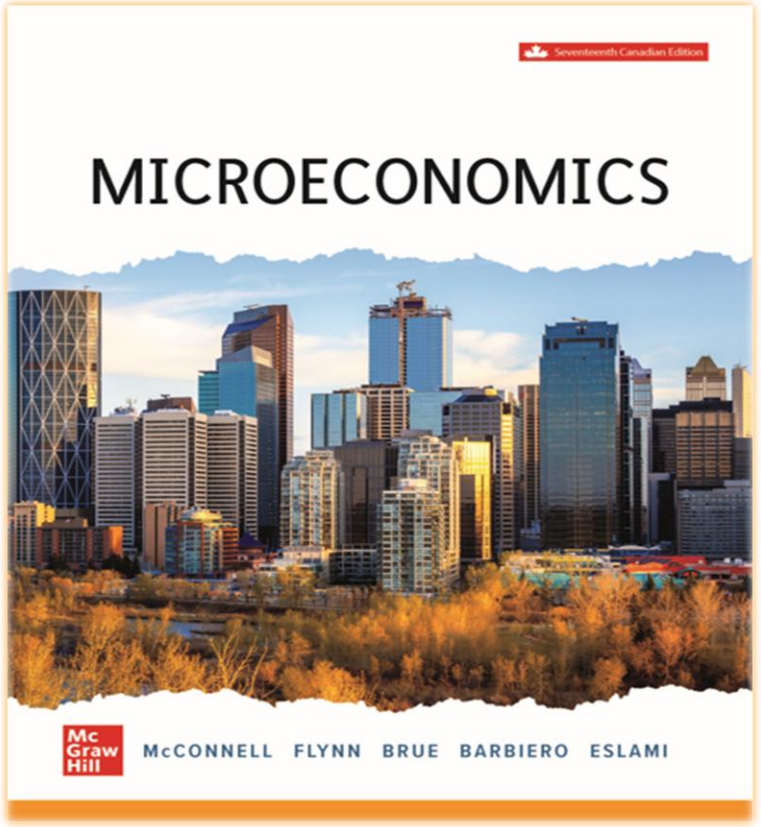
CHAPTER 1

Limits, Alternatives, and Choices



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Learning Objectives 1/2

LO1.1 List the ten key concepts to retain for a lifetime.

LO1.2 Define economics and the economic perspective.

LO1.3 Describe the role of economic theory in economics.

LO1.4 Distinguish microeconomics from macroeconomics and positive economics from normative economics.

Learning Objectives 2/2

LO1.5 Explain the individual's economic problem and illustrate trade-offs, opportunity costs, and attainable combinations with budget lines.

LO1.6 List the categories of scarce resources and explain the economic problem.

LO1.7 Apply production possibilities analysis.

LO1.8 Explain how economic growth and international trade increase consumption possibilities.

Introduction

- People desire more than basic needs, seeking goods and services for better living.
- Society uses limited resources to produce these desired goods and services.
- However, our economic wants exceed the productive capacity of these scarce resources.
- Economics is the study of how individuals and society make the best possible choices under conditions of scarcity.

1.1 Ten Key Concepts to Retain for a Lifetime 1/3

- **The Individual**

1. Facing Trade-Offs
2. Opportunity Costs
3. Choosing A Little More or Less
4. The Influence of Incentives

1.1 Ten Key Concepts to Retain for a Lifetime 2/3

- **Interaction Among Individuals**

5. Specialization and Trade
6. The Effectiveness of Markets
7. The Role of Governments

1.1 Ten Key Concepts to Retain for a Lifetime 3/3

- **The Economy as a Whole and The Standard of Living**

8. Production and the Standard of Living
9. Money and Inflation
10. Inflation-Unemployment Trade-Off

1.2 The Economic Way of Thinking 1/5

- Economics is a social science concerned with making optimal choices under conditions of scarcity.
- Economic wants exceed society's productive capacity.
- A viewpoint that envisions individuals and institutions making rational decisions by comparing the marginal benefits and marginal costs.

1.2 The Economic Way of Thinking 2/5

- **Scarcity and Choice**
  - Economic resources are limited, creating scarcity.
  - Scarcity forces us to make choices about what to produce and consume.
  - We must decide what to have and what to forgo due to limited resources.
  - The concept of "no free lunch" illustrates that everything has a cost, even if not directly to the consumer.

1.2 The Economic Way of Thinking 3/5

- **Scarcity and Choice**
  - Resources like land, equipment, and labour used to produce one good cannot be used for another.
  - Sacrificing the production of other goods is necessary to produce any given item.
  - These sacrifices are known as opportunity costs.
  - Opportunity cost is the value of the next best alternative forgone when resources are used for a particular purpose.

1.2 The Economic Way of Thinking 4/5

- **Purposeful Behaviour**
  - People pursue opportunities to increase their utility, which is the satisfaction they get from consuming a good or service.
  - Because they weigh costs and benefits, their decisions are purposeful or rational, not random or chaotic.
    - Human beings make decisions under uncertainty about the future; thus, the desired outcomes are not always fulfilled.
    - People make decisions with some desired outcome in mind.

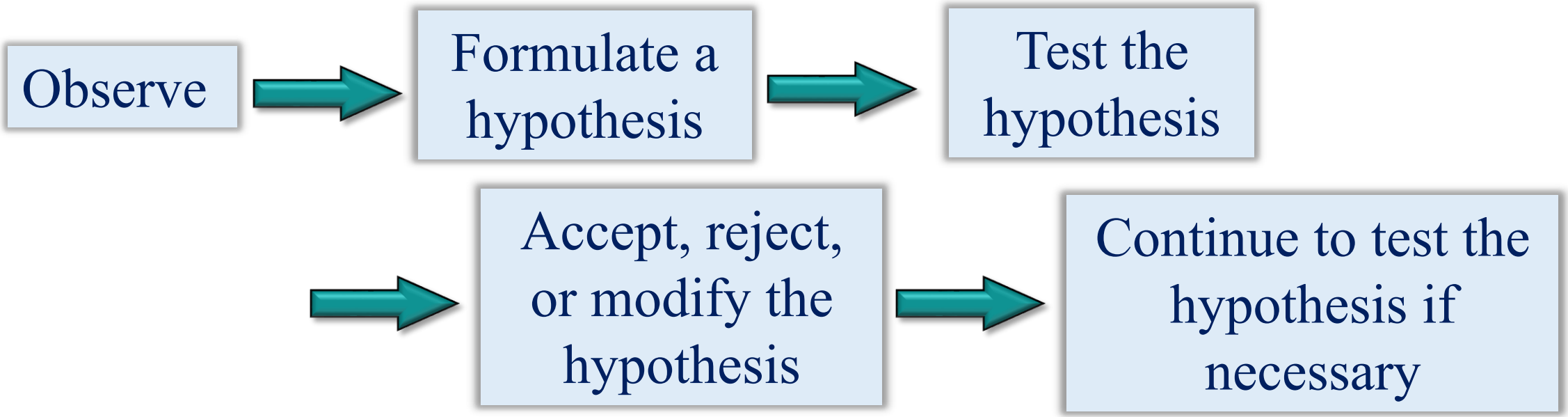
1.2 The Economic Way of Thinking 5/5

- **Marginal Analysis: Comparing Benefits and Costs**
- A comparison of marginal benefits and marginal costs.
  - Marginal means "extra," additional, or a change in.
  - E.g., marginal cost vs marginal benefit of an additional year in school.
- In a world of scarcity, the marginal benefit associated with some specific option always includes the marginal cost of giving up something else.

1.3 THEORIES, PRINCIPLES, AND MODELS 1/8

- **The Scientific Method**
  - Economics uses the scientific method to analyze real-world activity.
  - It transforms specific observations into general explanations.
  - This process involves several key elements.

- **The Scientific Method**
  - Repeated testing may turn a hypothesis into a widely accepted theory, known as an economic law, which forms the basis of economic models.



1.3 THEORIES, PRINCIPLES, AND MODELS 7/8

- Theories, principles, and models are simplified versions of complex economic reality.
- Economists use these simplifications to focus on key elements and remove unnecessary details.
- Effective theories still accurately explain and predict economic behaviours despite their simplicity.

1.3 THEORIES, PRINCIPLES, AND MODELS 8/8

- Other things you should know about economic principles:
  - These principles are generalizations based on typical behaviour, acknowledging variations among individuals.
  - Economists use the "other-things-equal" assumption to isolate variables in the analysis, holding all other factors constant.
  - Many economic models are represented graphically for clarity.

1.4 MICROECONOMICS AND MACROECONOMICS 1/4

- **Microeconomics**
  - Focuses on decision-making by individual consumers, workers, households, and businesses.
  - Examines the detailed behaviour of these entities at a close, specific level.
  - Analysis measures specific prices, revenues, and incomes.
  - Tracks expenditures of particular firms, government entities, or families.

1.4 MICROECONOMICS AND MACROECONOMICS 2/4

- **Macroeconomics**
  - Studies the overall economy's performance and behaviour.
  - Focuses on growth, cycles, interest rates, inflation, and major economic aggregates.
  - Aggregates group individual units, like consumers, into larger categories.
  - Emphasizes total output, employment, income, and prices, not individual details.

1.4 MICROECONOMICS AND MACROECONOMICS 3/4

- **Microeconomics vs Microeconomics**
  - The micro-macro distinction in economics is not strictly compartmentalized.
  - Many topics, like unemployment, involve both micro and macro perspectives.
  - Unemployment is typically a macro issue but is influenced by individual worker decisions and labour market dynamics.
  - Economics often combines micro and macro elements to understand complex topics fully.

1.4 MICROECONOMICS AND MACROECONOMICS 4/4

- **Positive Economics**
  - Economic statements that are factual.
  - The analysis of facts to establish cause-and-effect relationships (What is).
- **Normative Economics**
  - Economic statements that involve value judgments.
  - Value judgments about what the economy should be like (What ought to be).

1.5 THE INDIVIDUAL'S ECONOMIC PROBLEM 1/5

- **The Economic Problem**
  - Individuals need to make choices because economic wants are unlimited, but the means to satisfy those wants are limited.

Limited Income	Unlimited Wants
• Income is finite even for the wealthiest	• Wants are insatiable • Wants change over time

GLOBAL PERSPECTIVE 1.1

Average Income, Selected Nations

- Average income, and thus individual budget constraints, differ widely across nations, with Canadians earning significantly more than people in Madagascar

Country	Per Capita Income, 2022 (PPP-adjusted international dollars)
Switzerland	$92,101
Qatar	$88,046
Canada	$54,971
France	$40,964
Japan	$33,815
South Korea	$32,254
China	$12,720
Mexico	$11,091
Brazil	$8,918
Iraq	$5,937
India	$2,389
Malawi	$645
Madagascar	$505

Source: The World Bank, data.worldbank.org. Cost of living adjustments are based on purchasing power parity (PPP).

1.5 THE INDIVIDUAL'S ECONOMIC PROBLEM 2/5

- **The Budget Line or Budget Constraint**
  - Helps visualize the economic problem consumers face by illustrating the various combinations of products that can be purchased with a specific income.
  - Although the analysis typically assumes two products, it can be generalized to all products available to consumers.

1.5 THE INDIVIDUAL'S ECONOMIC PROBLEM 3/5

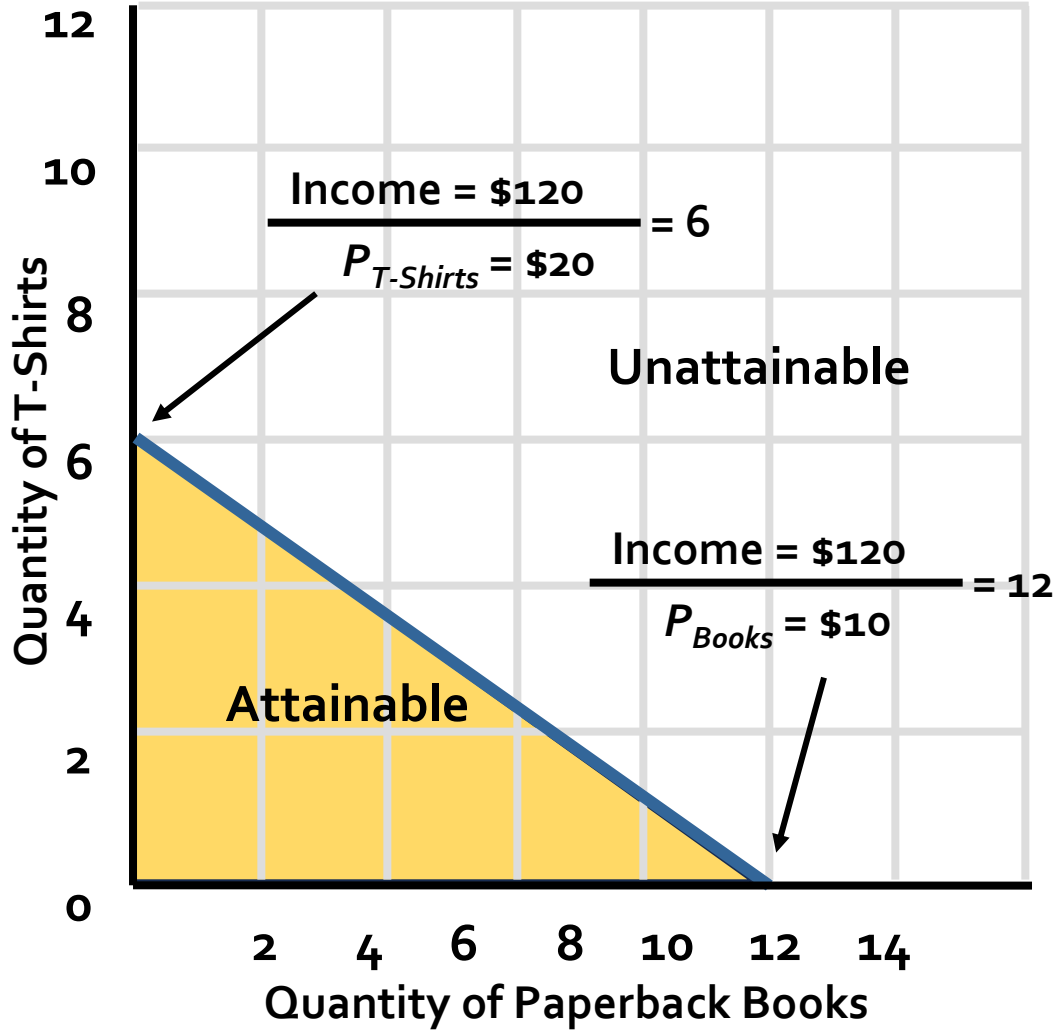
The Budget Line or Budget Constraint

- To understand what a budget line shows, suppose you received an Amazon gift card.
- This card limits your choices to T-shirts at $20 each and books at $10 each.
- You can buy a mix of T-shirts and books, with trade-offs between the two.
- The budget line graph in Figure 1-1 shows all possible combinations of T-shirts and books.
- The slope of the budget line reflects the price ratio, meaning one T-shirt equals two books.

FIGURE 1-1 - A Consumer's Budget Line

- A consumer with a $120 budget can choose between T-shirts at $20 each or paperback books at $10 each.

Units of	
T-shirts (price= $20)	Books (price=$10)
6	0
5	2
4	4
3	6
2	8
1	10
0	12



1.5 THE INDIVIDUAL'S ECONOMIC PROBLEM 4/5

Attainable and Unattainable Combinations

- All combinations on or within the budget line are affordable with the $120, but only those on the line use the total amount.
- Combinations beyond the budget line are unattainable, as they exceed the $120 limit.

Trade-offs and Opportunity Costs

- The budget line shows that the opportunity cost of buying more T-shirts consistently results in giving up two books, indicating a constant trade-off due to limited income.

1.5 THE INDIVIDUAL'S ECONOMIC PROBLEM 5/5

Choice

- Limited income requires choosing products to maximize satisfaction.
- Different people make different choices with the same budget.

Income Changes

- The budget line shifts right with more income and left with less, reflecting the ability to buy more or fewer goods.
- Higher income allows for more purchases, but trade-offs, choices, and opportunity costs still apply.

1.6 SOCIETY'S ECONOMIC PROBLEM 1/6

- Society faces trade-offs in allocating limited resources, such as between criminal justice and education.
- Economic resources are scarce. They include land, labour, capital, and entrepreneurial ability, all essential for producing goods and services.
- Entrepreneurs combine these resources, drive innovation, and bear risks to create new products and processes.

1.6 SOCIETY'S ECONOMIC PROBLEM 2/6

❖ Resource Categories (Factors of Production)

- Land
- Labour
- Capital
- Entrepreneurial ability

1.6 SOCIETY'S ECONOMIC PROBLEM 2/6

❖ Resource Categories

- **Land**
  - Land includes all natural resources ("gifts of nature") used in production.
  - Include forests, mineral and oil deposits, water resources, wind power, sunlight, and arable land.

1.6 SOCIETY'S ECONOMIC PROBLEM 3/6

❖ Resource Categories …

- **Labour**
  - Labour includes both physical actions and mental activities that contribute to producing goods and services.
  - Roles like retail clerks, teachers, athletes, and scientists are all examples of labour.

1.6 SOCIETY'S ECONOMIC PROBLEM 4/6

❖ Resource Categories …

- **Capital**
  - Human-made physical objects like factories and tools and intangible ideas like software and designs used to produce consumer goods.
  - It indirectly satisfies consumer wants by aiding in producing goods, unlike consumer goods, which satisfy wants directly.
  - Economists define investment as spending on new physical or intangible capital, not existing assets like old factories.

1.6 SOCIETY'S ECONOMIC PROBLEM 5/6

❖ Resource Categories …

- **Entrepreneurial ability**
  - Special human resources distinct from labour.
  - Entrepreneurs' economic functions:
    - takes initiative
    - makes strategic business decisions
    - innovates
    - takes risk

1.6 SOCIETY'S ECONOMIC PROBLEM 6/6

- Land, labour, capital, and entrepreneurial ability are combined to produce goods and services.
- They are often called the factors of production or simply inputs.

1.7 Production Possibilities Model 1/5

- Society uses scarce resources to produce goods and services, facing trade-offs best understood through a macroeconomic model of production possibilities.
- The model assumes:
  - full employment,
  - fixed resources, and
  - constant technology.
- The economy is simplified to producing only consumer goods (pizzas) and capital goods (industrial robots).

Table 1.1 Production Possibilities of Pizzas and Robots

- A production possibilities table lists the different combinations of two products that can be potentially produced with a specific set of resources, assuming full employment.

	Production Alternatives				
Type of Product	A	B	C	D	E
Pizzas (in hundred thousands)	0	1	2	3	4
Robots (in thousands)	10	9	7	4	0

FIGURE 1-2 The Production Possibilities Curve (PPC) 1/2

- Producing anywhere along the PPC line means that the economy produces the maximum amount of pizzas and robots, which implies that the economy is efficient.

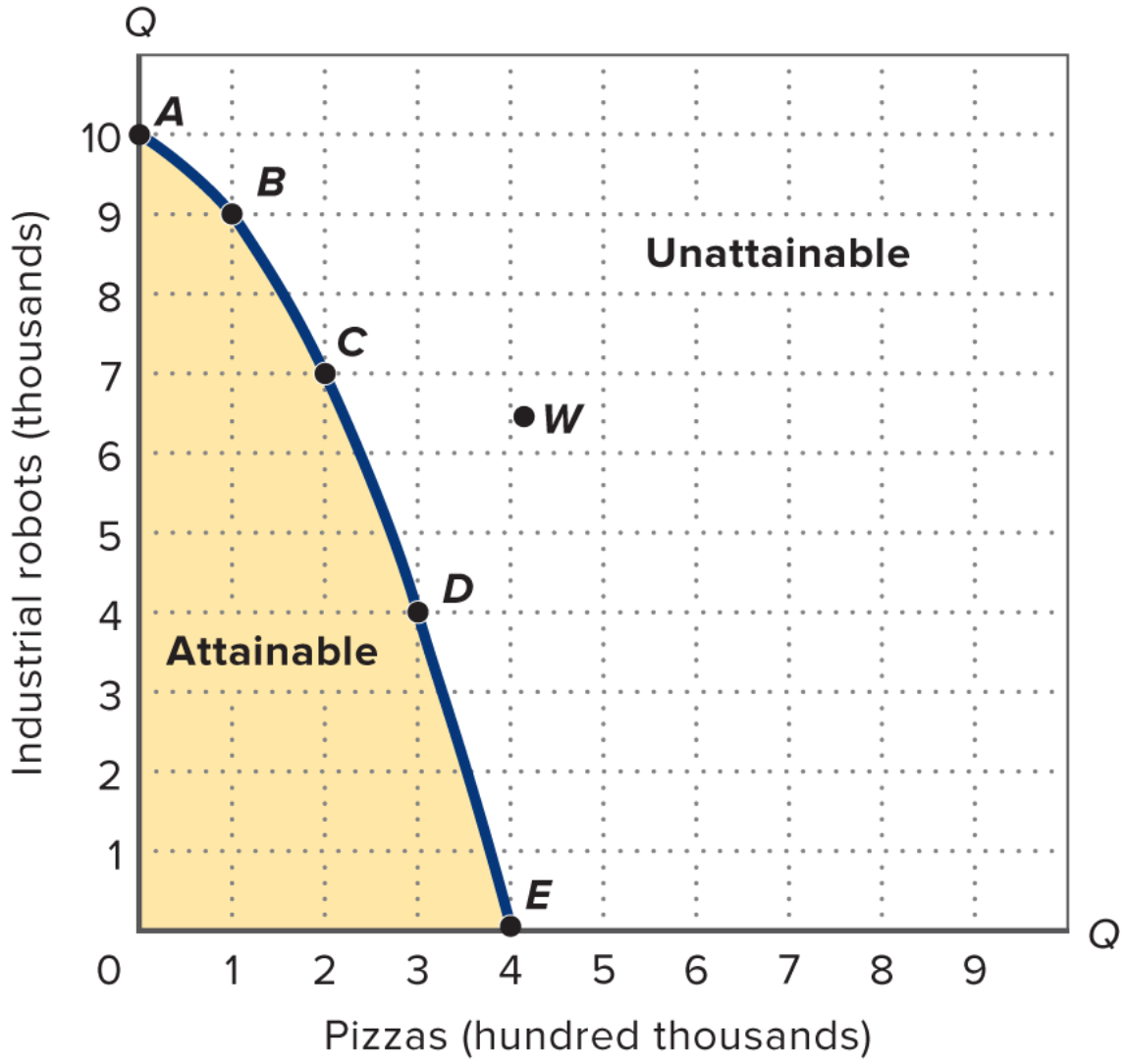
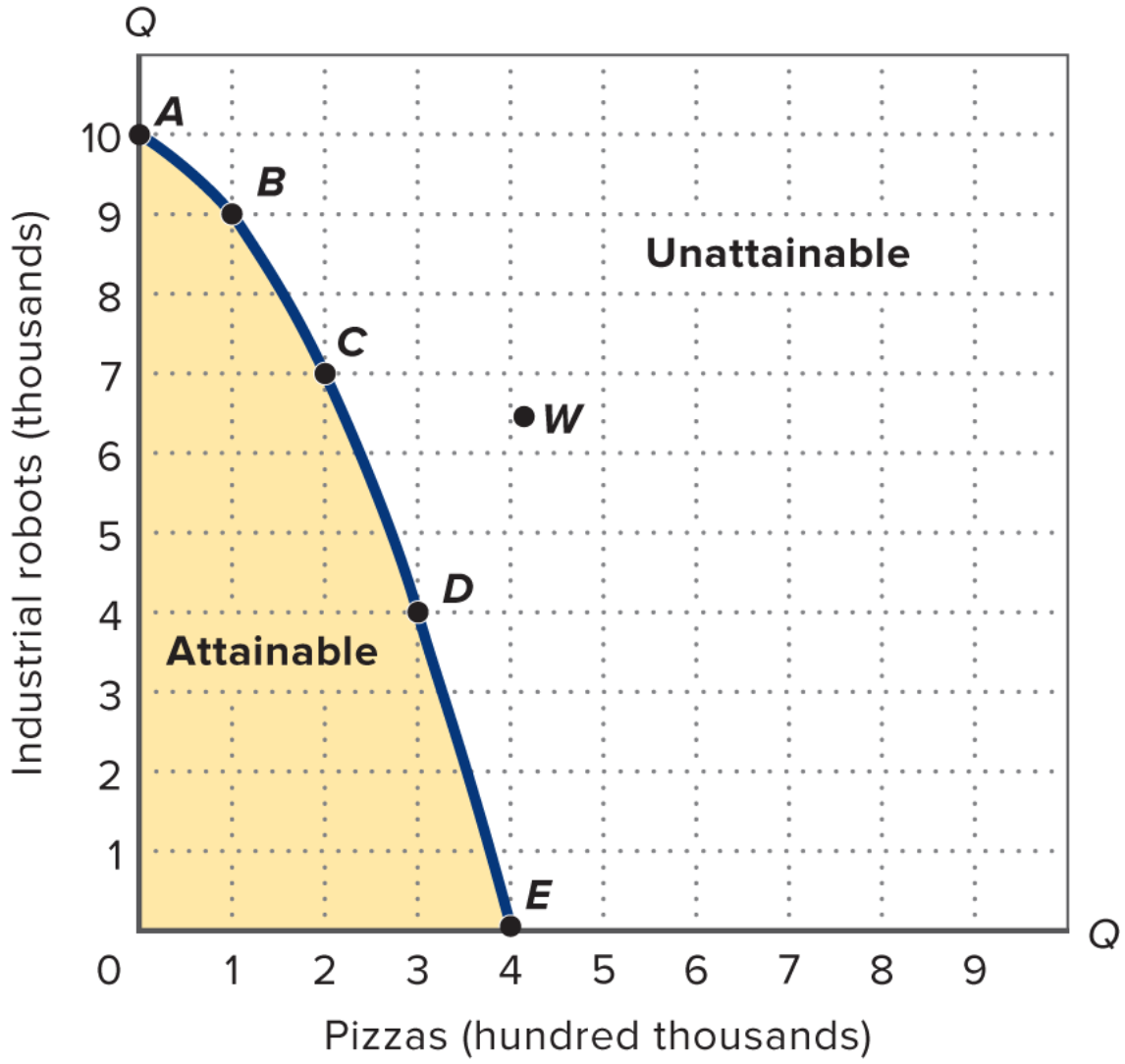


FIGURE 1-2 The Production Possibilities Curve (PPC) 2/2

- Limited resources and a fixed technology make any combination outside the curve (e.g., W) unattainable.
- Points inside the curve are attainable, but full employment and productive efficiency are not realized.



1.7 PRODUCTION POSSIBILITIES MODEL 2/4

- The law of increasing opportunity costs means producing more pizzas requires giving up more industrial robots, as resources are not fully adaptable.
- The production possibilities curve is bowed out, steepening as more pizzas are made and more robots are sacrificed.
- This law exists because resources are better suited for specific goods, leading to higher costs as production shifts.

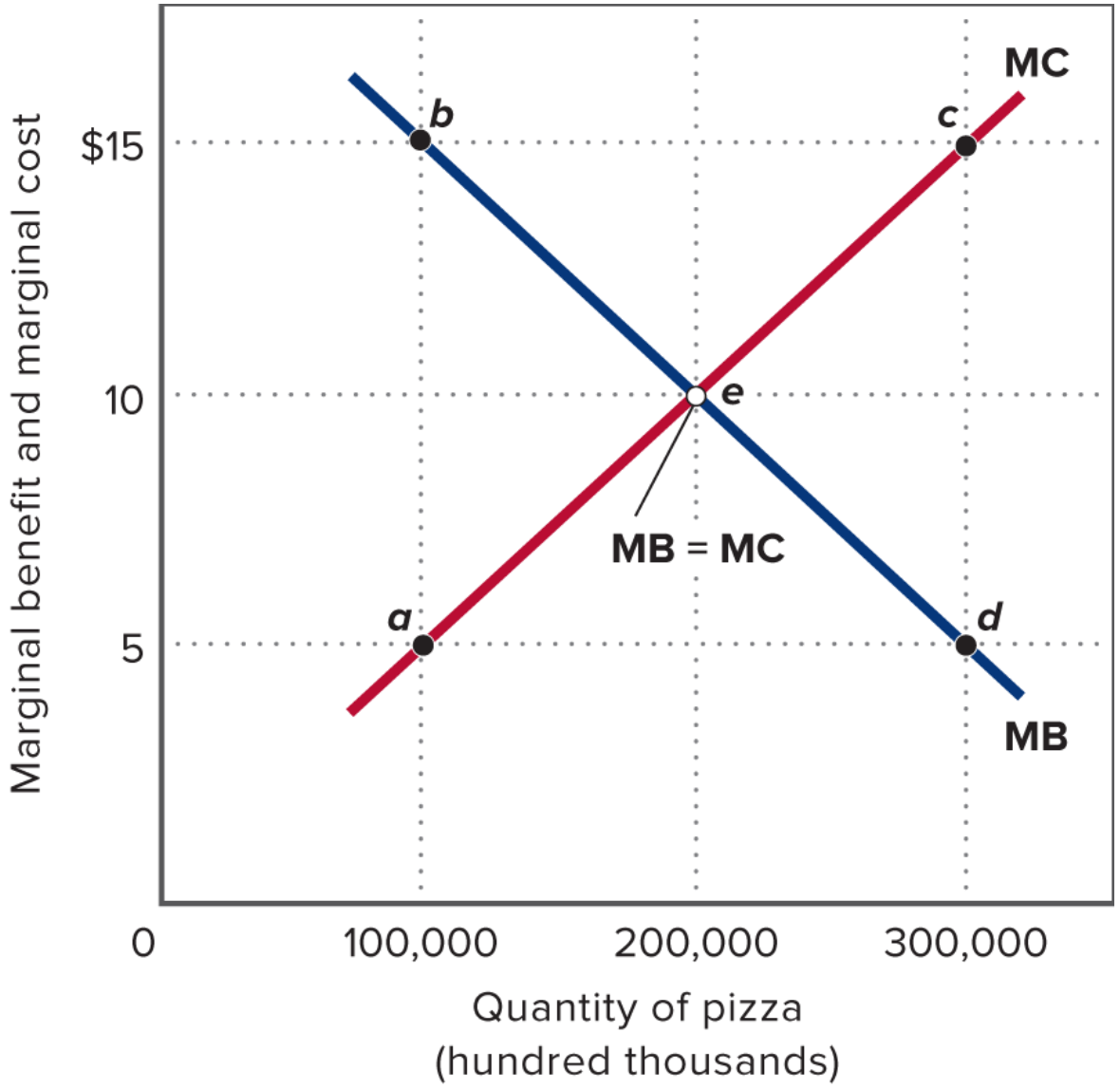
1.7 PRODUCTION POSSIBILITIES MODEL 3/4

Optimal Allocation of Resources

- This occurs at the point on the PPC where the quantities of pizzas and industrial robots maximize satisfaction.
- It is achieved when the marginal benefit (MB) of producing one more unit equals the marginal cost (MC), i.e., where MB = MC.

FIGURE 1-3 Optimal Allocation: MB=MC

- Optimal output is reached when a good's MB equals its MC.
- For pizzas, the optimal output is 200,000 units.



1.7 Production Possibilities Model 4/4

Why is 200,000 pizzas the optimal quantity?

- MB equals marginal cost MC, maximizing utility.
- Consider 100,000 pizzas, MB ($15) > MC ($5), so more pizzas should be produced.
- Consider 300,000 pizzas, MC ($15) > MB ($5), causing a societal loss.
- Producing 200,000 pizzas allows the remaining resources to produce 7,000 robots optimally.

1.8 Unemployment, Growth and The Future 1/5

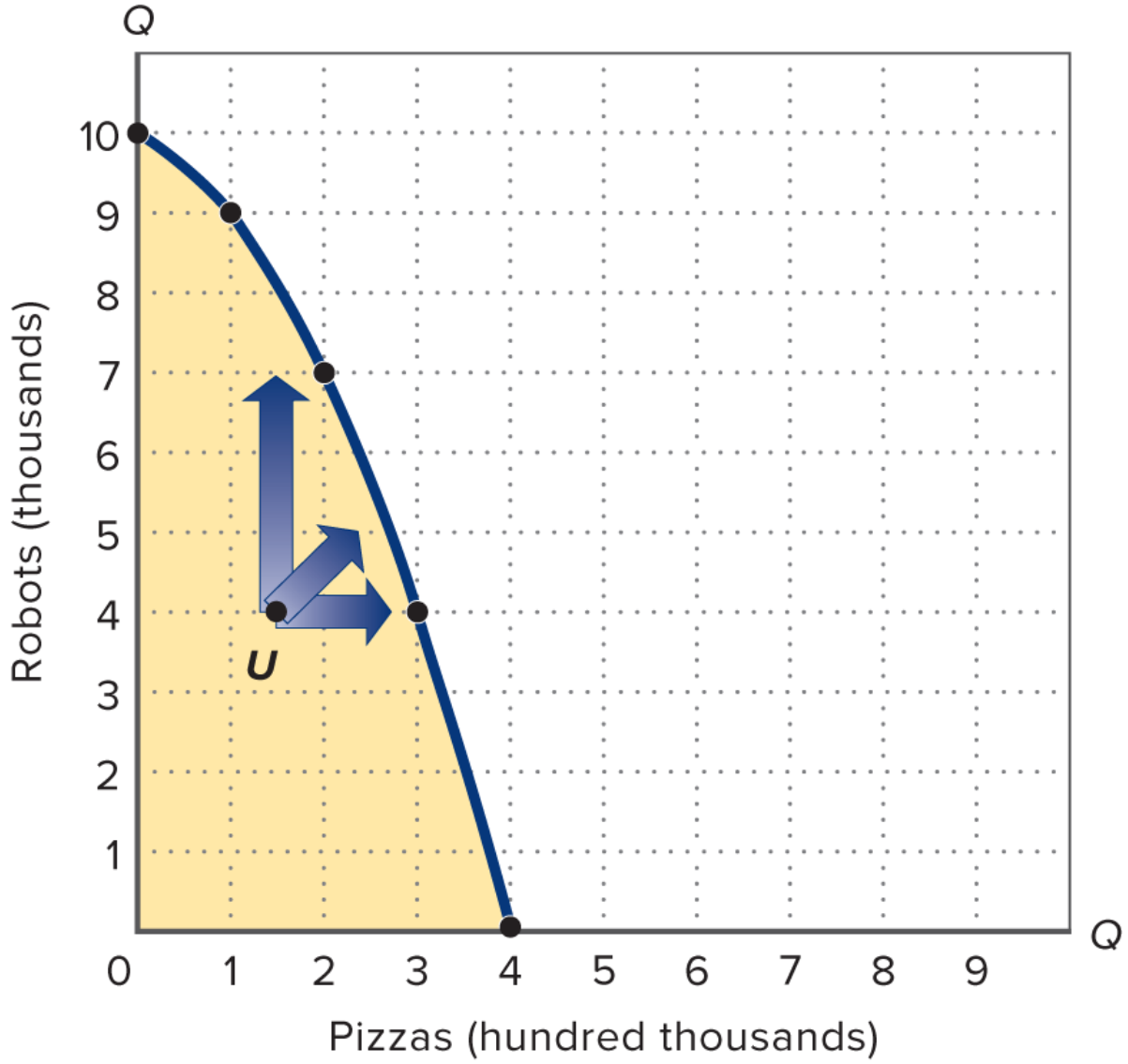
- During the Great Depression, Canada saw nearly 20% unemployment and 25% idle production capacity.
- The COVID-19 pandemic in 2020 caused a 13.7% peak in unemployment, a less severe downturn than the 1930s. Countries like Brazil, Italy, Russia, Japan, and France have faced unemployment and reduced production since 2020.
- These scenarios reflect the production possibilities model, where economies operate below potential during downturns.

Unemployment

- The economy might not be operating at full employment.
  - These are points below the production possibilities curve.
  - A move toward full employment yields a greater output.

FIGURE 1-4 Unemployment, Productive Inefficiency, & the PPC

- Points inside the production possibilities curve, like U, indicate unemployment or inefficiency.
- Achieving full employment and efficiency would move the economy to the curve, allowing for increased production.



1.8 Unemployment, Growth and The Future 3/5

A Growing Economy

- Economic growth is driven by increases in factor supplies, improvements in factor quality, and technological advances.
- Growth allows a full-employment economy to produce more consumption and capital goods.
- Unlike static economies that must trade off between goods, growing economies can achieve higher quantities of both.

FIGURE 1-5 Economic Growth and the PPC 1/2

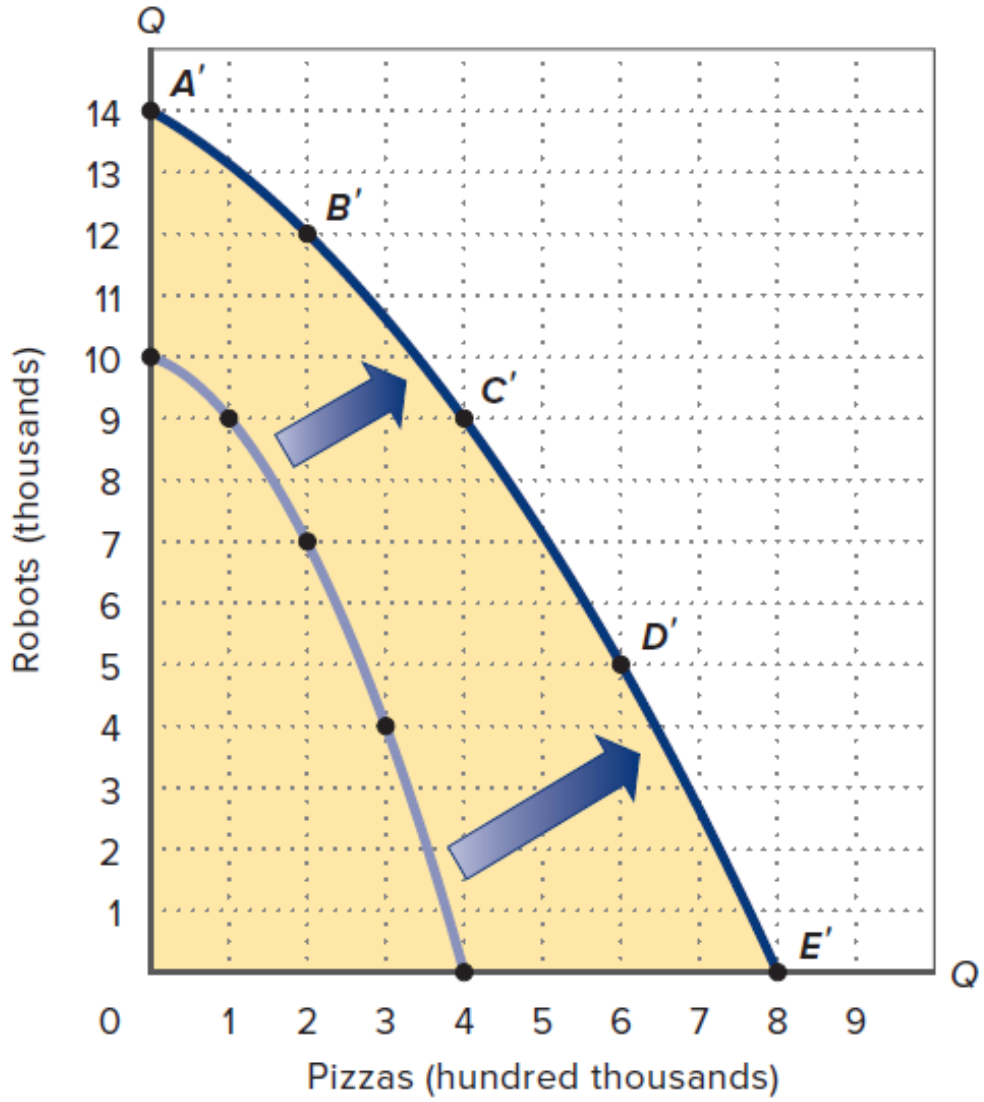
- Resource growth, quality improvements, and technological advances shift the production possibilities curve outward, enabling higher production of both goods.

	Production Alternatives				
Type of Product	A'	B'	C'	D'	E'
Pizzas (in hundred thousands)	0	2	4	6	8
Robots (in thousands)	14	12	9	5	0

FIGURE 1-5 Economic Growth and the PPC 2/2

- An increase in resource availability, resource quality, and technological advancements shifts the production possibilities curve outward.

- This shift enables the economy to produce larger quantities of both goods.

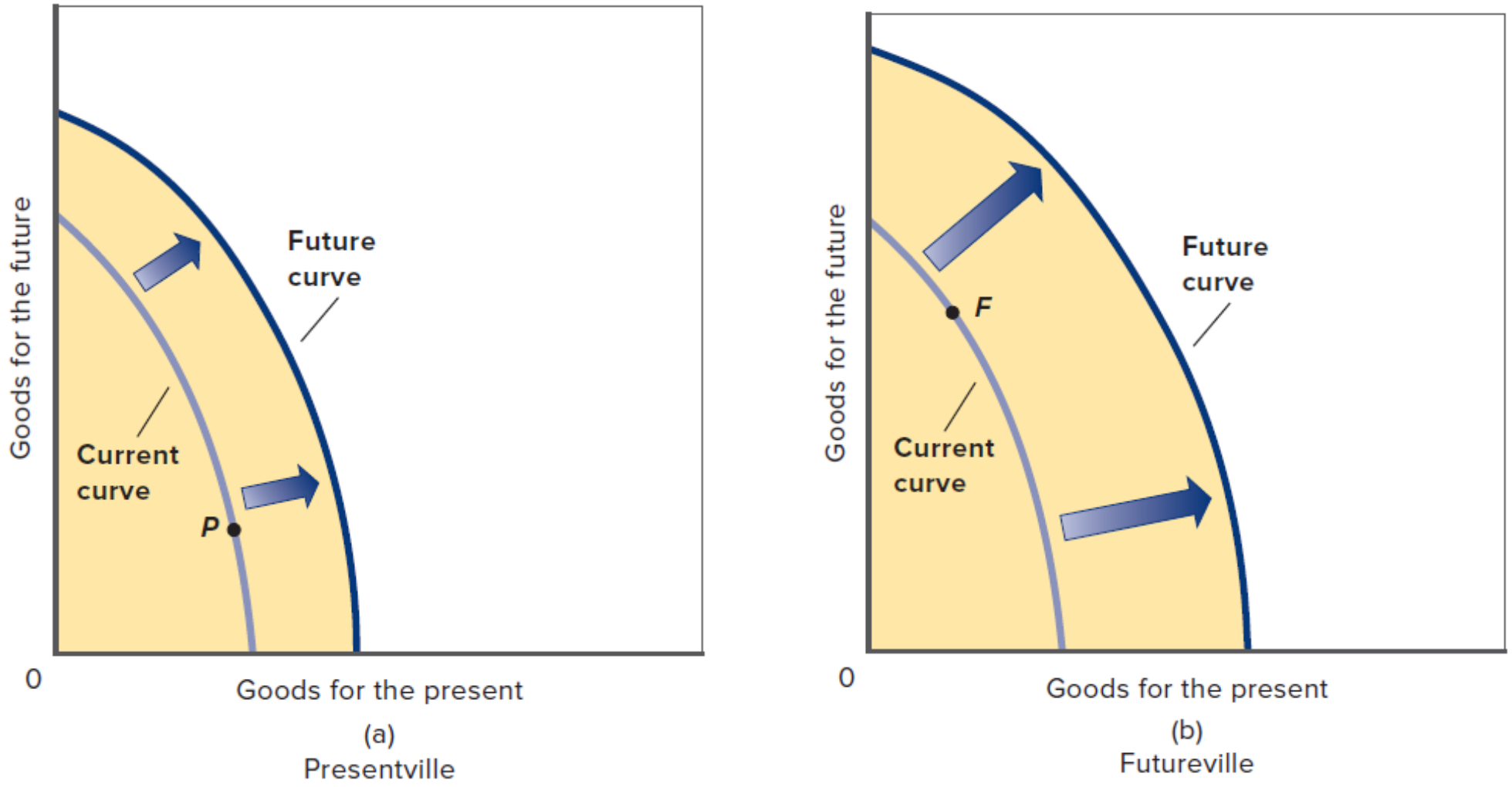


1.8 Unemployment, Growth and The Future 4/5

Present Choices and Future Possibilities

- An economy's current position on its production possibilities curve shapes its future production capacity. Refer to Figure 1-6.
  - Futureville's focus on capital goods leads to greater future economic growth than Presentville's focus on consumer goods.
  - Futureville sacrifices present consumer goods for future growth; this reflects differing priorities, not a better choice.

FIGURE 1-6 Present Choices and Future Locations of a PPC



A Qualification: International Trade

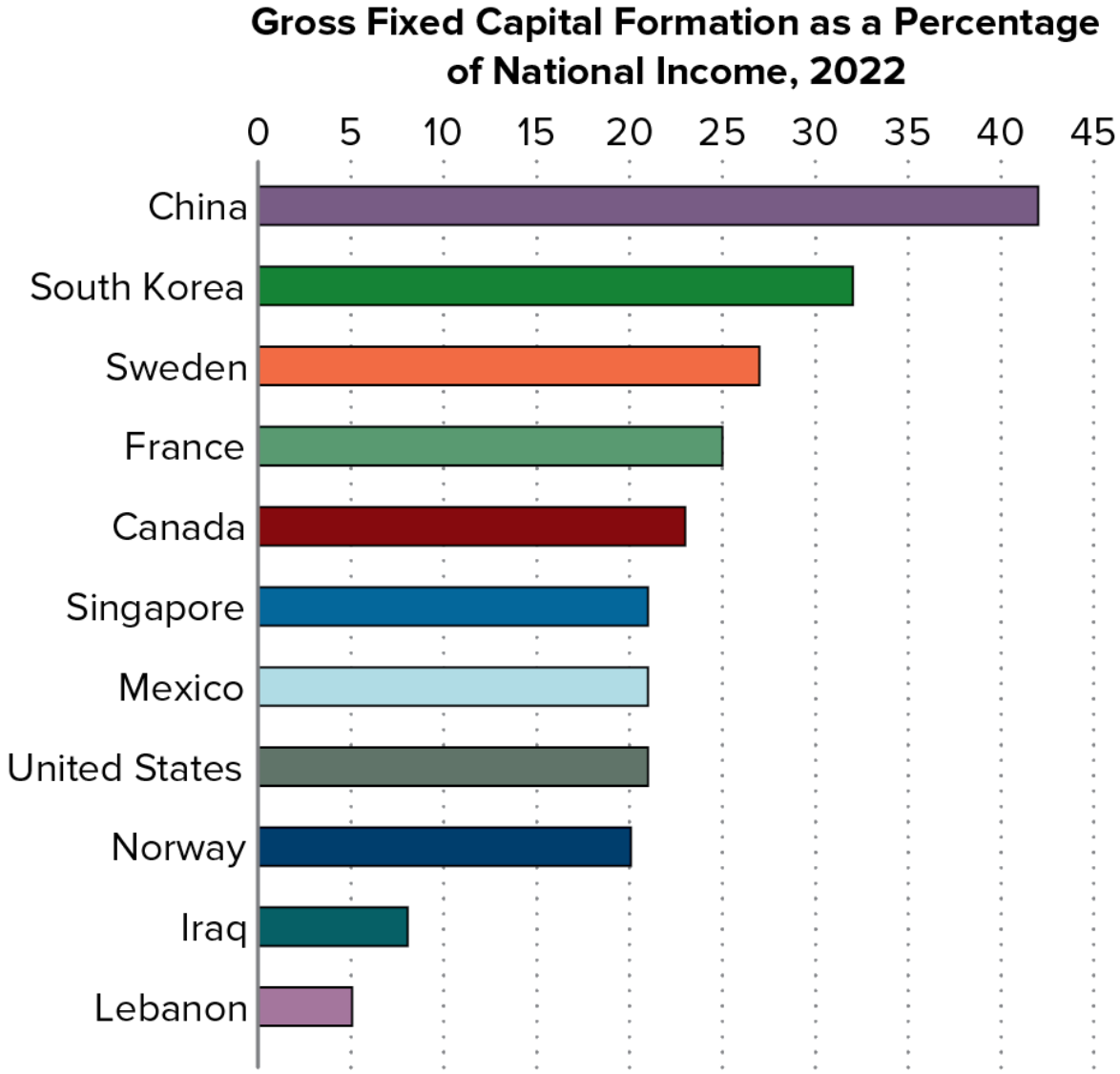
- Domestic production is limited by the production possibilities curve, but trade can bypass this.

  Specialization lets countries produce goods with the lowest opportunity costs and trade for others.

- Trade enables nations to obtain more goods with less sacrifice.
- Specialization and trade expand available resources, similar to improving production methods.

GLOBAL PERSPECTIVE 1.2

- Countries differ in how much of their national income they invest in future-oriented productive capital versus current consumption.
- Investments in productive capital are key to boosting future production capacity and economic growth.



Source: The World Bank, www.worldbank.org.

CHAPTER SUMMARY 1/3

- **Ten Key Concepts:** Include trade-offs, opportunity costs, marginal choices, incentives, specialization, markets, government roles, production, and inflation.

- **Economics Defined:** Studies choices under scarcity, focusing on opportunity costs, rational behaviour, and marginal analysis.

- **Economic** Theory: Uses the scientific method to create and test economic models and laws.

CHAPTER SUMMARY 2/3

- **Micro vs. Macro:** Microeconomics studies individual units, macroeconomics examines the whole economy; positive economics is fact-based, and normative is value-based.

- **Economic Problem:** Budget lines show that individuals and society face trade-offs and opportunity costs.

- **Scarce Resources:** Resources include land, labour, capital, and entrepreneurship, analyzed through production possibilities.

CHAPTER SUMMARY 2/3

- **Production Possibilities:** Shifting resources increases opportunity costs; optimal production is where MB equals MC.

- **Growth & Trade:** Economic growth and trade increase the range of available goods beyond domestic production.