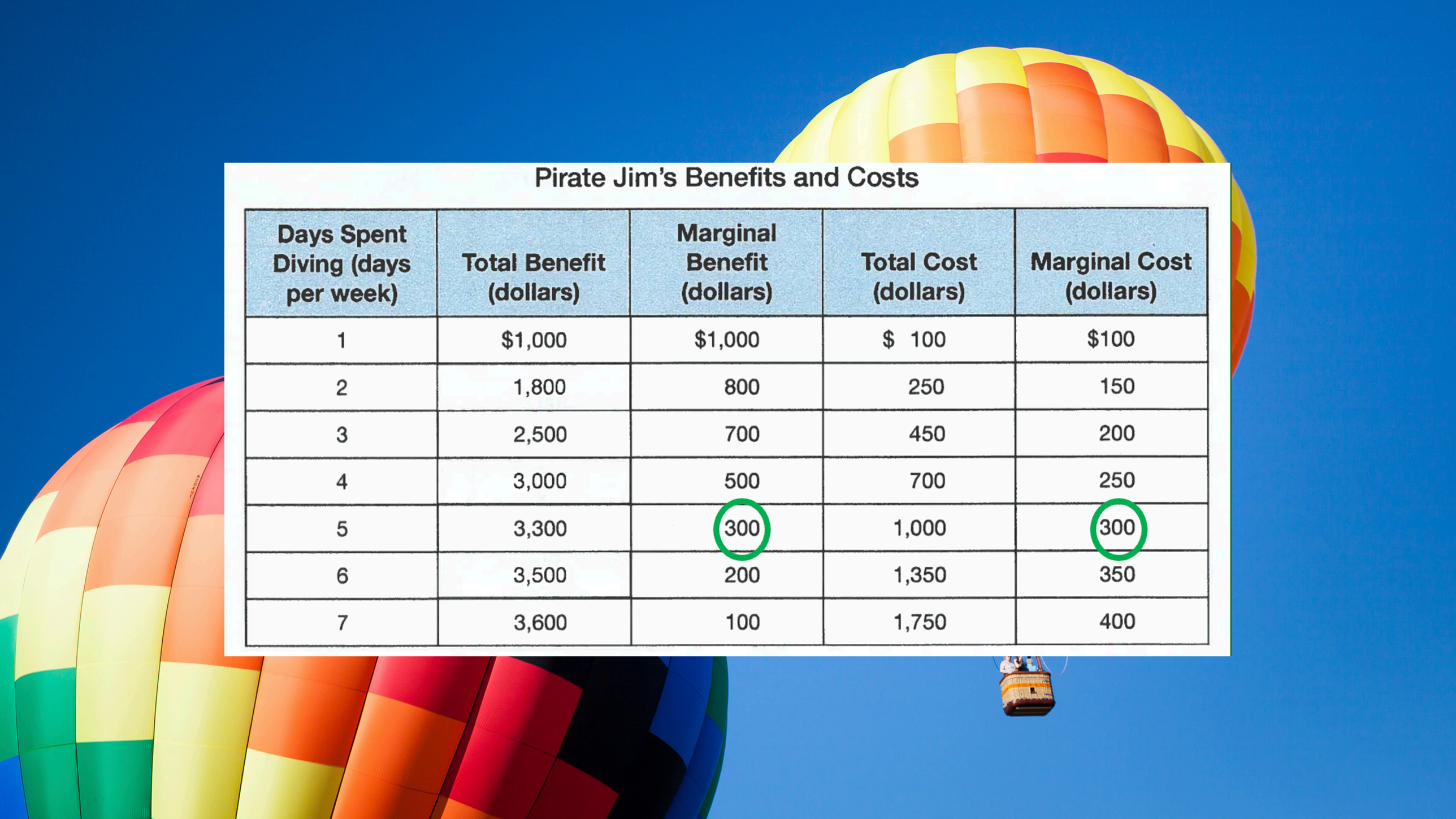
3		700		200
4		500		250
5		300		300
6		200		350
7		100		400



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Rule of Rational Life:
MB = MC

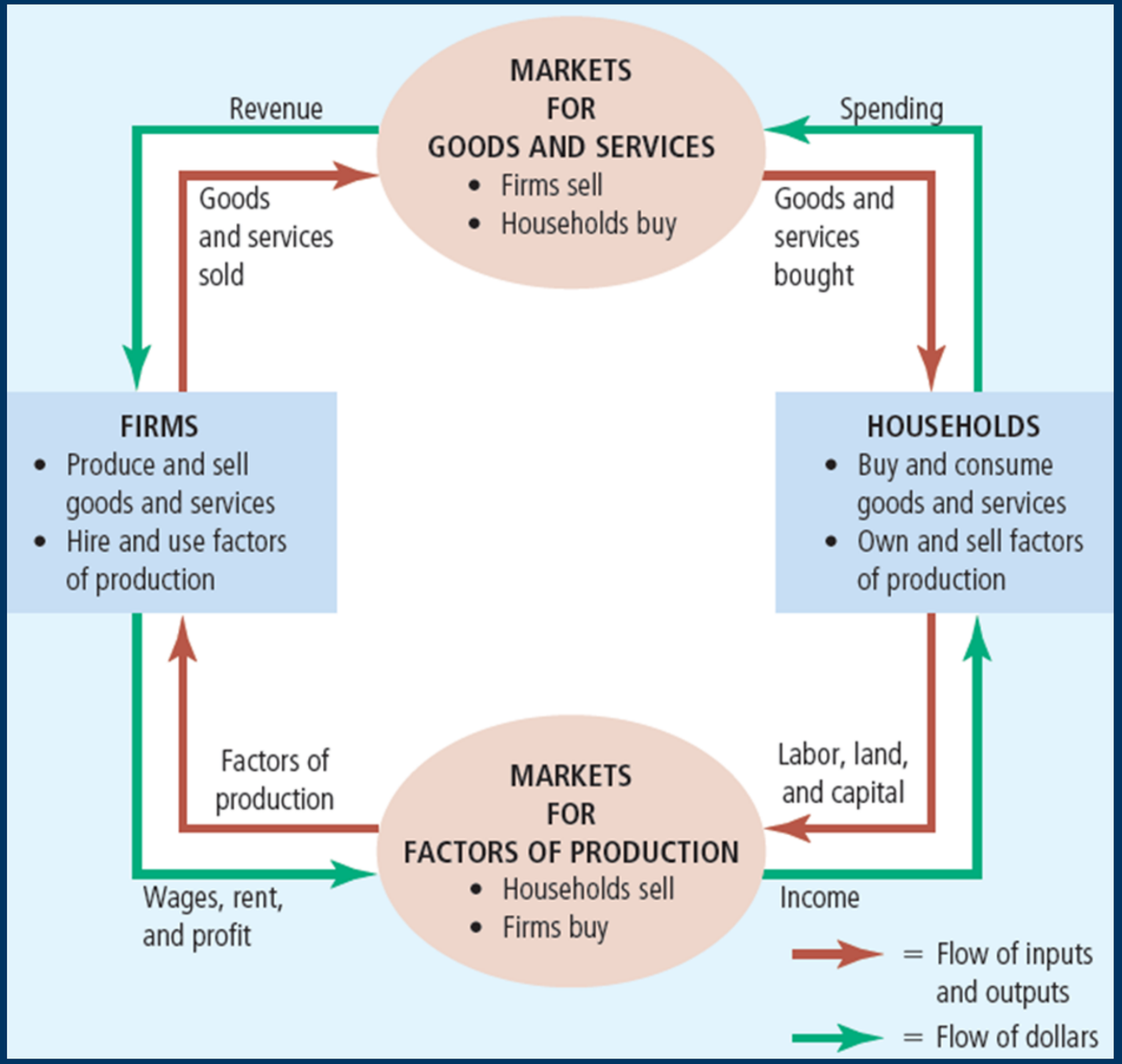
Optimization

- The process of making choices to maximize the benefit of an action, subject to its cost.
- If MB > MC, do more of it
- If MB < MC, do less of it.

Models

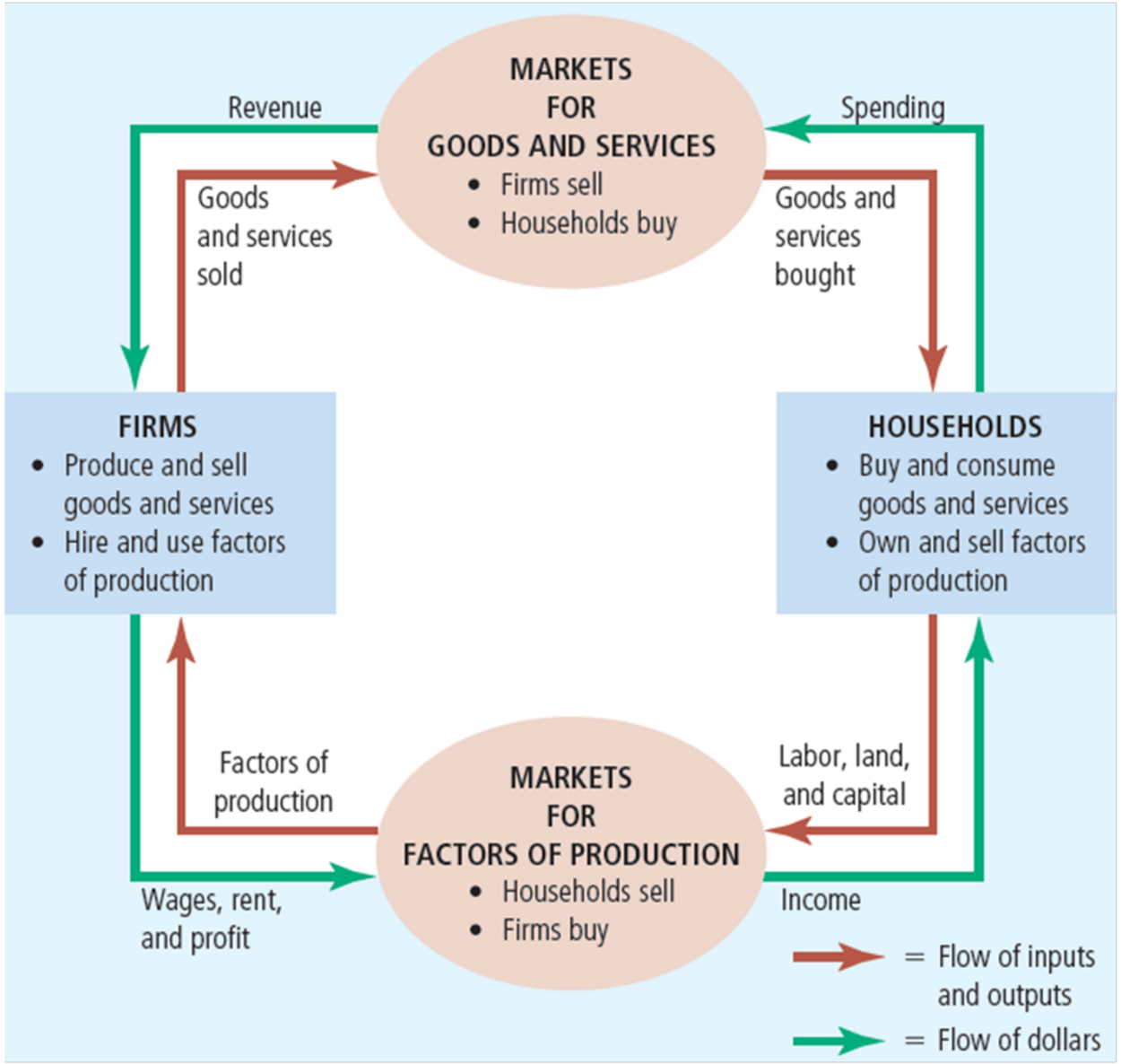
- Like the other sciences, economics uses models to understand things about the world.
  - Models are imperfect.
  - They’re meant to teach us elementary logic.

Circular Flow Model


MARKETS FOR GOODS AND SERVICES
• Firms sell
• Households buy
Revenue
Goods and services sold
Spending
Goods and services bought
FIRMS
• Produce and sell goods and services
• Hire and use factors of production
HOUSEHOLDS
• Buy and consume goods and services
• Own and sell factors of production
Factors of production
Wages, rent, and profit
MARKETS FOR FACTORS OF PRODUCTION
• Households sell
• Firms buy
Labor, land, and capital
Income
= Flow of inputs and outputs
= Flow of dollars

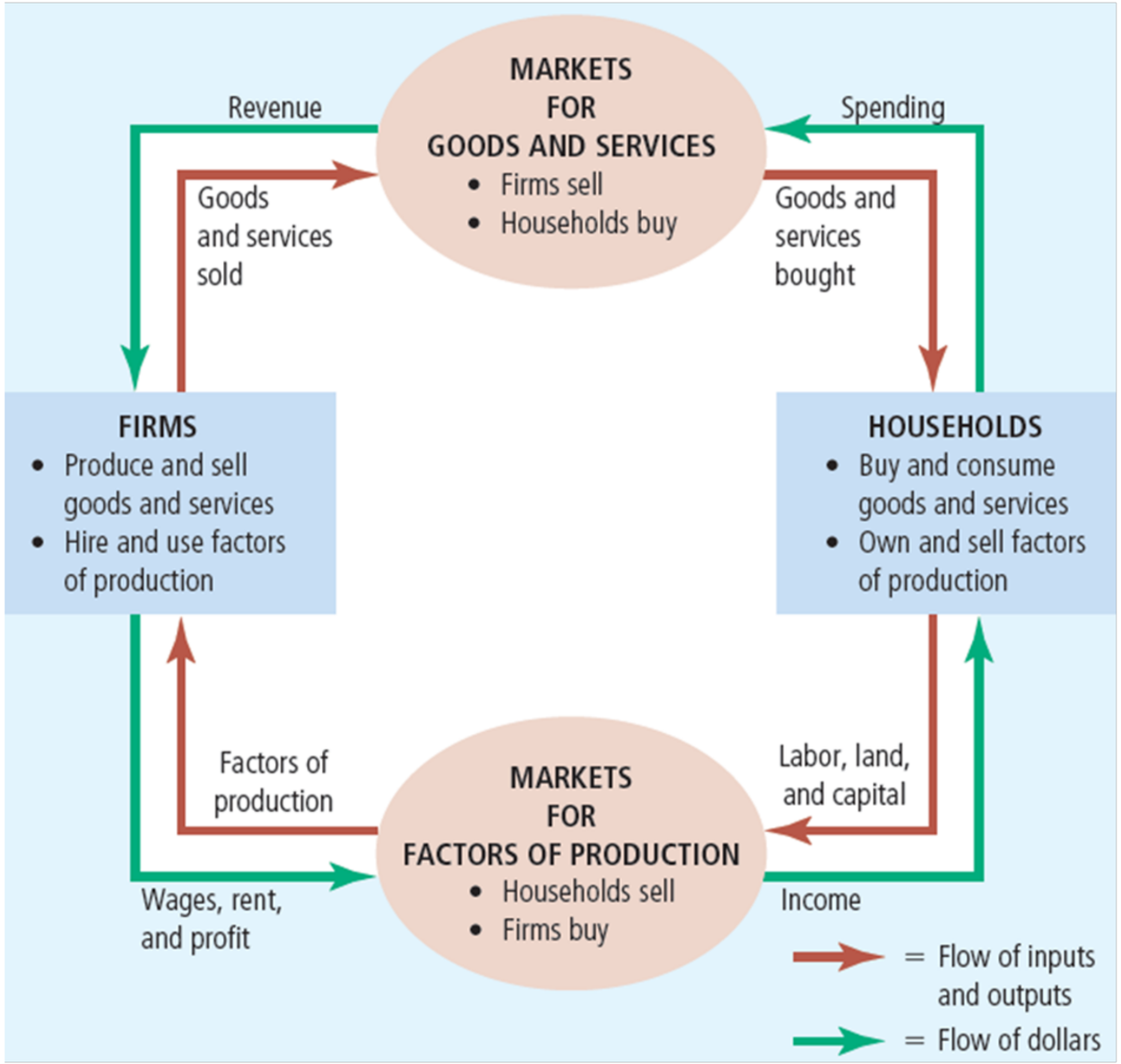
Circular flow model

- A schematic representation of the economy.
- Decisions are made by households and firms who interact with each other in the market.



Circular flow model

- Two Markets:
  - Goods & Services (Product)
  - Factors of Production
- Red Arrows
  - Flow of inputs/outputs.
- Green Arrows
  - Flow of dollars.



Microeconomics

- The study of individual households and firms, and how they make decisions and interact in the marketplace.
    - Macroeconomics examines economy-wide phenomena.

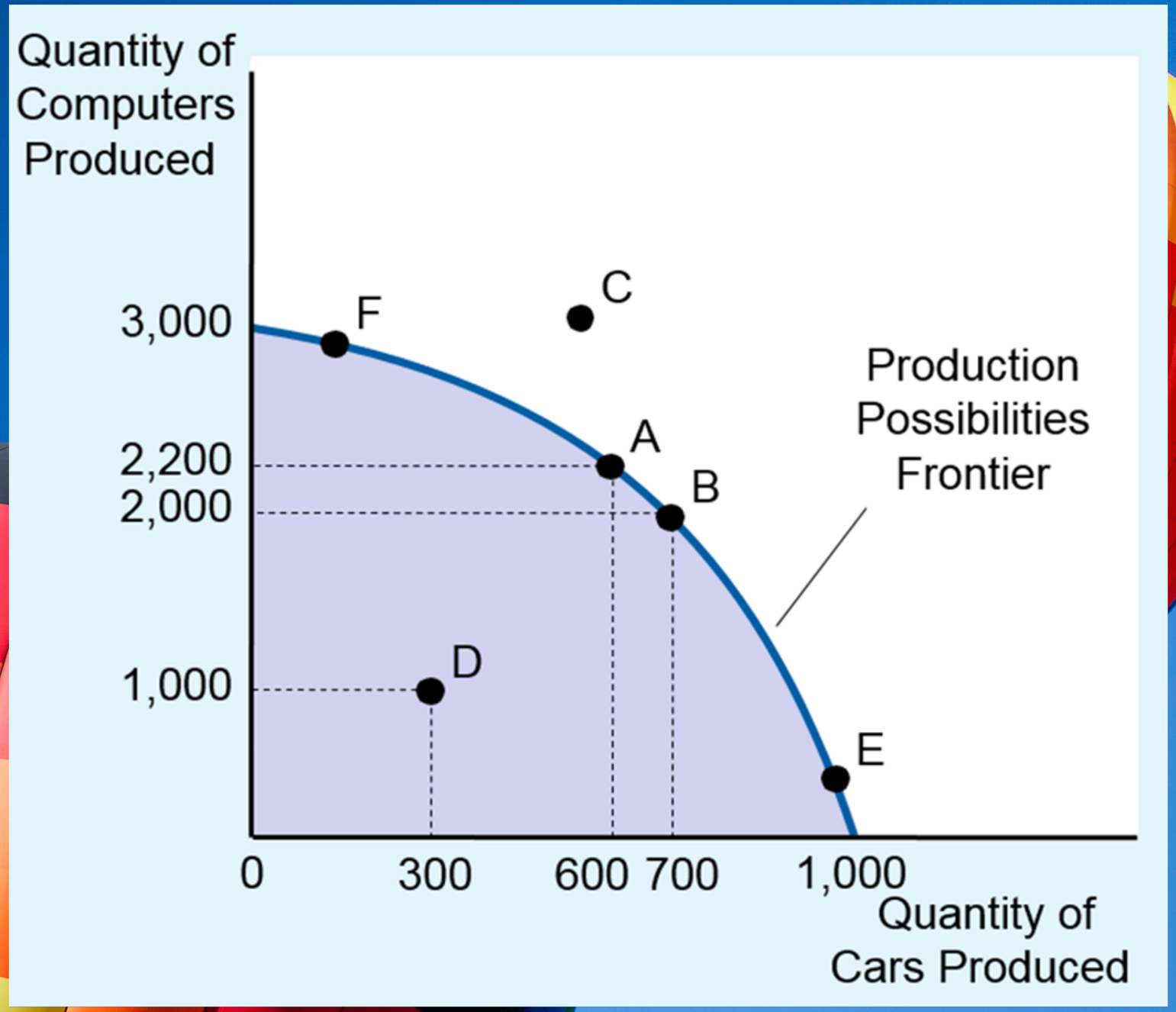
Product vs. Factor Market

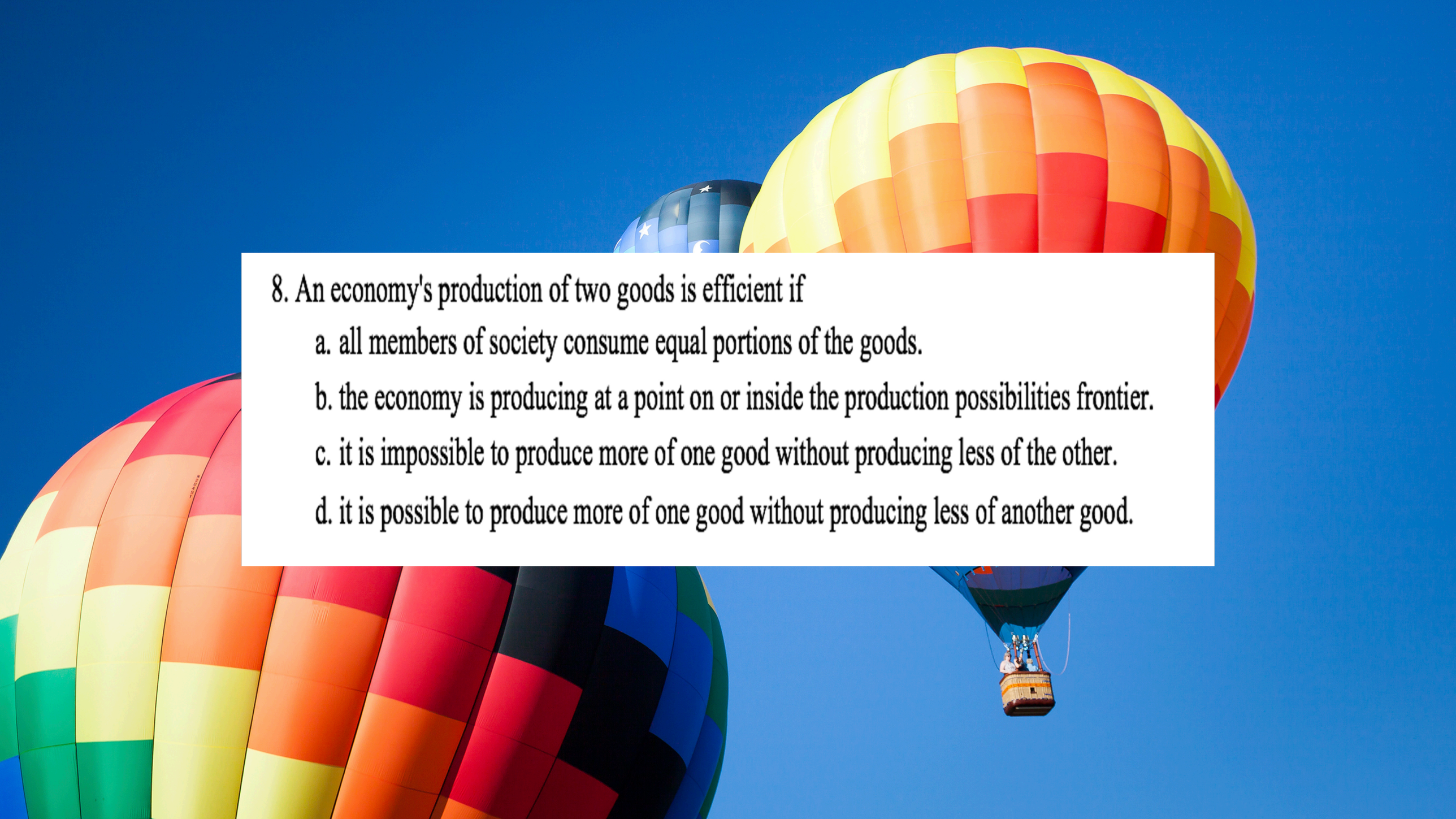
- Product Market
  - Firms sell goods & services to households.
    - Example: Goods we buy from the store (groceries, laptops, clothes, cars).
- Factor Market
  - Households sell factors of production to firms.
    - Example: Labor and other capital.

Production Possibilites Frontier (PPF)

Production Possibilities Frontier

- A graph showing the maximum attainable combinations of two goods that may be produced in an economy, given available inputs and technology.
- Points on the PPF
  - Inside: Feasible but inefficient.
  - Outside: Not feasible.
  - On: Feasible and efficient.


Quantity of Computers Produced
3,000
2,200
2,000
1,000
F
C
A
B
D
E
Production Possibilities Frontier
0
300
600
700
1,000
Quantity of Cars Produced



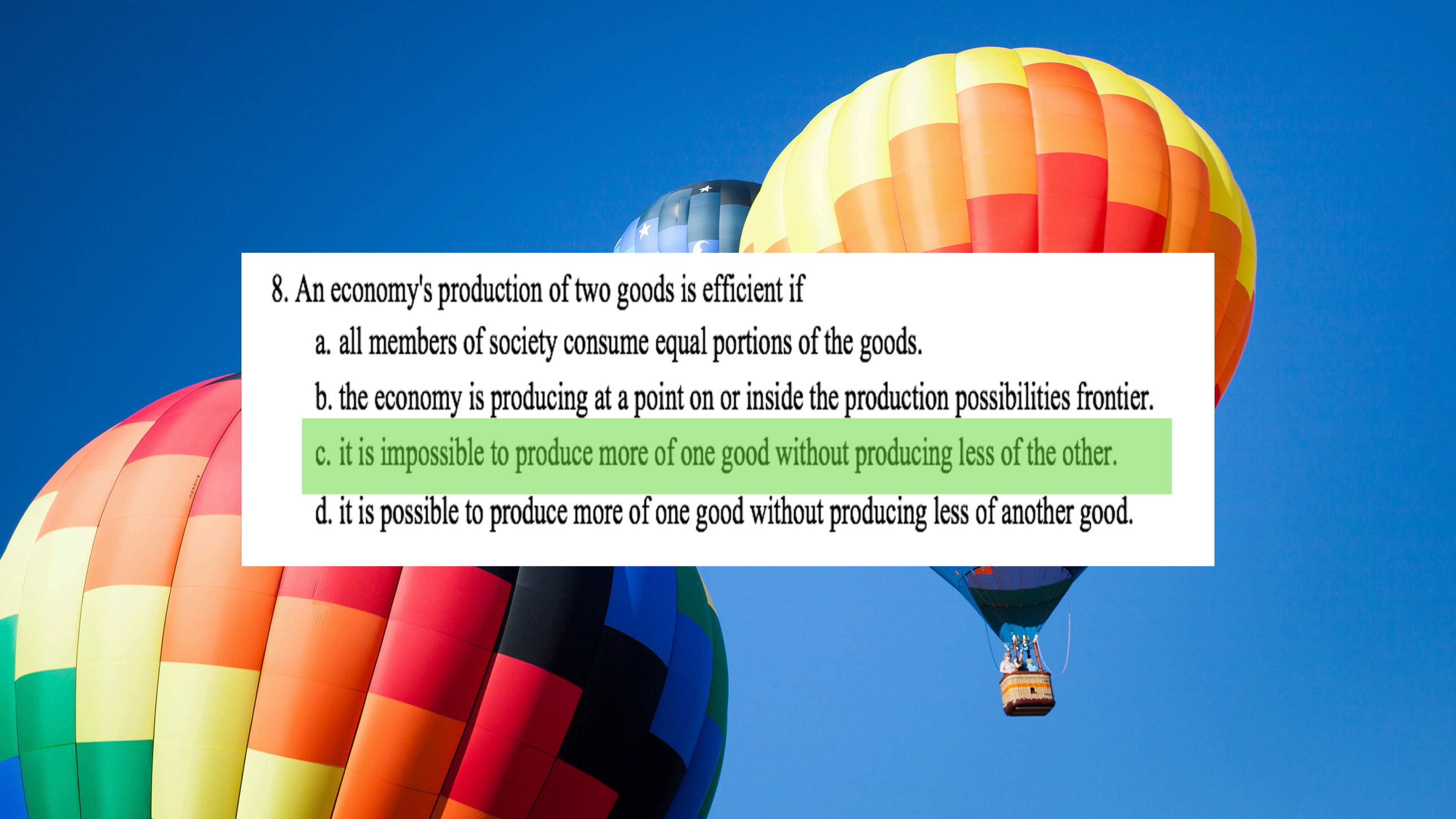
8. An economy's production of two goods is efficient if

a. all members of society consume equal portions of the goods.

b. the economy is producing at a point on or inside the production possibilities frontier.

c. it is impossible to produce more of one good without producing less of the other.

d. it is possible to produce more of one good without producing less of another good.



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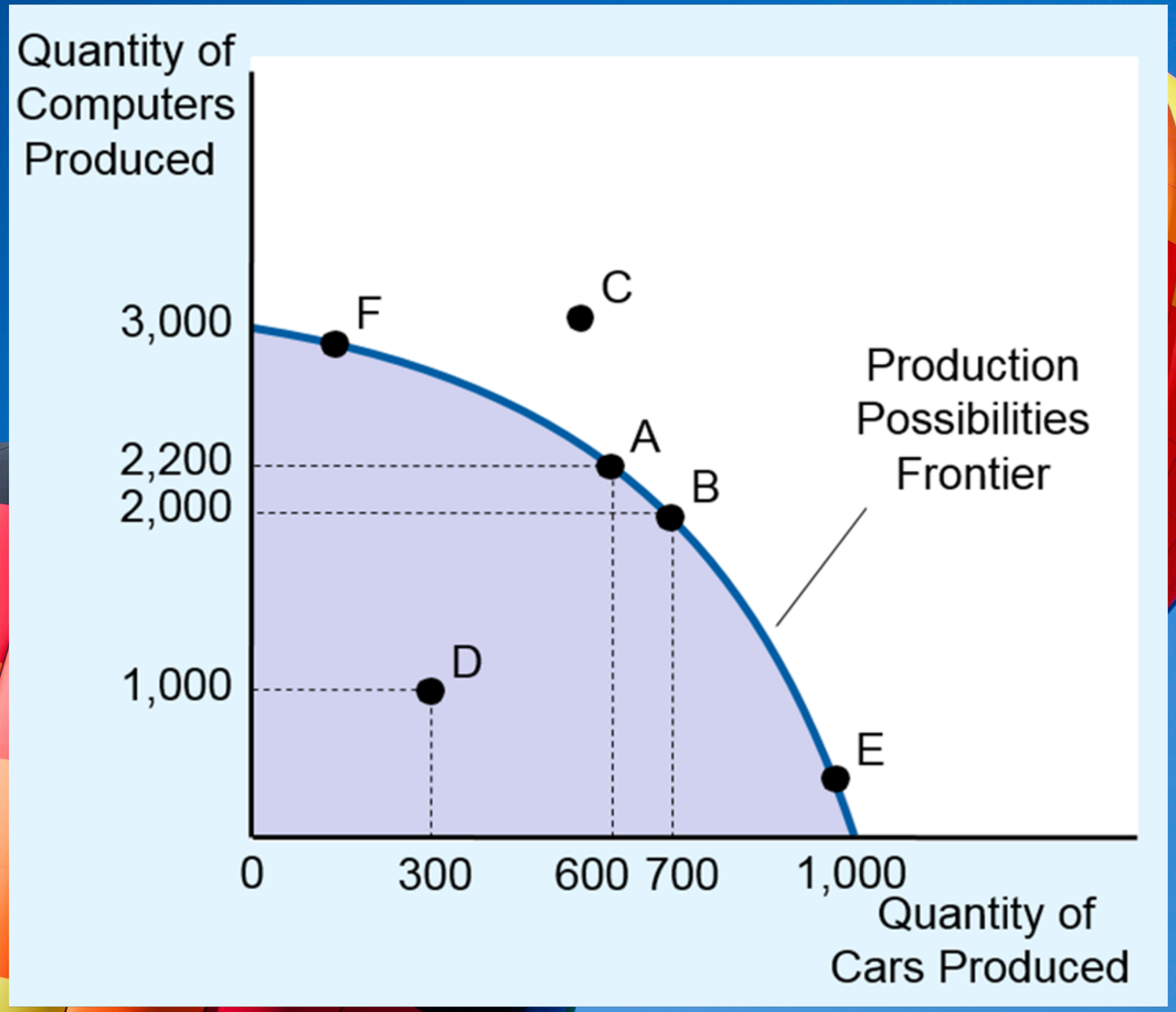
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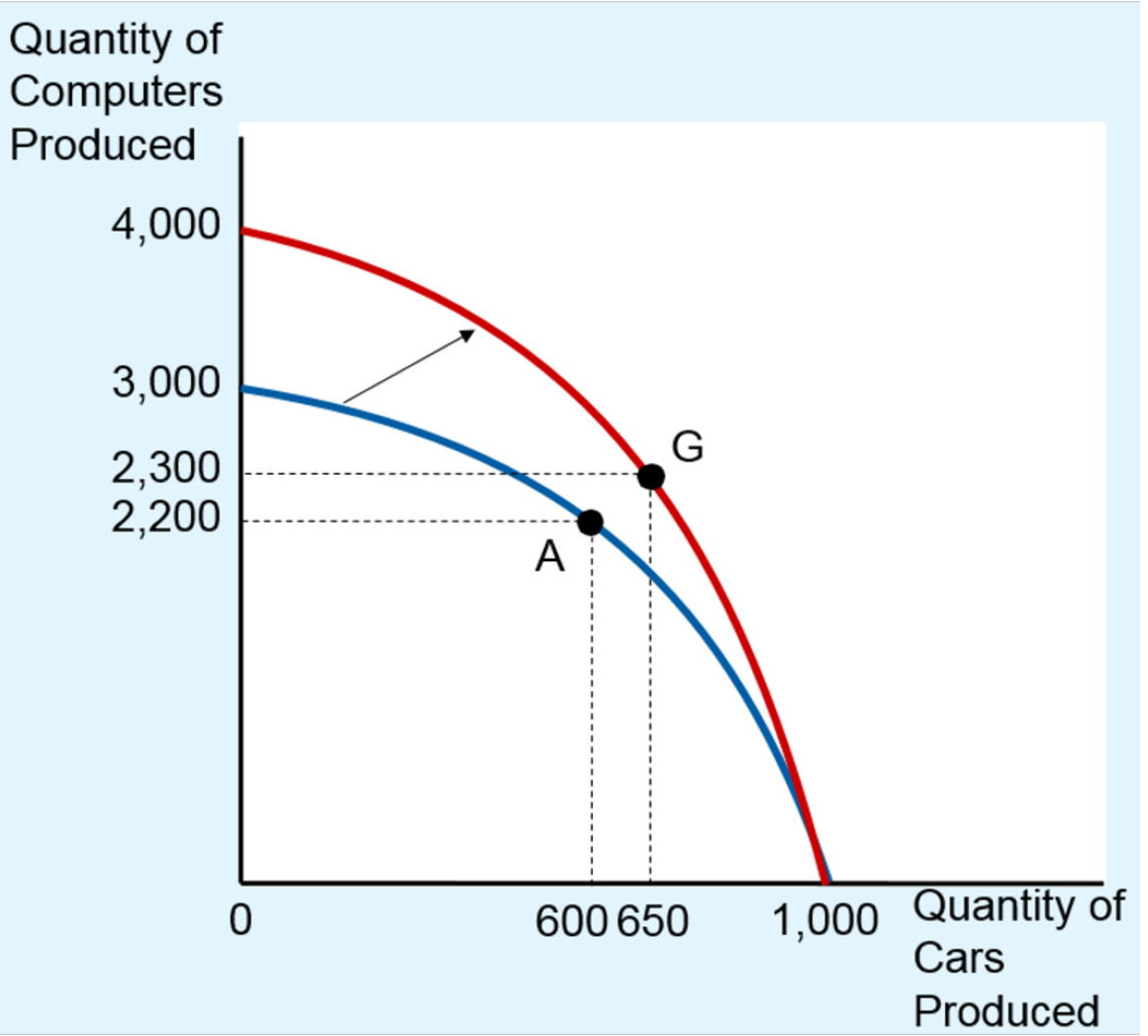
Production Possibilities Frontier

- PPFs show us the tradeoffs between output of two goods at a given time.
    - However, they can also show us how these tradeoffs change over time.

- A technological advance in the computer industry enables the economy to produce more computers for any given number of cars.
- As a result, the production possibilities frontier shifts outward.



Production Possibilities Frontier

- PPFs also teach us about opportunity costs

Opportunity Costs

(Going back) (Again)

- Arguably the most powerful concept of economics!
- The value of the next best alternative forgone from making a choice.
- What you give up in order to obtain something else.
- NOT just monetary costs.

13. Alana decides to spend 2 hours working overtime rather than going shopping with her friends. She earns $11 per hour for overtime work. Her opportunity cost of working is

a. the $22 she earns working.

b. the $22 minus the enjoyment she would have received from going shopping.

c. the enjoyment she would have received had she gone shopping.

d. nothing, since she would have received less than $22 worth of enjoyment from going shopping.

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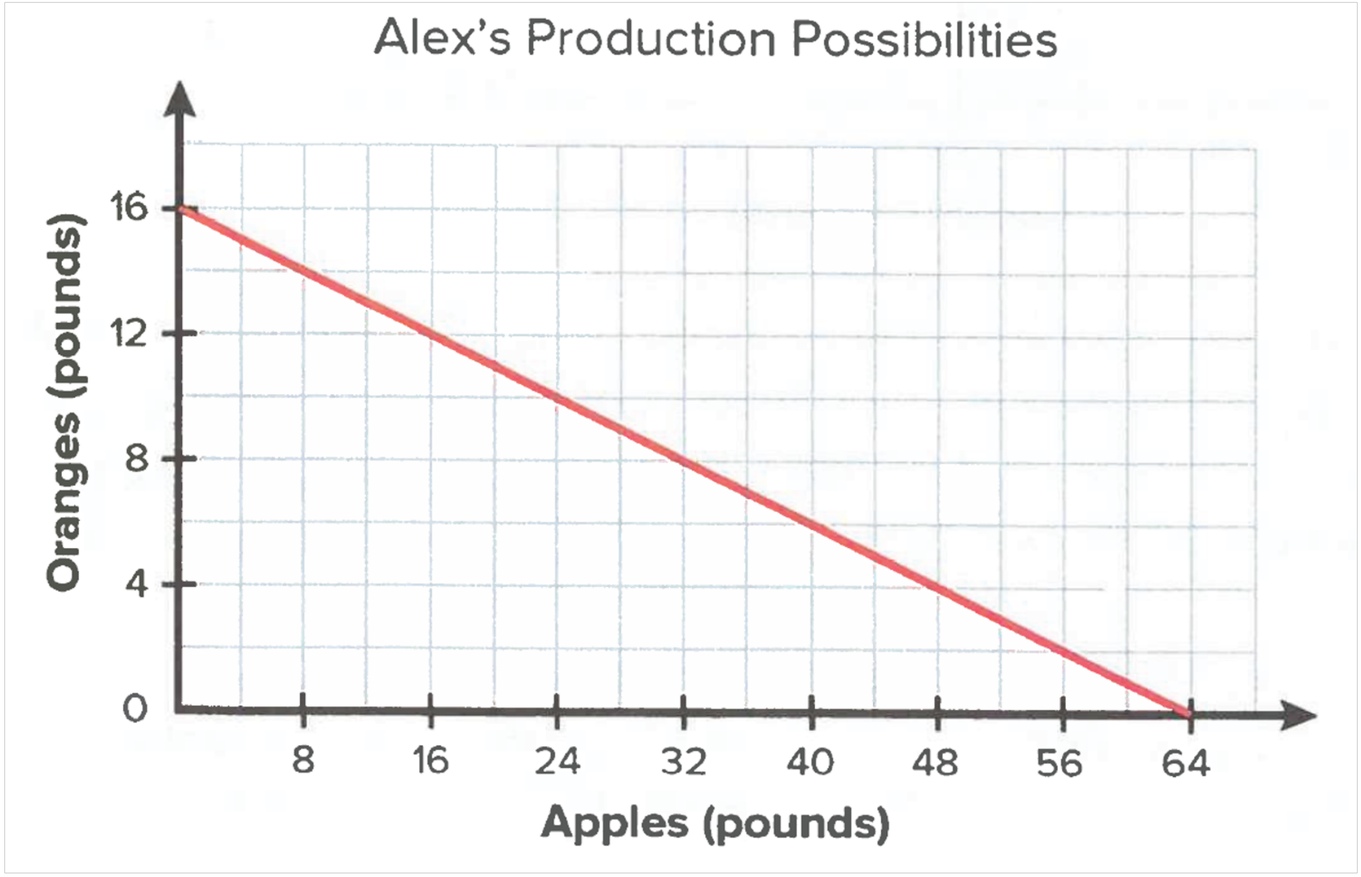

Production Possibilities Frontier

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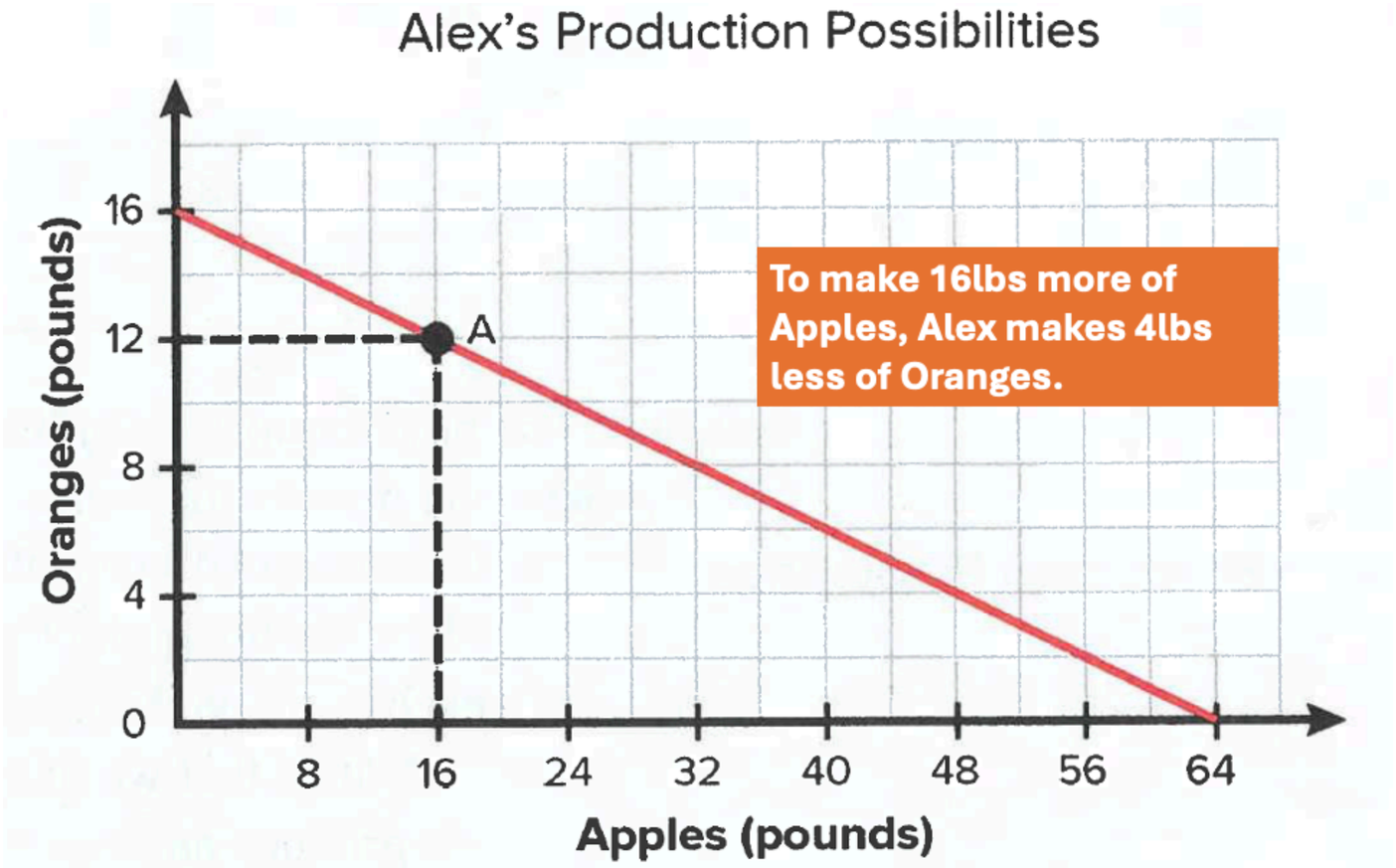

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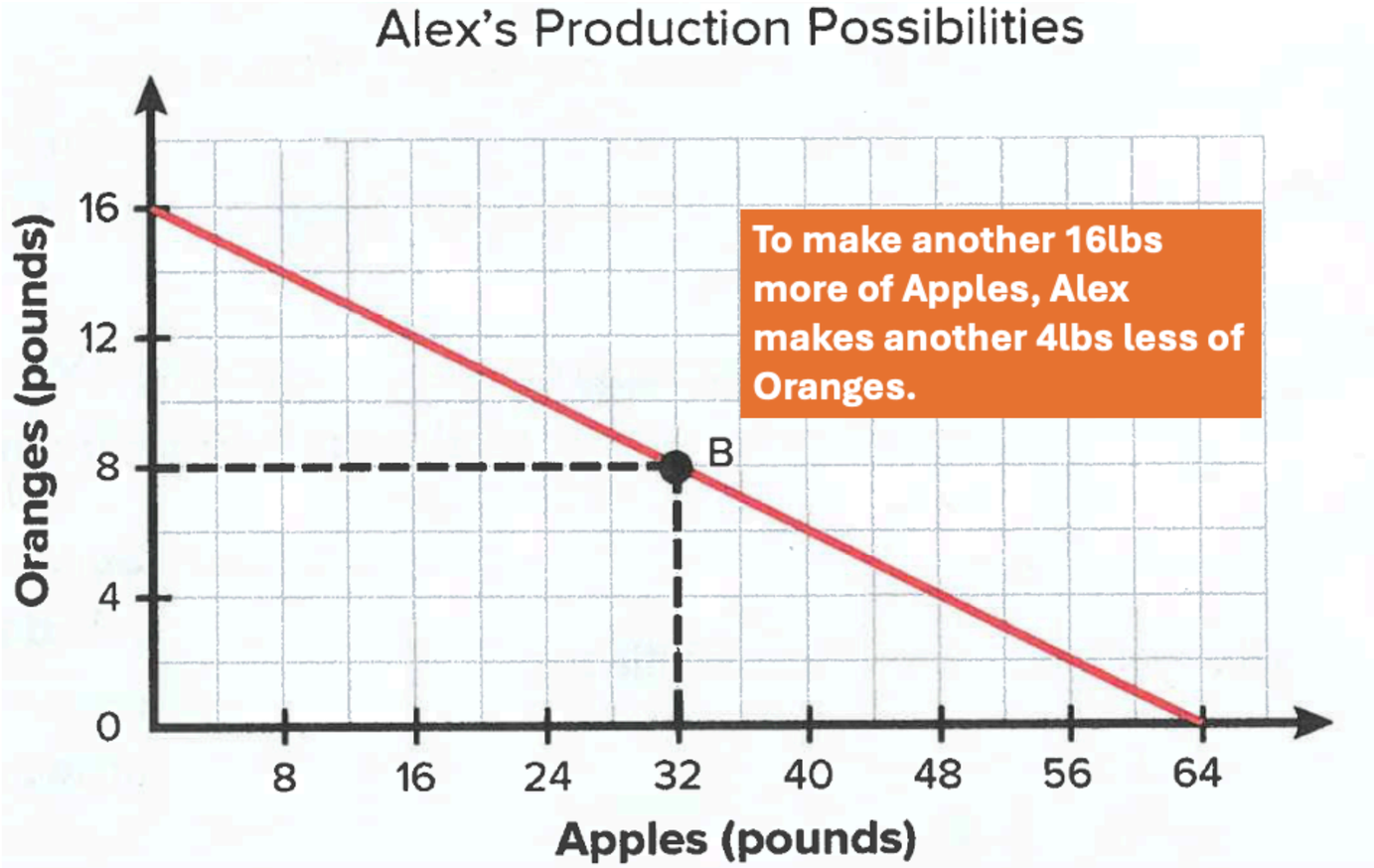

Production Possibilities Frontier

- The Slope of the PPF measures the opportunity cost of one good in terms of another.

End of class.
Thanks for your attention!