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Thinking Like An Economist

PRINCIPLES OF
MACROECONOMICS
FOURTH CANADIAN EDITION

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PowerPoint® Slides
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In this chapter, look for the answers to these questions:

- What are economists' two roles? How do they differ?
- What are models? How do economists use models?
- What are the elements of the Circular-Flow Diagram? What concepts does this 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?

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The Economist as Scientist

- Economists play two roles:
 - Scientists: try to explain the world
 - Policy advisors: try to improve it
- In the first role, economists employ the **scientific method**: the dispassionate development and testing of theories about how the world works.

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Assumptions & Models

- Assumptions simplify the complex world, make it easier to understand.
- Example: When studying international trade, we might assume the world consists of two countries and two goods. Very unrealistic, but simplifies the problem and yields useful insights about the more complicated real world.
- Economists use **models** to study economic issues. A model is a highly simplified representation of a more complicated reality.

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Some Familiar Models



A road map

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Some Familiar Models

A model of human anatomy from high school biology class



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Some Familiar Models




A model airplane

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Some Familiar Models

The model teeth at the dentist's office



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**The Circular-Flow Diagram:
Our First Model**

- The **Circular-Flow Diagram**: A visual model of the economy, shows how dollars flow through markets among households and firms.
- Includes two types of “actors”:
 - households
 - firms
- Includes two markets:
 - the market for goods and services
 - the market for “factors of production”

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Factors of Production

- The **factors of production** are the resources that the economy uses to produce goods & services. They include:
 - labour
 - land
 - capital (buildings & machines used in production)

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FIGURE 1: The Circular-Flow Diagram

Households:

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

Firms

Households

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FIGURE 1: The Circular-Flow Diagram

Firms

Households

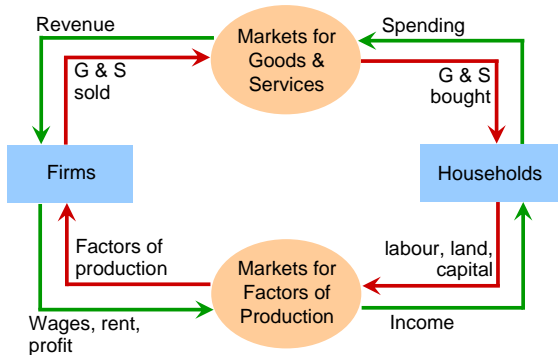
Firms:

- buy/hire factors of production, use them to produce goods and services
- sell goods & services

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FIGURE 1: The Circular-Flow Diagram



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The Production Possibilities Frontier: Our Second Model

- The **Production Possibilities Frontier (PPF)**: A graph that shows the combinations of two goods the economy can possibly produce given the available factors of production and the available production technology.
- Example:
 - Two goods: computers and wheat
 - One resource: labour (measured in hours)
 - Economy has 50,000 labour hours per month available for production.

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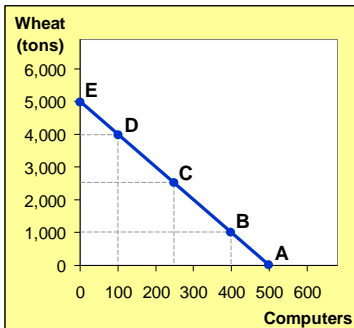
PPF Example

- Producing one computer requires 100 hours labour.
- Producing one ton of wheat requires 10 hours labour.

	Employment of labour hours		Production	
	Computers	Wheat	Computers	Wheat
A	50,000	0	500	0
B	40,000	10,000	400	1,000
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	
	Computers	Wheat
A	500	0
B	400	1,000
C	250	2,500
D	100	4,000
E	0	5,000



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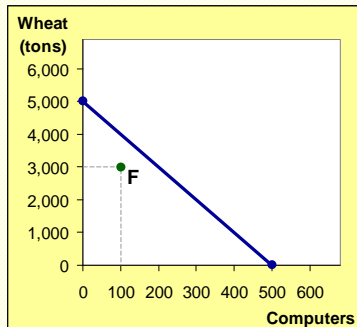
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ACTIVE LEARNING 1: Points on the PPF

- On the graph, 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?

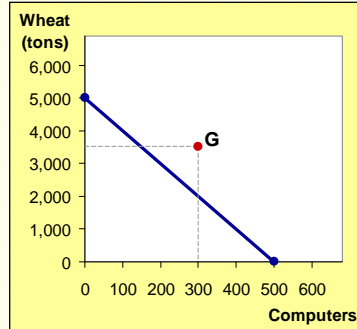
ACTIVE LEARNING 1: Answers

- Point **F**: 100 computers, 3000 tons wheat
- Point **F** requires 40,000 hours of labour. Possible but not efficient: could get more of either good w/o sacrificing any of the other.



ACTIVE LEARNING 1: Answers

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



The PPF: What We Know 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 underutilized (e.g., workers unemployed, factories idle)
- Points above the PPF (like **G**)
 - not possible

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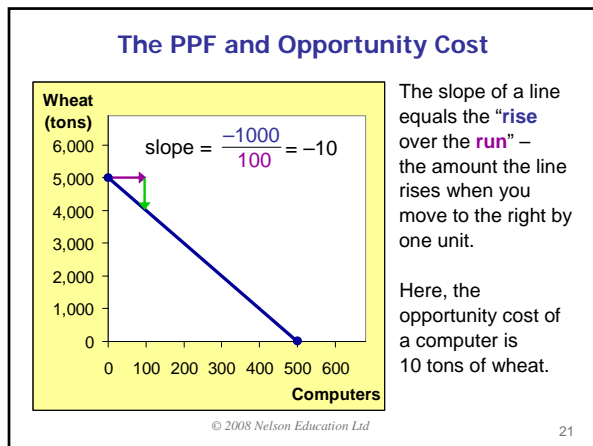
The PPF and Opportunity Cost

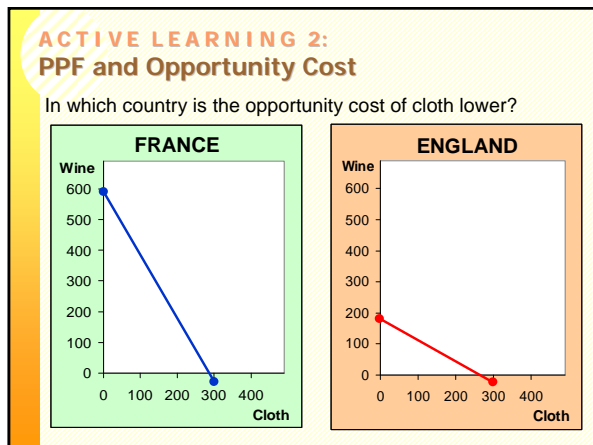
- Recall: The **opportunity cost** of an item is what must be given up to obtain that item.
- Moving along a PPF involves shifting resources (e.g., labour) from the production of one good to the other.
- Society faces a tradeoff: Getting more of one good requires sacrificing some of the other.
- The slope of the PPF tells you the opportunity cost of one good in terms of the other.

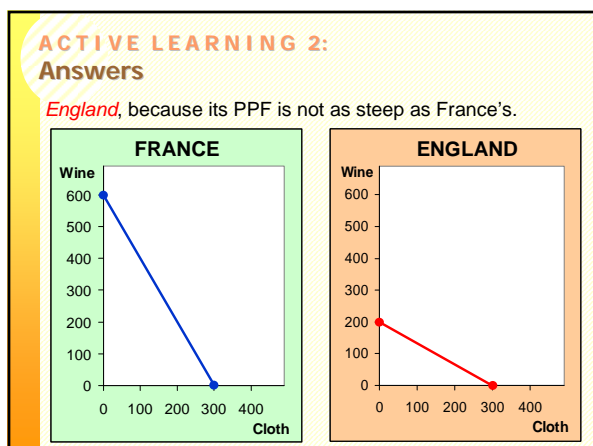


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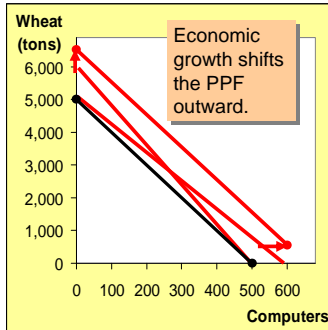






Economic Growth and the PPF

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



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The Shape of the PPF

- The PPF could be a straight line, or bow-shaped
- Depends on what happens to opportunity cost as the economy shifts resources from one industry to the other.
 - If the opportunity cost remains constant, the PPF is a straight line.
(In the previous example, the opportunity cost of a computer was always 10 tons of wheat.)
 - If opportunity cost of a good rises as the economy produces more of the good, which is more likely the case, then the PPF is bow-shaped.

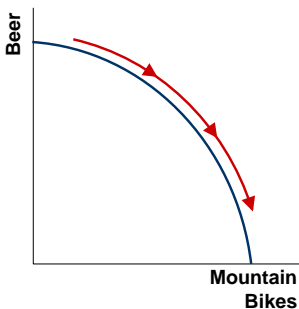
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Why the PPF Might Be Bow-Shaped

As the economy shifts resources from beer to mountain bikes:

- PPF becomes steeper.
- The opportunity cost of an extra mountain bike increases.

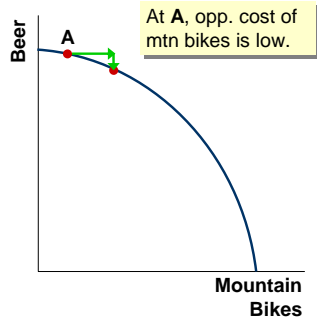


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Why the PPF Might Be Bow-Shaped

At point **A**, most workers are producing beer, even those that are better suited to building mountain bikes. So, that we do not have to sacrifice much beer to get more bikes.

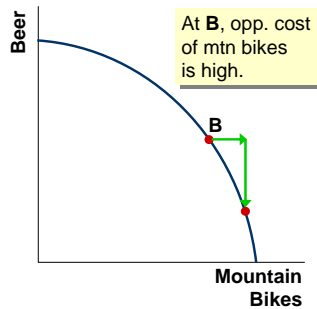


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Why the PPF Might Be Bow-Shaped

At point **B**, most workers are producing bikes. The few left in the beer industry are the best brewers. Producing more bikes would require shifting some of the best brewers away from beer production, which would result in a big drop in beer output but little gain in the production of bikes.



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Why the PPF Might Be Bow-Shaped

- So, PPF is bow-shaped when different workers have different skills, which results in different opportunity costs of producing one good in terms of the other.
- The PPF would also be bow-shaped when there is some other resource, or mix of resources with varying opportunity costs.
 - E.g., different types of land suited for different uses

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The PPF: A Summary

- The PPF shows all combinations of two goods that an economy can possibly produce, given its resources and technology.
- The PPF illustrates the concepts of tradeoff and opportunity cost, efficiency and inefficiency, unemployment, and economic growth.
- A bow-shaped PPF illustrates the concept of increasing opportunity cost.



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Microeconomics and Macroeconomics

- **Microeconomics** is the study of how households and firms make decisions and how they interact in markets.
- **Macroeconomics** is the study of economy-wide phenomena, including inflation, unemployment, and economic growth.
- These two branches of economics are closely intertwined, yet distinct: they address different questions.

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The Economist as Policy Advisor

- As scientists, economists make **positive statements**, which attempt to describe the world as it is.
- As policy advisors, economists make **normative statements**, which attempt to prescribe how the world should be.
- Positive statements can be confirmed or refuted, normative statements cannot.
- The Govt employs many economists for policy advice. For example, economists at Finance Canada help design tax policy; economists at HRDC help formulate labour-market policies; economists at Environment Canada help design environmental regulations.

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ACTIVE LEARNING 3:
Identifying positive vs. 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 gasoline will cause an increase in consumer demand for video rentals.

ACTIVE LEARNING 3:
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 3:
Answers

- c. A tax cut is needed to stimulate the economy.

Normative, another value judgment.

- d. An increase in the price of gasoline will cause an increase in consumer demand for video rentals.

Positive, describes a relationship.

Note that a statement need not be true to be positive.

Why Economists Disagree

- Economists often give conflicting policy advice.
- They sometimes disagree about the validity of alternative positive theories about the world.
- They 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.

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Propositions about Which Most Economists Agree (and % agreeing)

- A ceiling on rents reduces the quantity and quality of housing available. (93%)
- Tariffs and import quotas usually reduce general economic welfare. (93%)
- A large federal budget deficit has an adverse effect on the economy. (83%)
- A minimum wage increases unemployment among young and unskilled workers. (79%)
- Effluent taxes and marketable pollution permits represent a better approach to pollution control than imposition of pollution ceilings. (78%)

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CHAPTER SUMMARY

- As scientists, economists try to explain the world using models with appropriate assumptions.
- Two simple models are the Circular-Flow Diagram and the Production Possibilities Frontier.
- Microeconomics studies the behaviour of consumers and firms, and their interactions in markets. Macroeconomics studies the economy as a whole.
- As policy advisers, economists offer advice on how to improve the world.

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End: Chapter 2

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