

# CHAPTER 1, SECTION 1

## Scarcity

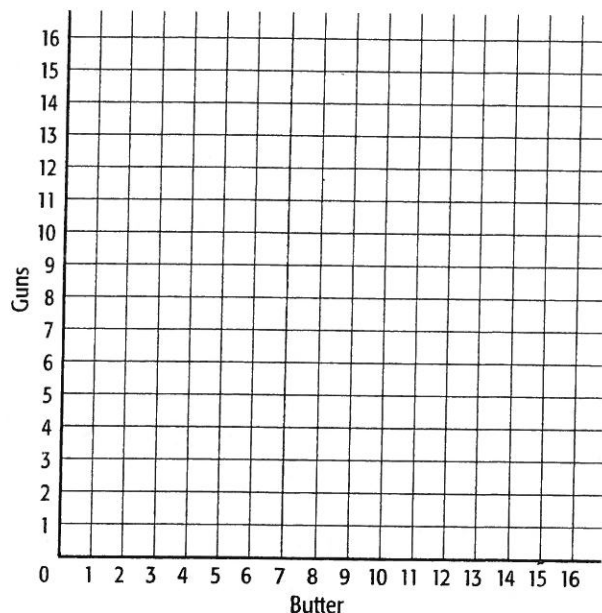
### Guns or Butter

Economists often speak of the way a society allocates its resources between military and consumer spending as a method for choosing guns or butter. Of course, guns represent resources allocated to a nation's defense; butter represents resources allocated for consumer goods. Economists use the phrase "guns or butter" because scarcity mandates that we choose how to use available resources.

Illustrate the relationship between guns and butter as directed in question 1.

- Use the following data to draw a production possibilities frontier (PPF) on the grid shown.

Guns	Butter
0	15
3	14
8	11
11	7
12	4
13	0



An Economy's Production Possibilities Frontier for Guns and Butter

Use the graph you created in question 1 to answer questions 2–8.

- Can this economy produce 6 units of guns and 12 units of butter? Explain.

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- Can this economy produce 11 units of guns and 11 units of butter? Explain.

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4. What does this PPF represent?

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5. How does this PPF illustrate the concept of scarcity?

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6. How does this PPF illustrate the concept of opportunity cost?

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7. If the economy is presently producing 0 units of guns and 15 units of butter, what is the opportunity cost of increasing the production of guns from 0 units to 3 units?

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8. If the economy is presently producing 12 units of guns and 4 units of butter, what is the opportunity cost of increasing the production of butter from 4 units to 11 units?

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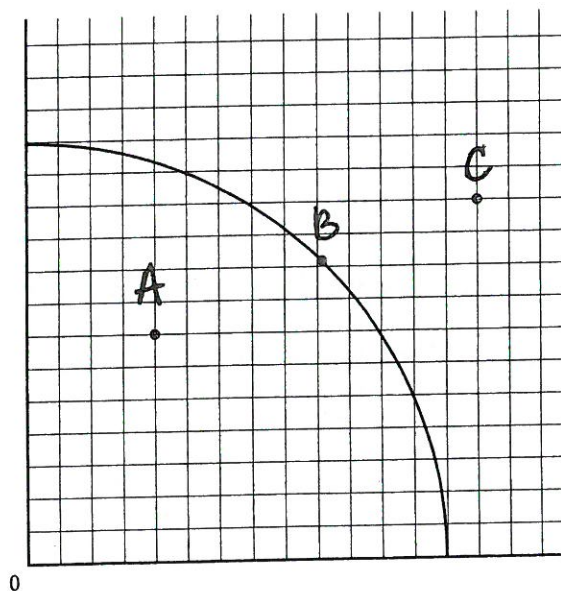
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### The Production Possibilities Frontier and Efficiency

The PPF represents what an economy can produce when it is using all its resources efficiently. As long as the economy is producing at a point on its PPF, it is producing at an **efficient** level and using all its resources.

When an economy is already using all its resources efficiently, it cannot use the same resources to produce something beyond, or outside, its PPF. Therefore, economists say that a point outside an economy's PPF is **unattainable**.

An economy *can* produce at a point inside its PPF. However, if an economy is producing at a point inside its PPF, then either the economy is not using all its resources or it is using them inefficiently. Economists label a point inside the PPF **underutilization** because such a point indicates that the economy is underutilizing its resources.



The PPF and Efficiency

Efficiency, unattainability, and underutilization are shown on the PPF and Efficiency graph on the previous page. Use the graph to answer questions 9–11.

9. The point that represents an unattainable point is \_\_\_\_\_.
10. The point that represents underutilization is \_\_\_\_\_.
11. An economy that is using all its resources efficiently is producing at point \_\_\_\_\_.

### Shifts in the Production Possibilities Frontier

The location of the PPF for an economy is determined mostly by the amount of resources available and the level of technology in the society. If more resources become available or the level of technology increases, more goods and services can be produced and the PPF will shift to the right. If the amount of resources diminishes, the economy can no longer produce at previous levels and the PPF will shift to the left.

Write your answers to questions 12 and 13 on the lines provided.

12. What two things would cause the PPF of an economy to shift to the right (outward)?

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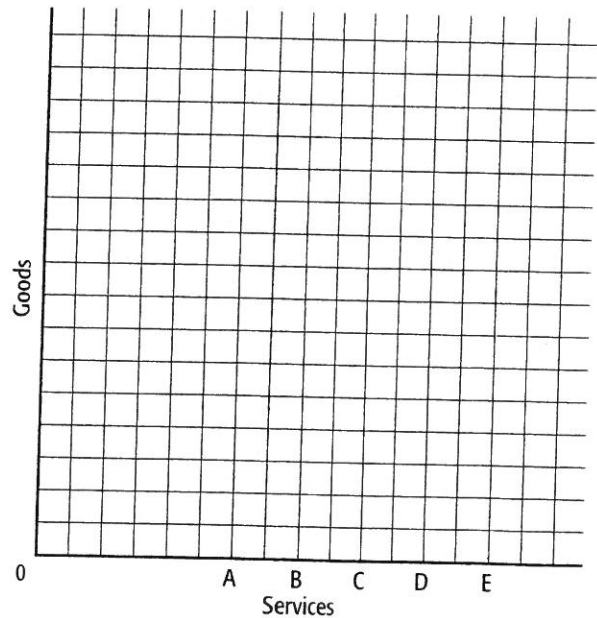
13. What would cause the PPF of an economy to shift to the left (inward)?

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Use the Shifts in the PPF graph to answer questions 14–19. Assume that the PPF begins at the location labeled C. Read question 14 and determine the direction (left or right) that the PPF will move from location C in response to the event described. Then write the letter of the new location. Now read question 15 and determine the direction the PPF will move from the location you decided on in question 14. Then write the letter of the new location. Continue to determine the direction and location for each subsequent event.



Shifts in the PPF

14. The invention of the lightbulb allows laborers to work later hours and introduces the midnight shift.

*Direction:* \_\_\_\_\_ *Location:* \_\_\_\_\_

15. A major drought makes much of America's farmland unproductive.

*Direction:* \_\_\_\_\_ *Location:* \_\_\_\_\_

16. The baby boomer generation starts to retire, and millions leave the workforce.

*Direction:* \_\_\_\_\_ *Location:* \_\_\_\_\_

17. The invention of the Internet allows people to communicate, do research, and conduct business from remote locations.

*Direction:* \_\_\_\_\_ *Location:* \_\_\_\_\_

18. The U.S. government loosens immigration requirements, allowing millions of skilled workers to enter the country.

*Direction:* \_\_\_\_\_ *Location:* \_\_\_\_\_

19. The invention of the cell phone allows people to communicate while commuting or from remote locations.

*Direction:* \_\_\_\_\_ *Location:* \_\_\_\_\_

**A society makes choices that determine how it will allocate its resources between guns and butter. For each of the events in questions 20–23, circle either *guns* or *butter* to indicate whether the event would cause a shift along the PPF toward producing more guns or toward producing more butter.**

20. After World War I, America pursues a policy of "return to normalcy" and defense spending is cut.

Shift toward guns or butter.

21. America enters World War II.

Shift toward guns or butter.

22. The Cold War escalates and the number of nuclear warheads increases.

Shift toward guns or butter.

23. After the prosperous 1990s, the terrorist attacks of September 11, 2001, lead the United States into wars in Afghanistan and Iraq and to increased spending on homeland security.

Shift toward guns or butter.