2 Economic Fallacies, Theories, and Laws

Learning Goals

Once you have completed this chapter, you should be able to:

- Realize the importance of economic fallacies, theories, and laws
- Understand the purpose and benefit of economic thinking
- Begin using graphs to support economic thinking and to explore patterns and relationships in the economic world
- Use simple models to understand and explain economic principles at work

Key Terms

- Fallacy
- fallacy of composition
- post hoc fallacy (or cause-and-effect fallacy)
- fallacy of single causation
- Origin
- inverse relationship
- direct relationship
- opportunity cost
- production possibilities curve
- trade-off
- consumer goods
- capital goods
- relative cost
- law of increasing relative cost
- Frontier
- Output
- law of diminishing returns
- Input
- law of increasing returns to scale

Identifying Economic Fallacies

A ***Fallacy*** *is a hypothesis that has been proven false but is still accepted by many people because it appears, at first glance, to make sense.*

- **The Fallacy of Composition**: A mistaken belief that what is good for an individual is automatically good for everyone, or what is good for everyone is good for the individual.
- **The Post Hoc Fallacy (also know as the "cause-and-effect" fallacy):** A mistaken belief that what occurs before some event is logically the cause of it.
- **The Fallacy of Single Causation:** A mistaken belief, based on oversimplification, that a particular event has one cause rather than several.

Opportunity Cost and Production Possibility Theory

- **Opportunity Cost:** The value or benefit that must be given up to achieve something else. For example, by choosing to produce item A, a business gives up the benefit that it could have gained from producing item B using the same resources.
- **Lani's Dilemma:** Lani must choose between working extra hours at her job, attending a concert with her friends, or working on a major assignment for school. Whichever option Lani chooses, she will have to do without the other two. The opportunity cost of attending the concert is based on the satisfaction lost from the "next best" alternative use of her time and effort.

Opportunity cost= ***RETURN ON OPTION NOT CHOOSEN - RETURN ON OPTION CHOOSEN***

- What Is Opportunity Cost?
- Investors are always faced with options about how to invest their money to receive the highest or safest return. The investor's opportunity cost represents the cost of a foregone alternative.

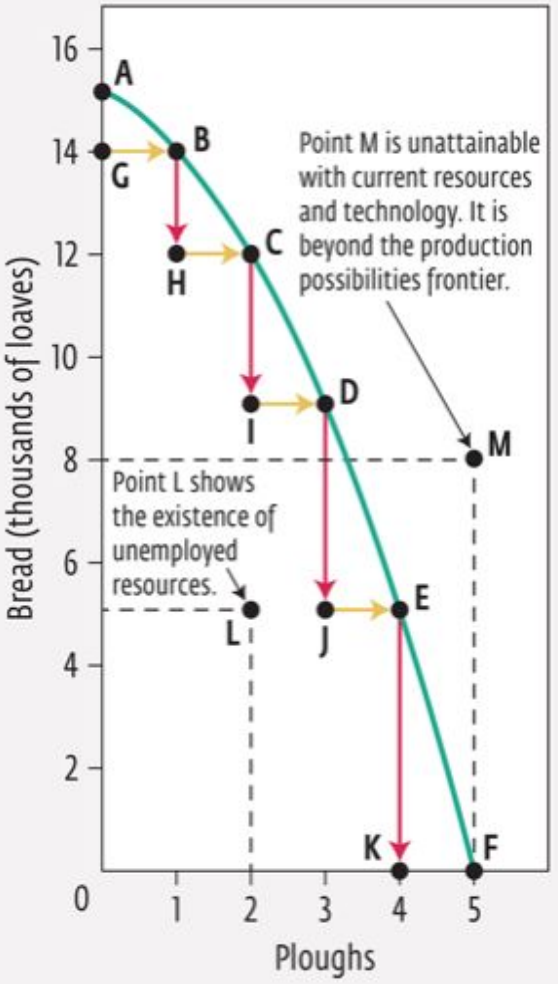
The Production Possibilities Curve as a Frontier

PPF. The graph of the different combination of goods and economy can produce using all its resources efficiently given its current technology is called a production possibility Frontier

It shows the best an economy can do at the moment.

Now we have defined the best of the economy as using all its resources efficiently.

The PPF therefore will show opportunity cost how much of one good we have to give up to produce more of the other good.



Economic Laws Affecting Production Possibilities

1. **Only two products can be produced by this simple economy.**
   This assumption reduces economic decision making to its most basic form, making the trade-off very clear: the increased production of one good can be achieved only by sacrificing a sufficient quantity of the alternative product.
2. **The economy has fixed technology and resources.**
   Since it is examining the economy over a short period of time, the model assumes that no technological innovations will be introduced to improve the rate of production.
3. **The economy is at full employment.**
   The model assumes that all productive resources, including labour, are fully employed and that they are being used effectively to produce the maximum output.

What does a point outside the PPF mean?

It is unattainable, and there are not enough resources or not the right technology or no combination of both.

What does a point inside the PPF mean?

Any point inside the PPF shows unemployed resources or unemployment

The Law of Increasing Relative Cost

- **Relative Cost:** The cost of producing one item, A, expressed in terms of the numbers of another item, B, which must be given up to produce A (that is, A's opportunity cost).

The Law of Increasing Relative Cost

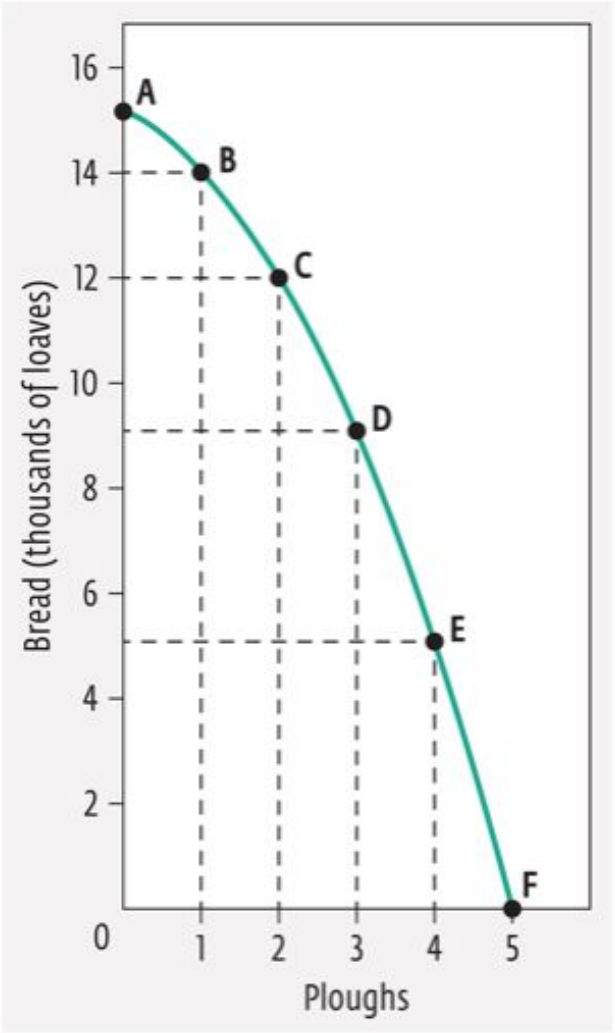
FIGURE 2.3

A production possibilities schedule and the relative costs of producing ploughs and bread

Production Possibilities (alternatives)	Ploughs	Loaves of Bread	Opportunity Cost of Additional Plough Production (quantity of bread that must be given up)	Relative Cost to Society
A	0	15 000		
B	1	14 000	1 000	1 plough = 1 000 loaves*
C	2	12 000	2 000	1 plough = 2 000 loaves
D	3	9 000	3 000	1 plough = 3 000 loaves
E	4	5 000	4 000	1 plough = 4 000 loaves
F	5	0	5 000	1 plough = 5 000 loaves

* Since the production of one more plough will cost society 1 000 loaves of bread

PRODUCTION POSSIBILITIES FRONTIER



- **<u>Law of Increasing Relative Cost:</u>** The increase in the relative cost of producing more of item A, measured by the numbers of another item, B, that could be produced with the same resources.

GRAPHS

Given their visual nature, graphs are an effective way to show the relationships that exist between two different variables.

By plotting data along two axis lines, we can clearly see the relationship between the two sets of data.

- Our graph requires an axis for both variables. The two axes are plotted to create a 90 angle.

- The point where the two axes intersect is called the origin.

  The vertical line is called the y-axis, and the horizontal line is called the x-axis.

- Traditionally, in economics, price is plotted along the y-axis, with quantity along the x-axis.

- Each square along each axis must be assigned a constant value to maintain accuracy.

THINKING LIKE AN ECONOMIST: USING GRAPHS TO UNDERSTAND RELATIONSHIPS

Inverse relationship
A negative association between two variables where when one variable is increased the other decreases, and when one variable is decreased the other increase. .

Direct relationship
A positive association between two variables where when one variable is increased the other variable also increases, and when one variable is decreased the other also decreases.

law of diminishing returns
The eventual decline in the rate of extra outputs produced that occurs when one input used in production of the output is held constant and the others are increased.

law of increasing returns to scale
The increase in the rate of extra outputs produced when all inputs used in production are increased and no inputs are held constant.

Working within Economic Laws

- **Law of Diminishing Returns:** The eventual decline in the rate of extra outputs produced that occurs when one input used in production of the output is held constant and the others are increased.

FIGURE 2.6
Experiment A

A farmer's attempt to increase output, which illustrates the law of diminishing returns.

Year	Land (hectares)	Labour Force (workers)	Total Production (bushels of corn)	Increase in Yield (extra bushels)
1	10	1	1 000	
2	10	2	2 000	1 000
3	10	3	2 800	800
4	10	4	3 400	600
5	10	5	3 800	400
6	10	6	3 900	100
7	10	7	3 900	0

Working within Economic Laws

- **Law of Increasing Returns to Scale:** The increase in the rate of extra outputs produced when all inputs used in production are increased and no inputs are held constant.

FIGURE 2.7
Experiment B

A farmer's attempt to increase output, which illustrates the law of increasing returns to scale.

Year	Land (hectares)	Labour Force (workers)	Total Production (bushels of corn)	Increase in Yield (extra bushels)
1	10	1	1 000	
2	20	2	2 000	1 000
3	30	3	3 200	1 200
4	40	4	4 600	1 400
5	50	5	6 200	1 600
6	60	6	8 000	1 800
7	70	7	10 000	2 000

In the real world, productive resources are limited.

As a result, it is not always possible for an enterprise to increase all resource inputs indefinitely.

Ultimately, therefore, the availability of some productive resources will end, and the law of diminishing returns will once again prevail.

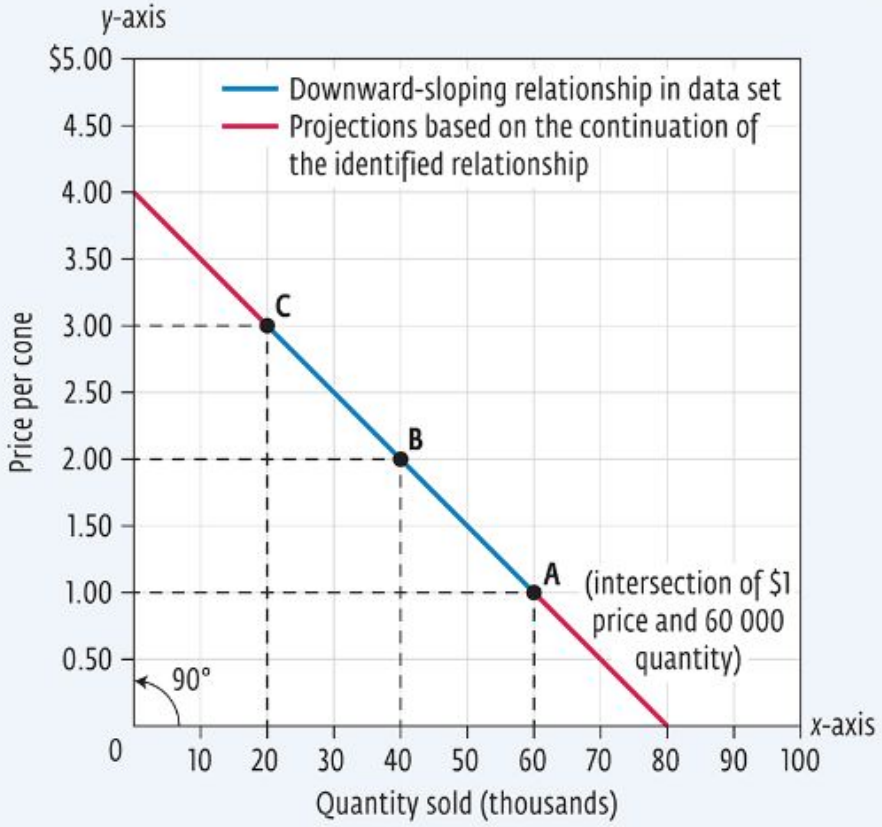
Inverse relationship

As price increases, the quantity sold decreases.

The two variables therefore change in opposite directions.

Data Table

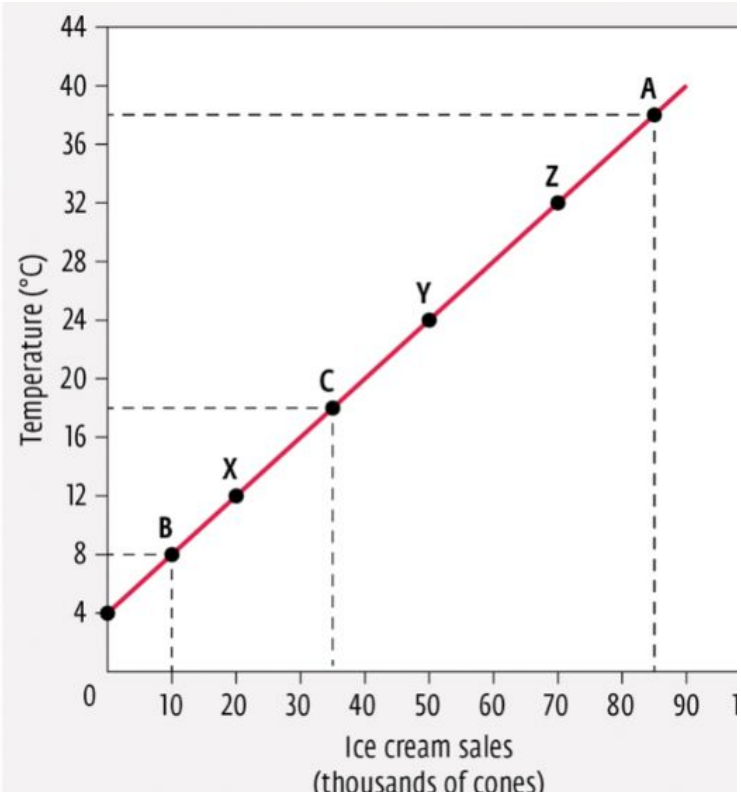
Price per Cone	Number of Cones Sold	Point on Graph
$1	60 000	A
$2	40 000	B
$3	20 000	C



Direct Relationship

Now let's consider a case in which there is a direct relationship between variables; that is, a positive association between them.

The table in next figure presents data comparing ice cream cone sales to outdoor temperatures. When temperature increases, so do ice cream cone sales, **reflecting a direct relationship.**


44
40
36
32
28
24
20
16
12
8
4
0
Temperature (°C)
A
Z
Y
C
X
B
10
20
30
40
50
60
70
80
90
Ice cream sales
(thousands of cones)