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# PRINCIPLES OF ECONOMICS

*Eighth Edition*



CHAPTER

2

## Thinking Like an Economist

# Look for the answers to these questions:

- What are economists' two roles? How do they differ?
- What are models? How do economists use them?
- What are the elements of the Circular-Flow Diagram? What concepts does the diagram illustrate?
- How is the Production Possibilities Frontier related to opportunity cost? What other concepts does it illustrate?
- What is the difference between microeconomics and macroeconomics? Between positive and normative?



# The Economist as a Scientist

- Economists play two roles:
  1. Scientists: try to explain the world
  2. Policy advisors: try to improve it
- As scientists, economists employ the scientific method
  - Dispassionate development and testing of theories about how the world works



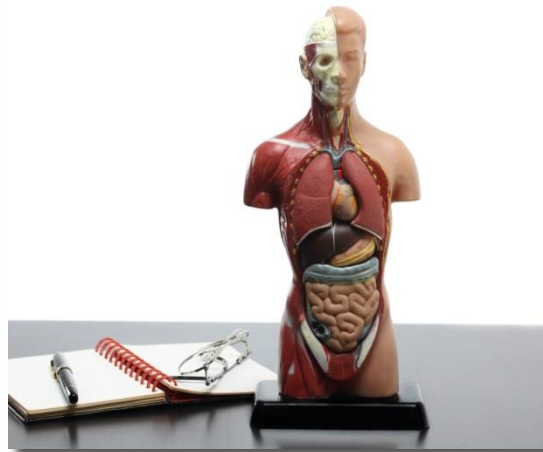
# The Economist as a Scientist

- Assumptions
  - Simplify the complex world and make it easier to understand
  - Example: to study international trade, assume two countries and two goods
- Economists use models to study economic issues
  - Highly simplified representation of a more complicated reality



# The Economist as a Scientist

- Examples of models:
  - The model teeth at the dentist's office
  - A model of human anatomy from high school biology class
  - A road map



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# The Economist as a Scientist

- Circular-flow diagram
  - Visual model of the economy
  - Shows how dollars flow through markets among households and firms
- Two decision makers
  - Firms and Households
- Interacting in two markets
  - Market for goods and services
  - Market for factors of production (inputs)



# Figure 1 The circular flow

## Households:

- Own the factors of production, sell/rent them to firms for income
- Buy and consume goods & services

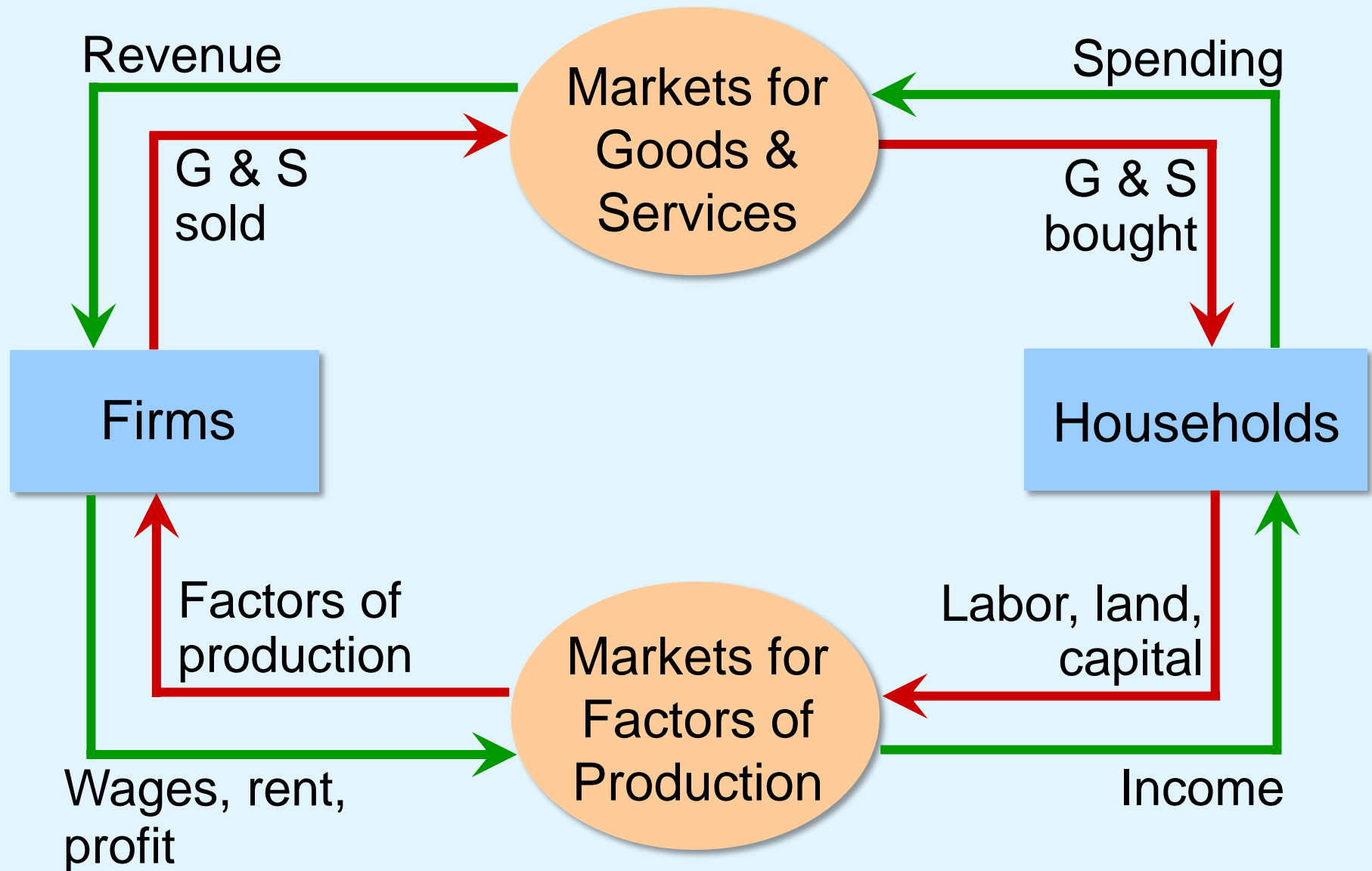
Firms

Households

## Firms:

- Buy/hire factors of production, use them to produce goods and services
- Sell goods & services

# Figure 1 The circular flow







# The PPF

- Production possibilities frontier
  - A graph: combinations of output that the economy can possibly produce
  - Given the available
    - Factors of production and technology
  - Example: ‘Narnia Land’
    - Two goods: computers and wheat
    - One resource: labor (measured in hours)
    - Economy has 50,000 labor hours per month available for production

# PPF Example

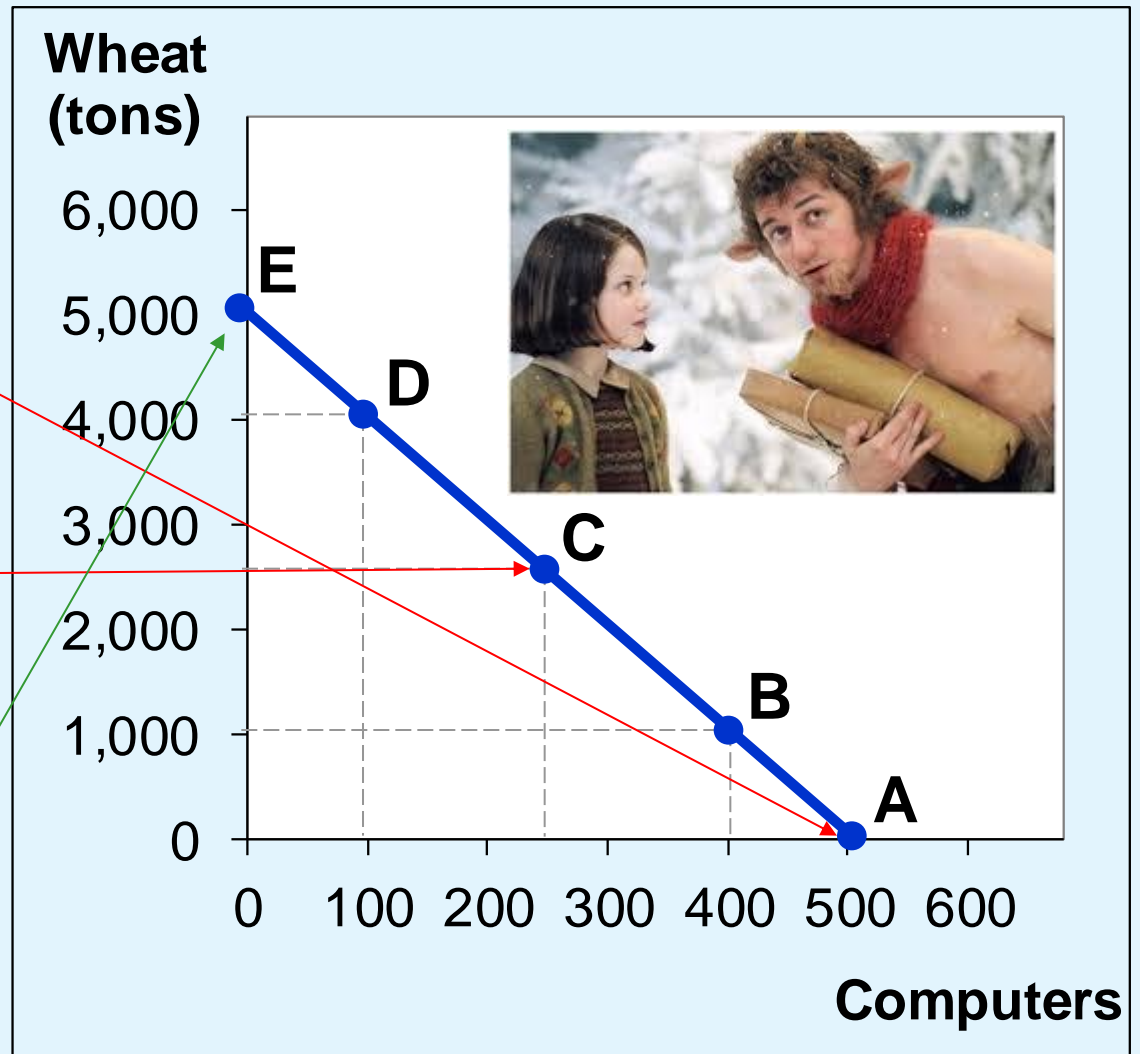
Producing one computer requires 100 hours labor.

Producing one ton of wheat requires 10 hours labor.

	Employment of labor hours		Production	
	Computers	Wheat	Computers	Wheat
A	50,000	0	500 <small>= 50,000 / 100</small>	0
B	40,000	10,000	400	1,000 <small>= 10,000 / 10</small>
C	25,000	25,000	250	2,500
D	10,000	40,000	100	4,000
E	0	50,000	0	5,000

# PPF Example

Point on graph	Production	
	Com- puters	Wheat
<b>A</b>	500	0
<b>B</b>	400	1,000
<b>C</b>	250	2,500
<b>D</b>	100	4,000
<b>E</b>	0	5,000



## Points off the PPF

On the graph above, find the point that represents (100 computers, 3000 tons of wheat), label it **F**.

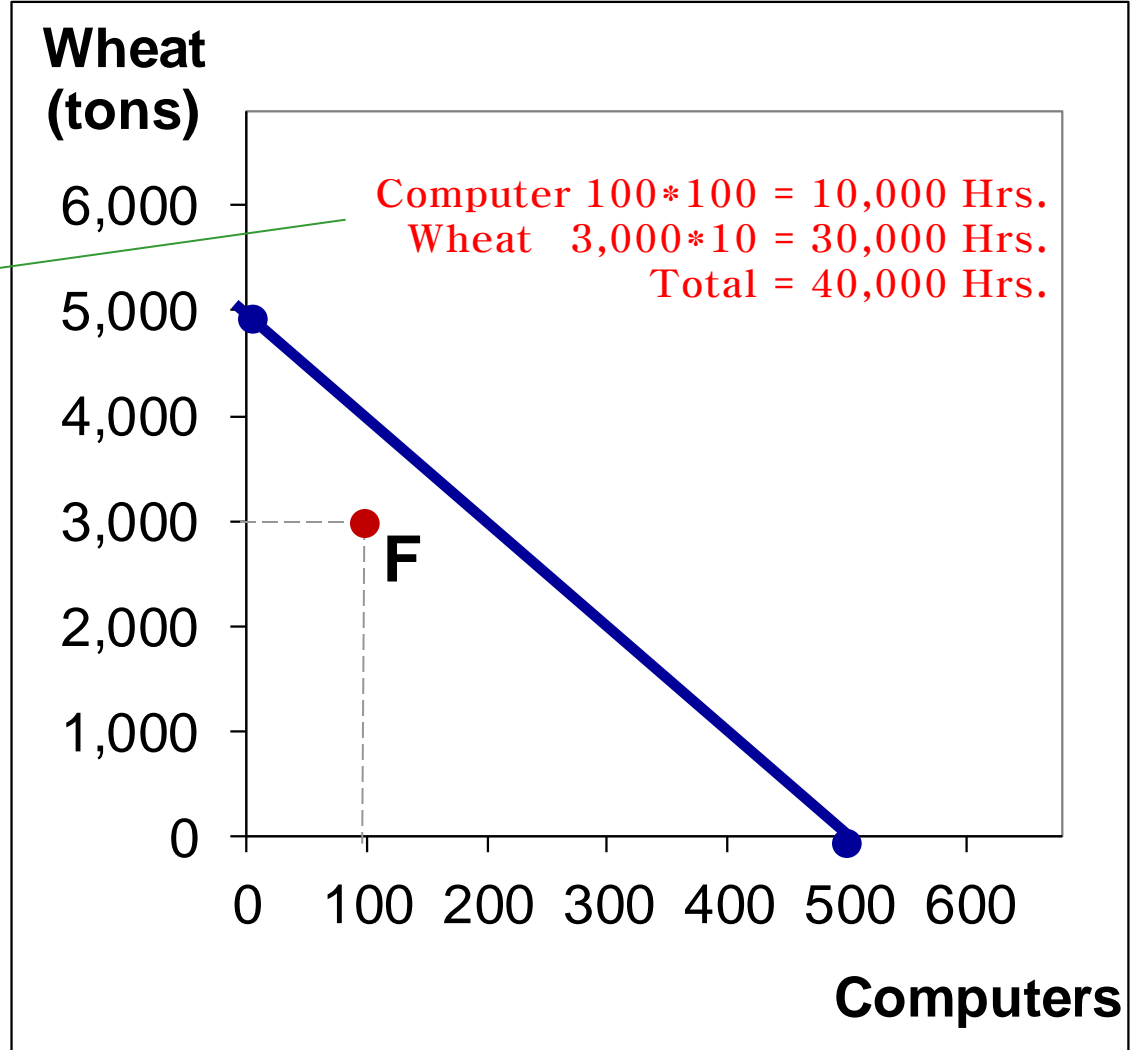
- Would it be possible for the economy to produce this combination of the two goods? Why or why not?

Next, find the point that represents (300 computers, 3500 tons of wheat), label it **G**.

- Would it be possible for the economy to produce this combination of the two goods?

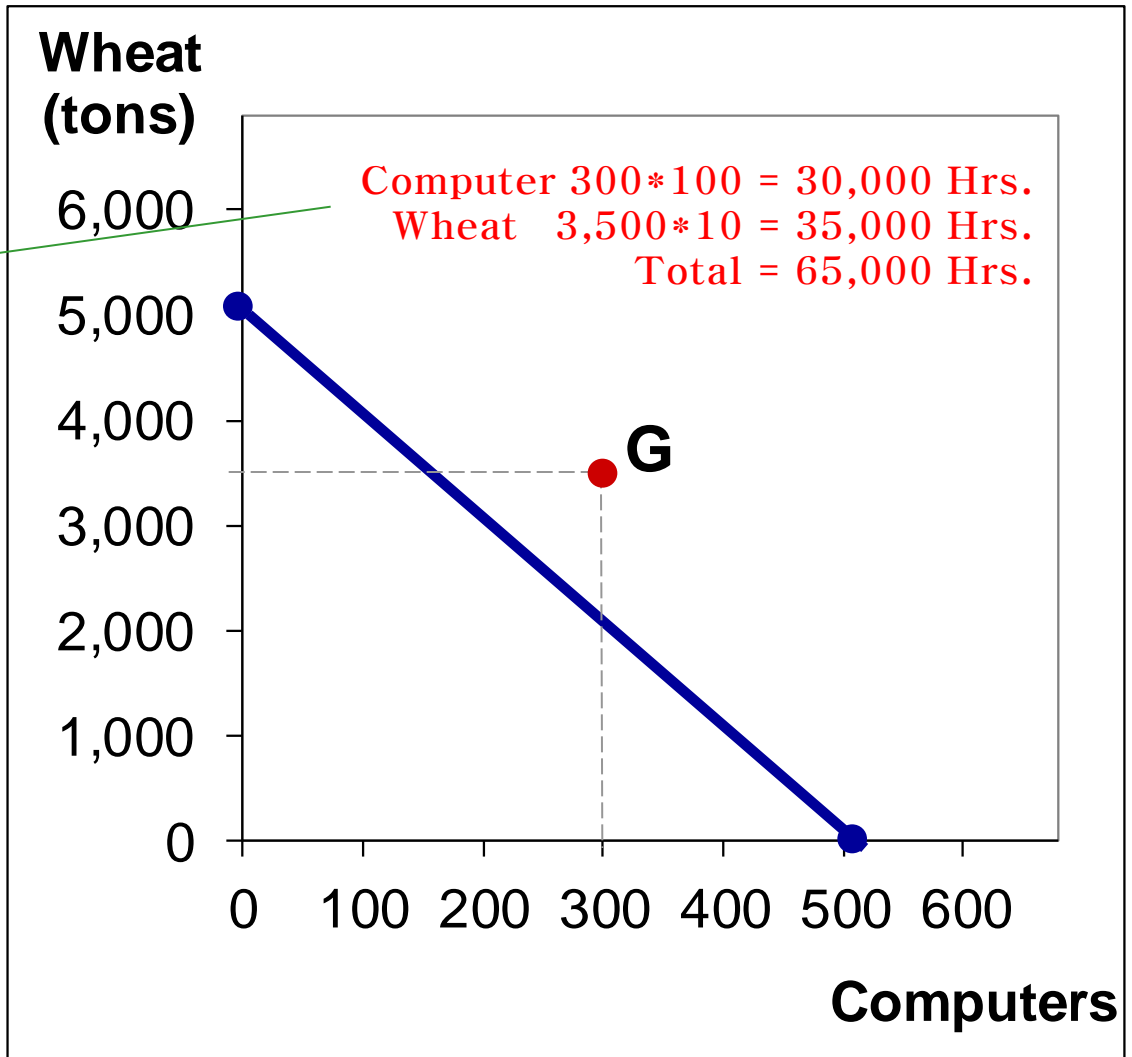
# Answers 1

- **Point F:** 100 computers, 3000 tons wheat
- Requires 40,000 hours of labor
- Possible but not efficient: could get more of either good without sacrificing any of the other



## Answers 2

- **Point G:** 300 computers, 3500 tons wheat
- Requires 65,000 hours of labor.
- Not possible because the economy only has 50,000 hours





# The PPF: What We Know So Far

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

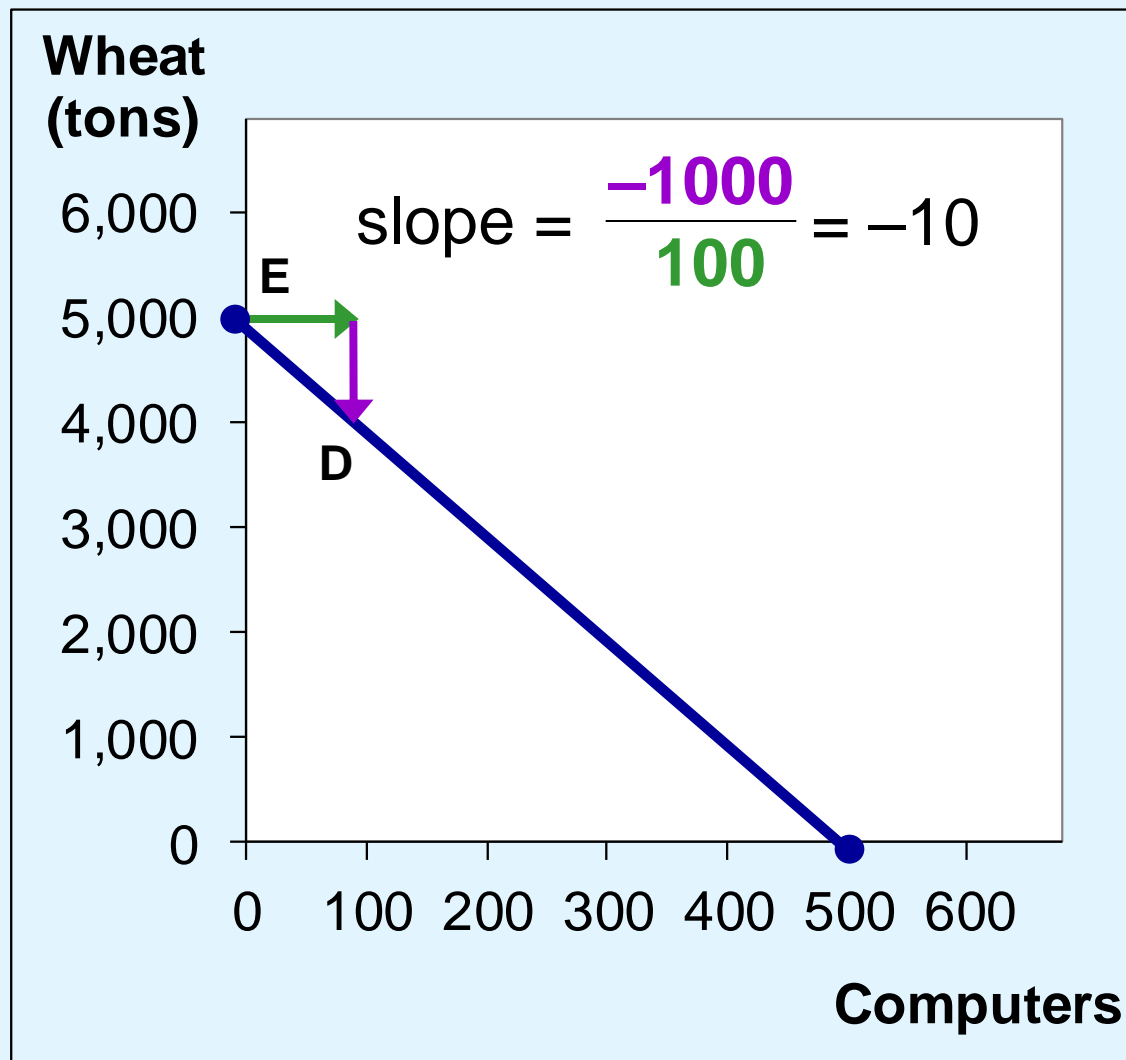




# The PPF

- 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

# The PPF and Opportunity Cost

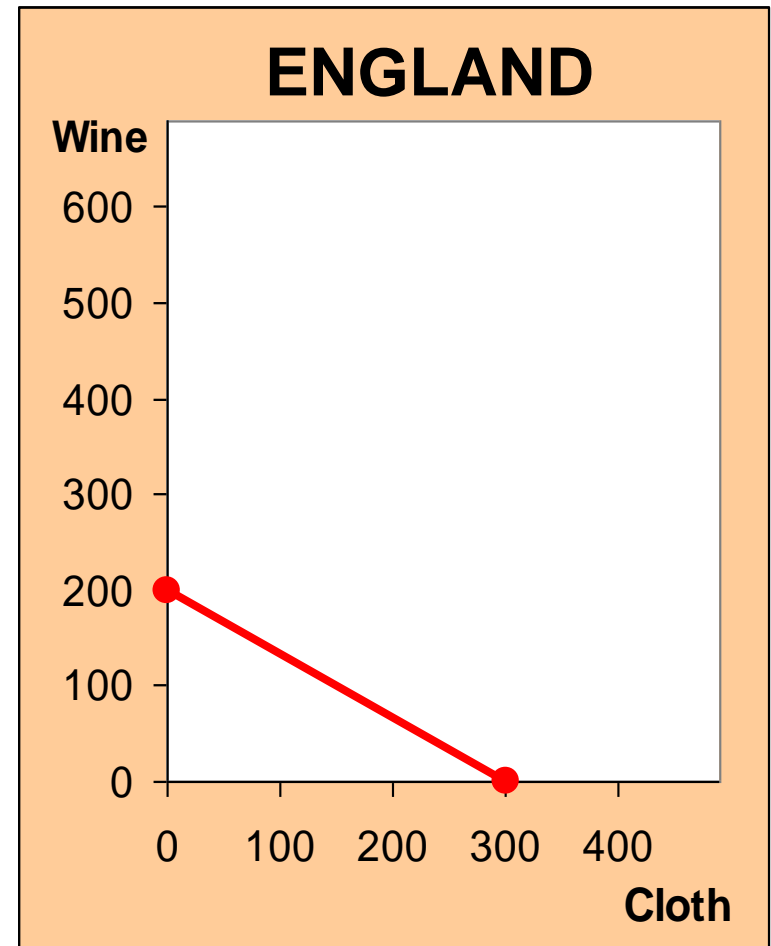
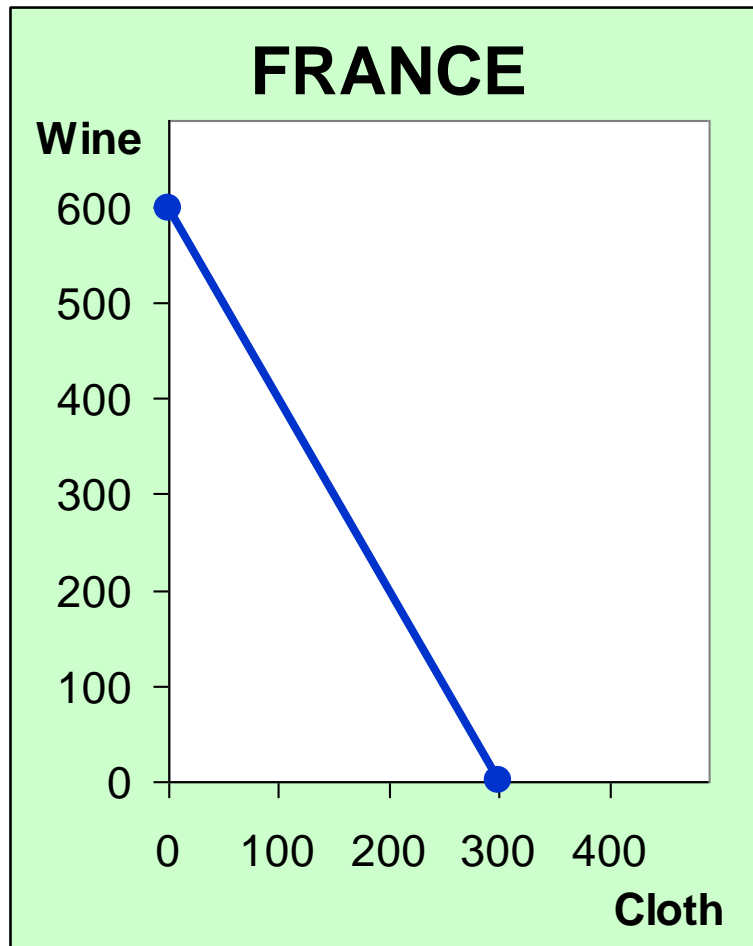


The slope of a line equals the “**rise** over the **run**.”

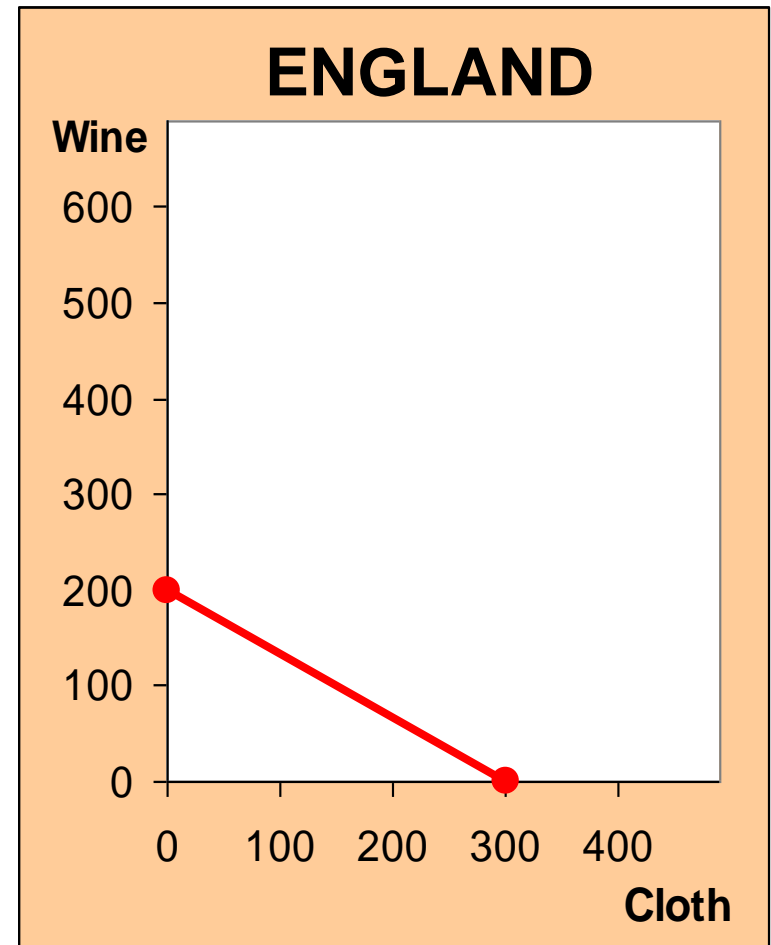
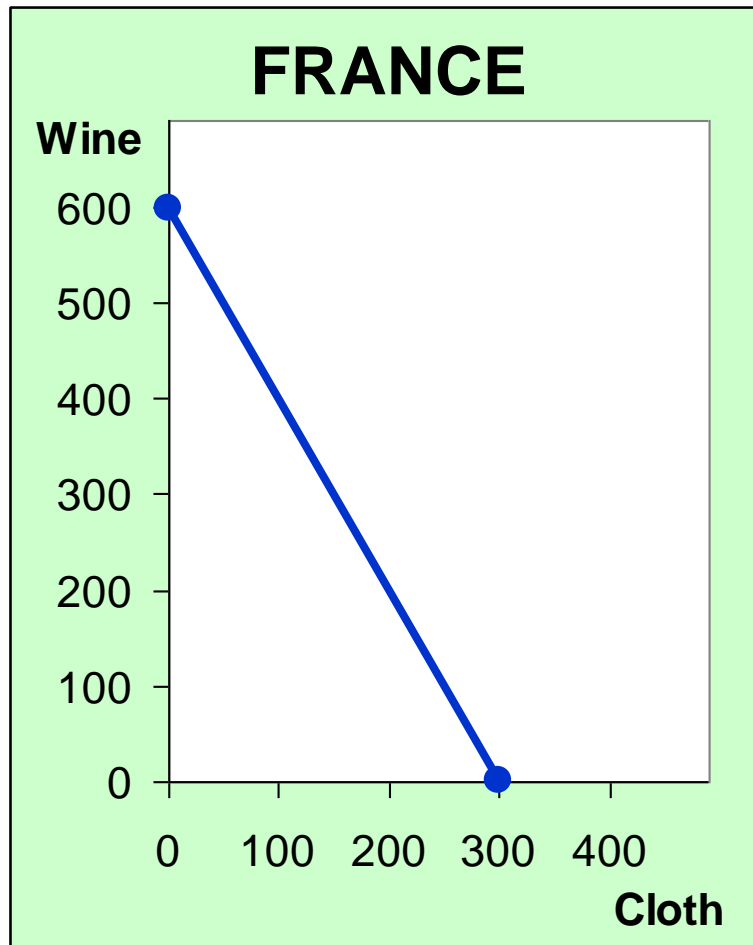
**Opportunity cost** of 1 computer = 10 tons of wheat.

# PPF and Opportunity Cost

In which country is the opportunity cost of cloth lower?

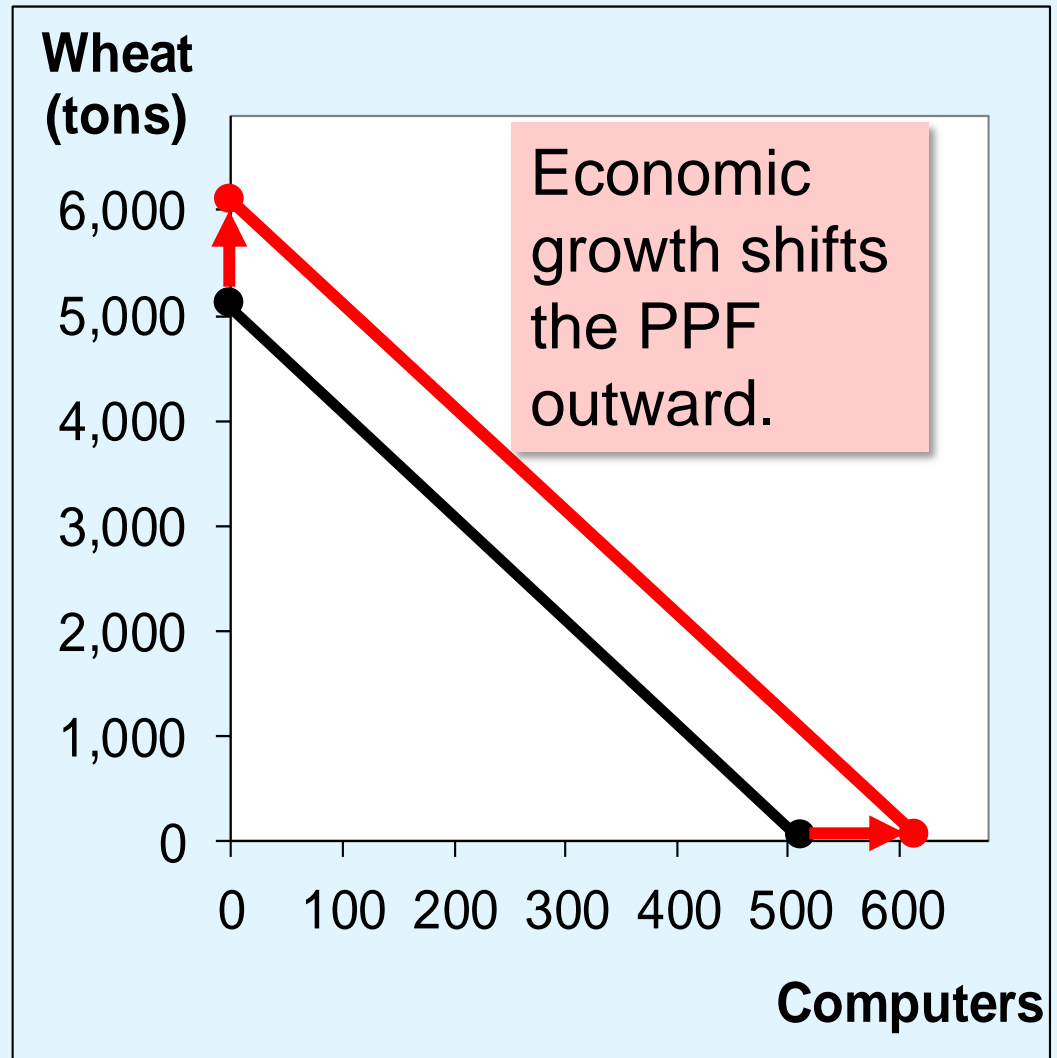


England, because its PPF is not as steep as France's



# Economic Growth and the PPF

With additional resources or an improvement in technology, the economy can produce more computers, more wheat, or any combination in between.

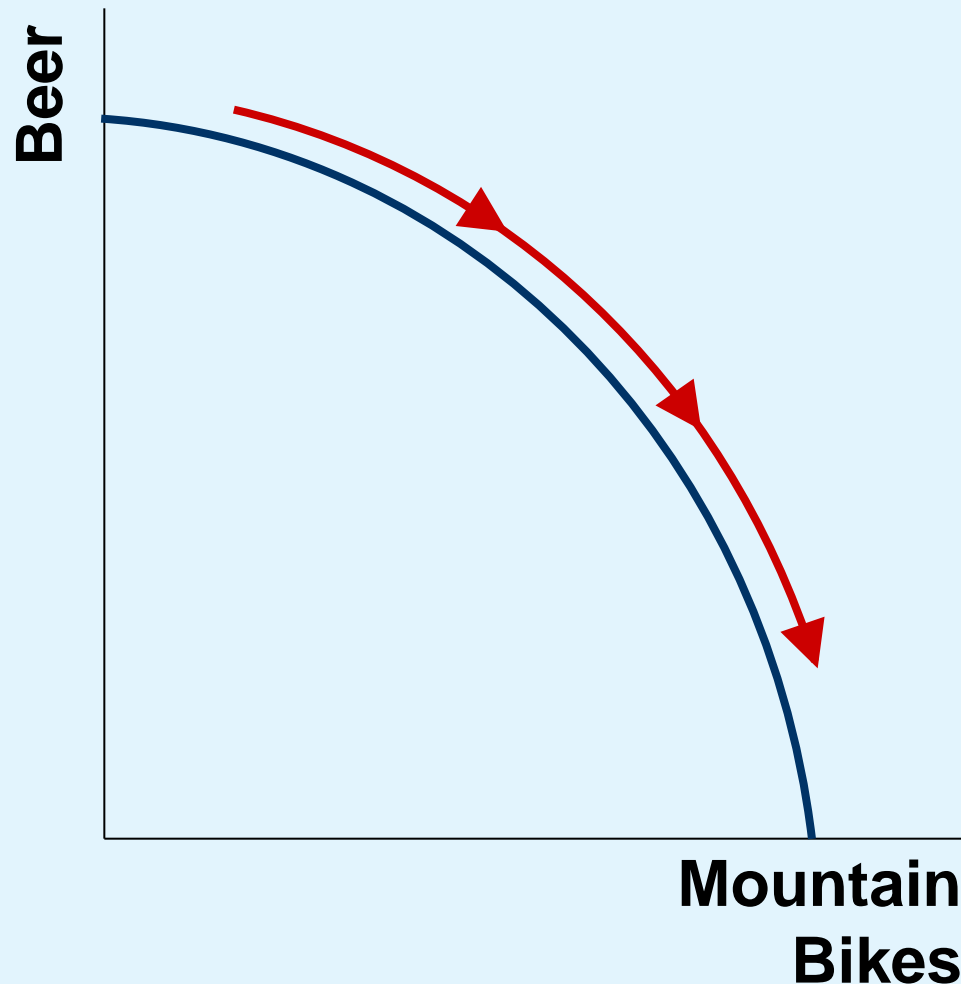




# The Shape of the PPF

- Shape of the PPF
  - Straight line: constant opportunity cost
    - Previous example: the opportunity cost of 1 computer is 10 tons of wheat
  - 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

# Why the PPF Might Be Bowed Outward



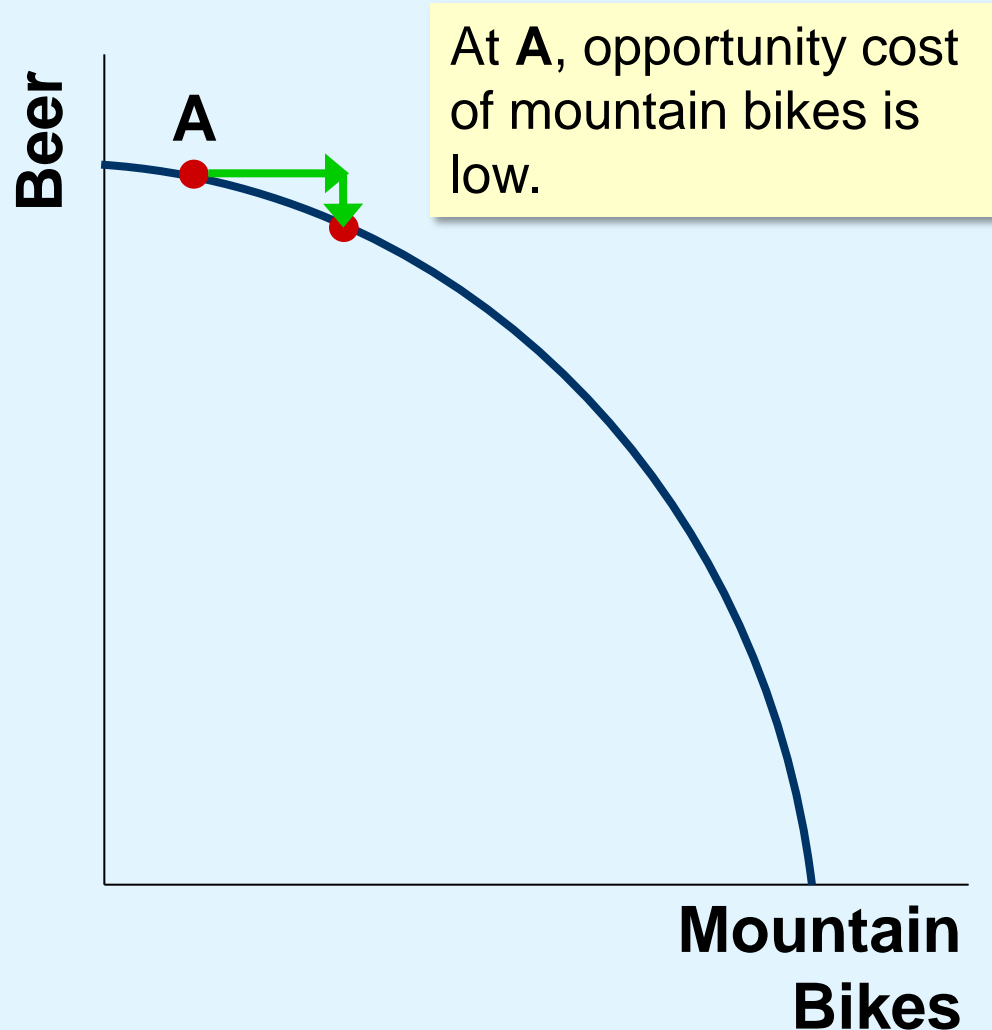
As the economy shifts resources from beer to mountain bikes:

PPF becomes steeper

and the opportunity cost of mountain bikes increases.



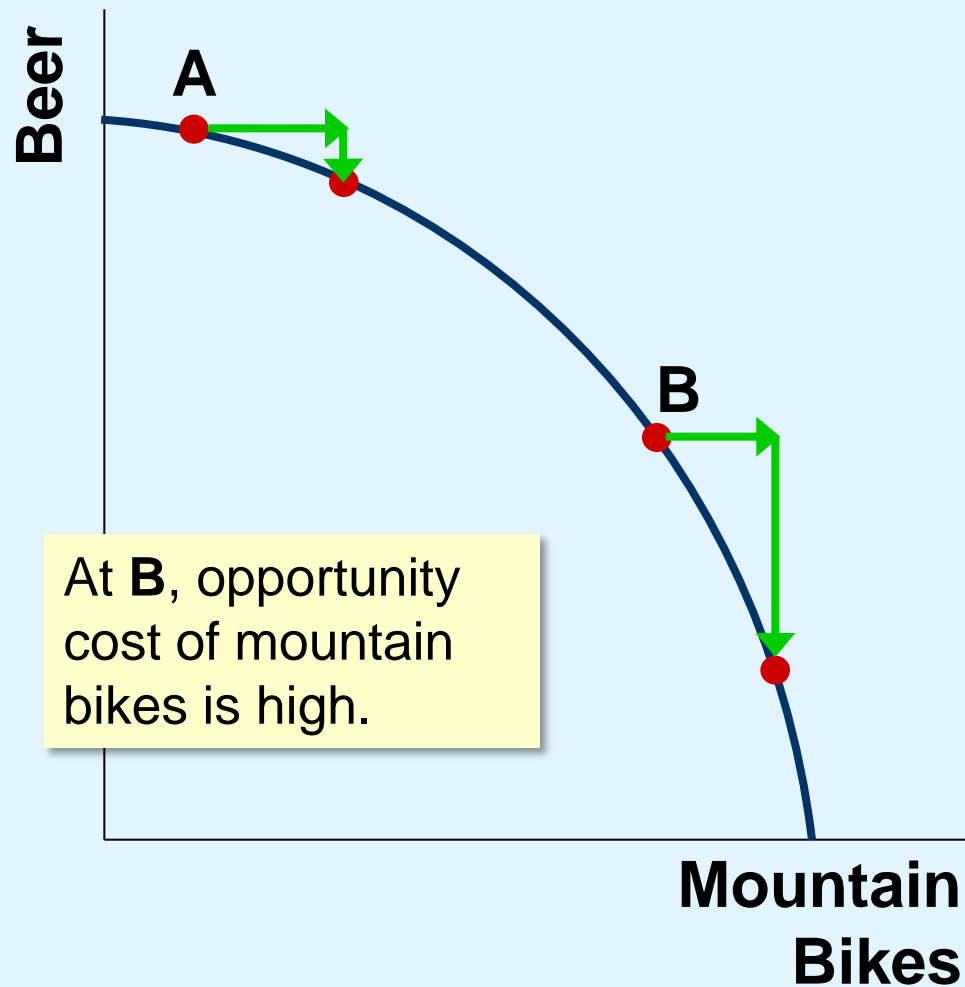
# Why the PPF Might Be Bowed Outward



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



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.



# The Economist as a Scientist

- **Microeconomics**
  - The study of how households and firms make decisions and how they interact in markets
- **Macroeconomics**
  - The study of economy-wide phenomena, including inflation, unemployment, and economic growth



# The Economist as Policy Adviser

- Positive statements: descriptive
  - Attempt to describe the world as it is
  - Confirm or refute by examining evidence:  
“Minimum-wage laws cause unemployment”
- Normative statements: prescriptive
  - Attempt to prescribe how the world should be: “The government should raise the minimum wage”



# Why Economists Disagree

- Economists often give conflicting policy advice
  - Can disagree about the validity of alternative positive theories about the world
  - May have different values and, therefore, different normative views about what policy should try to accomplish
- Yet, there are many propositions about which most economists agree

# Summary

- Economists are scientists
  - Make appropriate assumptions and build simplified models
  - The circular-flow diagram and the production possibilities frontier
- Microeconomists study decision making by households and firms and their interactions in the marketplace
- Macroeconomists study the forces and trends that affect the economy as a whole

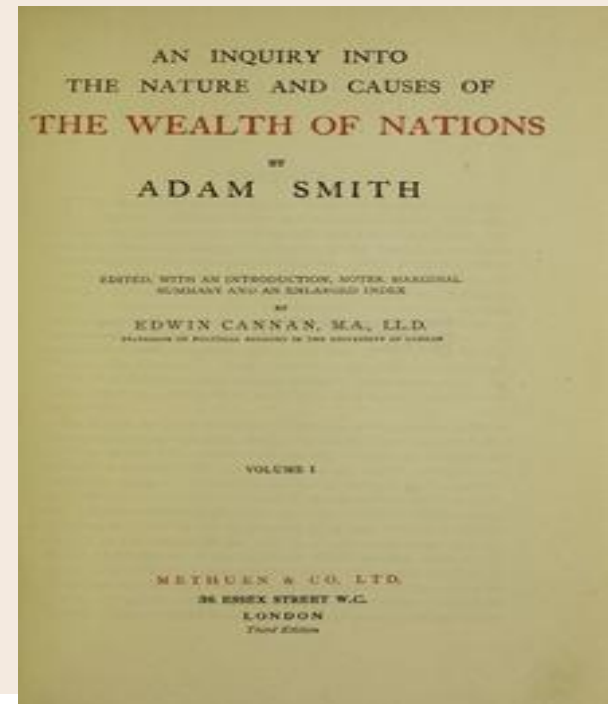
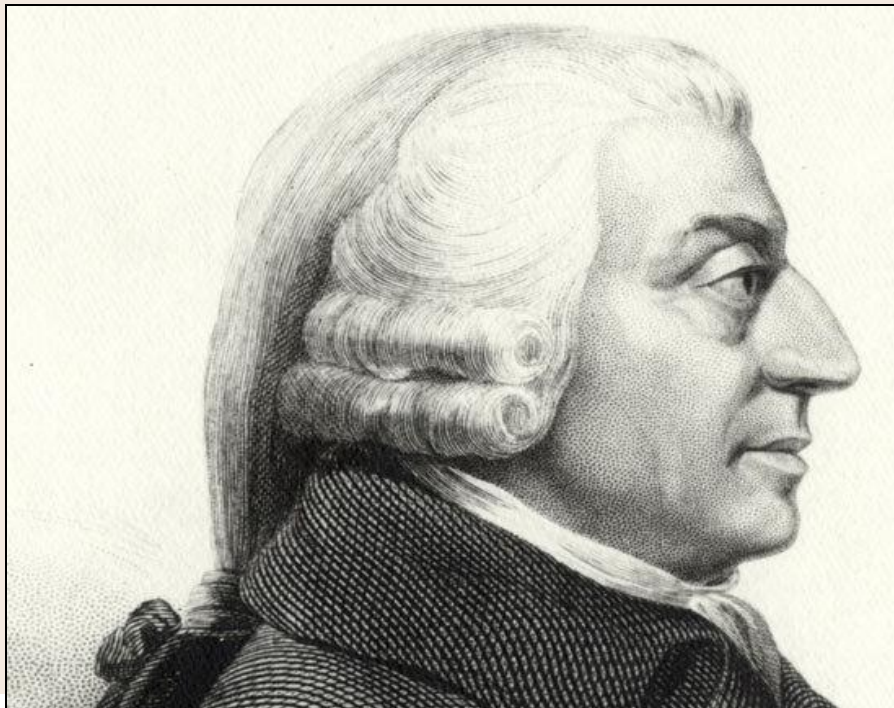
# Economists who changed the world

- Adam Smith
  - ‘The Wealth of Nations’(1776)
- Karl Marx
  - ‘The Capital’ or ‘Das Kapital’(1867)
- John M. Keynes
  - ‘The General Theory of Employment, Interest, and Money’(1936)



# 1. Adam Smith(1723~1790)

- Scottish economist, philosopher
  - The father of Economics
  - Laid theoretical foundations of classical market economic theory.

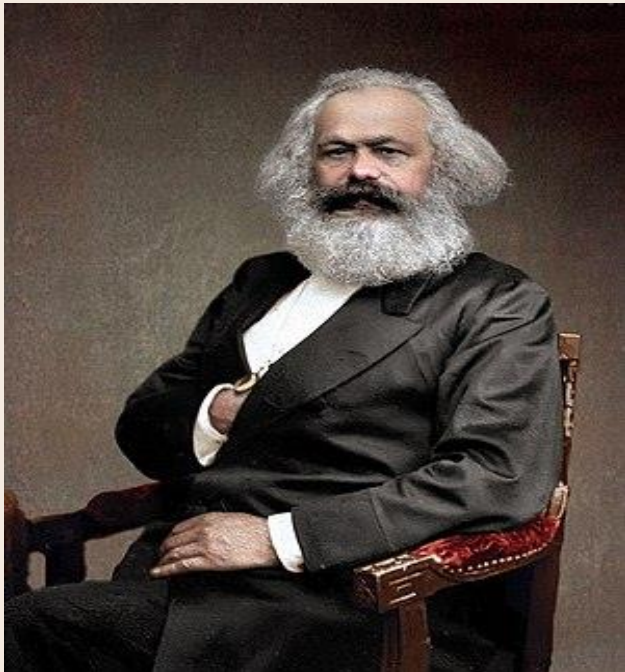


# The Wealth of Nations(1776)

- Comparable to Sir Isaac Newton's Principia Mathematica for physics, Antoine Lavoisier's Traité Élémentaire de Chimie for chemistry, or Charles Darwin's On the Origin of Species for biology
- Importance of ‘Invisible hand’, ‘Division of Labor’, and ‘Absolute advantage’...
- “It is not from the benevolence of the butcher, the brewer, or the baker, that we expect our dinner, but from their regard to their own interest. .”
- “The consequence of the division of labor, in a well-governed society, is that universal opulence which extends itself to the lowest ranks of the people.”
- “When an individual pursues his self-interest under conditions of justice, he unintentionally promotes the good of society.”

## 2. Karl Marx (1818~1883)

- German philosopher, economist, historian
  - Enormous influence on the intellectual, economic, and political history of the world

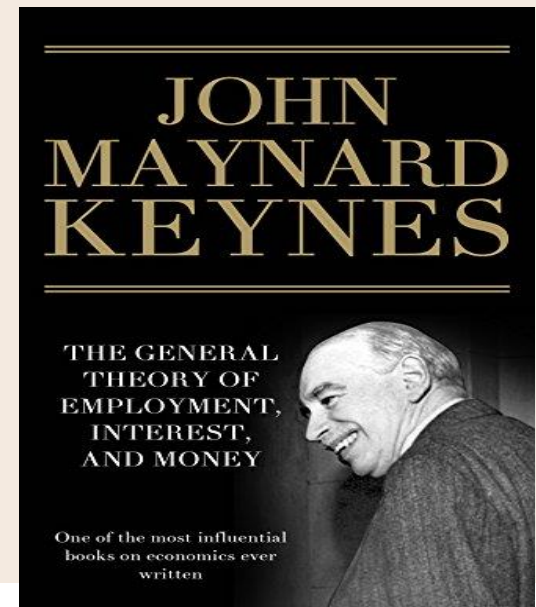


# The Capital(1867)

- Marx's theories about society, economics, and politics – collectively understood as Marxism – hold that human societies develop through class struggle.
- Conflict between the ruling class that control the means of production and the working classes
- Working classes selling their labor power in return for wages.
- Marx predicted that capitalism produced internal tensions which would lead to its self-destruction and replacement by a new system: socialism.
- Eventually leading to the establishment of a classless, communist society.
- One of the most influential figures in human history, and many intellectuals, labor unions, artists and political parties worldwide have been influenced by Marx's work.

### 3. John M. Keynes(1833~1964)

- British economist; Founder of modern macroeconomics
  - Fundamentally changed the theory and the economic policies of governments
  - One of the most influential economist of the 20<sup>th</sup> century





# The General Theory(1936)

- During the Great Depression(1930s), Keynes led a revolution in economic thinking, challenging the ideas that free market would automatically provide full employment.
- He argued that aggregate demand (total spending in the economy) determined the overall level of economic activity, and that inadequate aggregate demand could lead to prolonged periods of high unemployment.
- Keynes advocated the use of fiscal and monetary policies to mitigate the adverse effects of recession and depressions.
- In the mid to late-1930s, leading Western economies adopted Keynes's policy recommendations.
- “His radical idea have saved capitalism”(Time Magazine, 1999)