CHAPTER 2

The Production Possibility Model, Trade, and Globalization

Learning Objectives

1. Demonstrate trade-offs with a production possibility curve.
2. Relate the concepts of comparative advantage and efficiency to the production possibility curve.
3. State how, through comparative advantage and trade, countries can consume beyond their individual production possibilities.
4. Explain how globalization is guided by the law of one price.

The Production Possibility Model

A **production possibility model** conveys the trade-offs society faces.

The production possibility model can be presented both in a table and in a graph.

Through specialization and trade, individuals, firms, and countries can achieve greater levels of output than they could otherwise achieve.

The Production Possibility Model

A **production possibility curve (PPC/ PPF)** is a curve measuring the maximum combination of outputs that can be obtained from a given number of inputs.

It gives you a visual picture of the trade-off embodied in a decision.

A PPC / PPF is created from a production possibility table by mapping the table in a two-dimensional graph.

Production Possibilities and Opportunity Cost

- **The production possibilities frontier (PPC/*PPF*) is the boundary between those combinations of goods and services that can be produced and those that cannot**.
- **To illustrate the PPC/*PPF***, we focus on two goods at a time and hold the quantities of all other goods and services constant.
- That is, we look at a model economy in which everything remains the same (*ceteris paribus*) except the two goods we're considering.

Production Possibilities Frontier

Production Possibilities Frontier (PPC/PPF)

- **Production Possibilities Frontier (PPF)** shows the **limits** to the production of two goods, given total resources and technology available to produce them.

The production possibilities frontier (PPF)

We assume that:

- **Only two goods are produced**
- **All the factors are used in the production, so there are limits to production.**

- **To increase our production of one good we must decrease the production of something else.**

Production Possibilities Frontier (PPF)

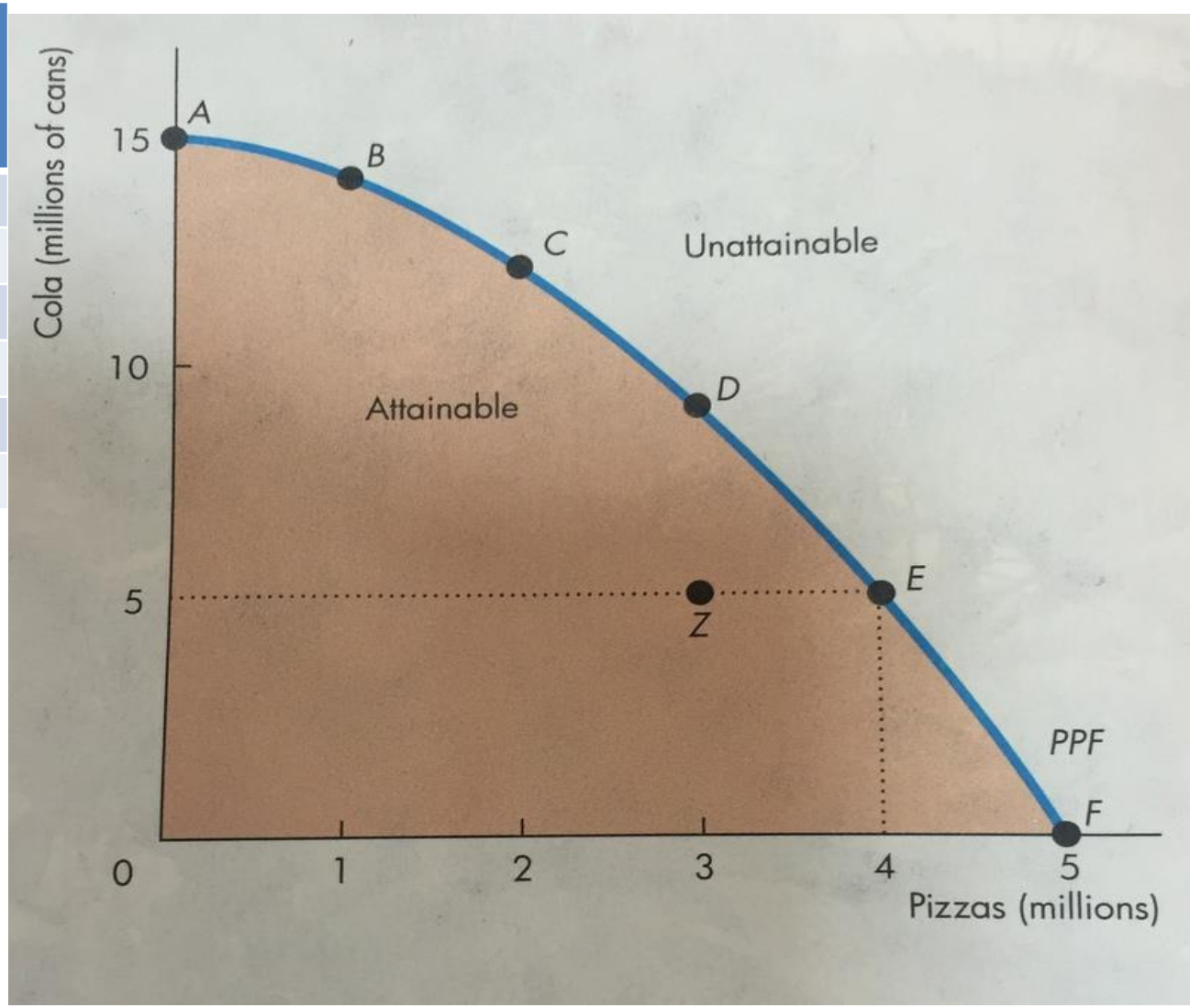
- **Production Possibilities Frontier (PPF) shows the limits to the production of two goods, given total resources and technology available to produce them.**


Soda

The Production possibilities frontier (PPF)

Possibility	Pizzas (millions)	Cola (millions of cans)
A	0	15
B	1	14
C	2	12
D	3	9
E	4	5
F	5	0

Production Possibilities Frontier (PPF) shows the **limits** to the production of two goods, given total resources and technology available to produce them.



Production Possibilities and Opportunity Cost

- The PPF illustrates **scarcity** because the points outside the frontier are **unattainable** at present.

- We can **produce** inside the **PPF**, where combinations are **attainable** but **inefficient** because resources are misallocated and wasted.

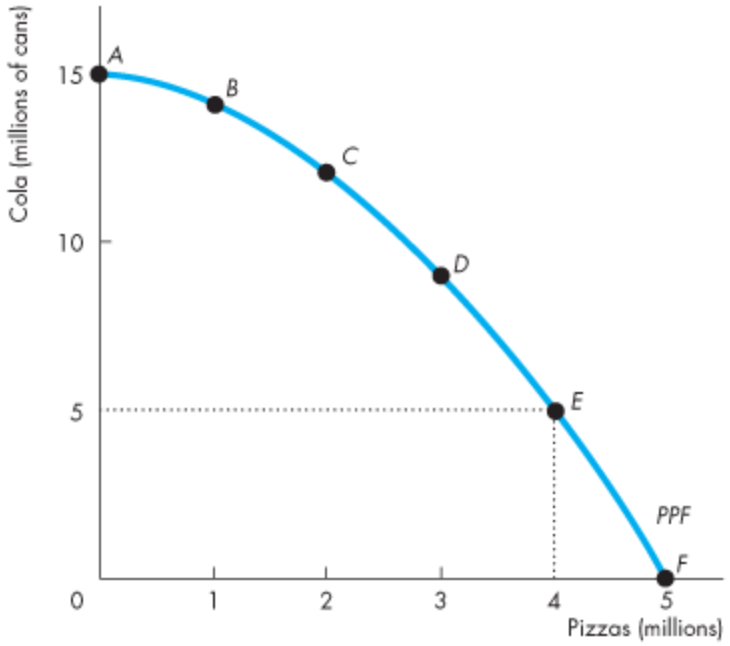
- **Production efficiency happens when we produce at any point along the PPF.**

Production Possibilities and Opportunity Cost

- Production Possibilities Frontier

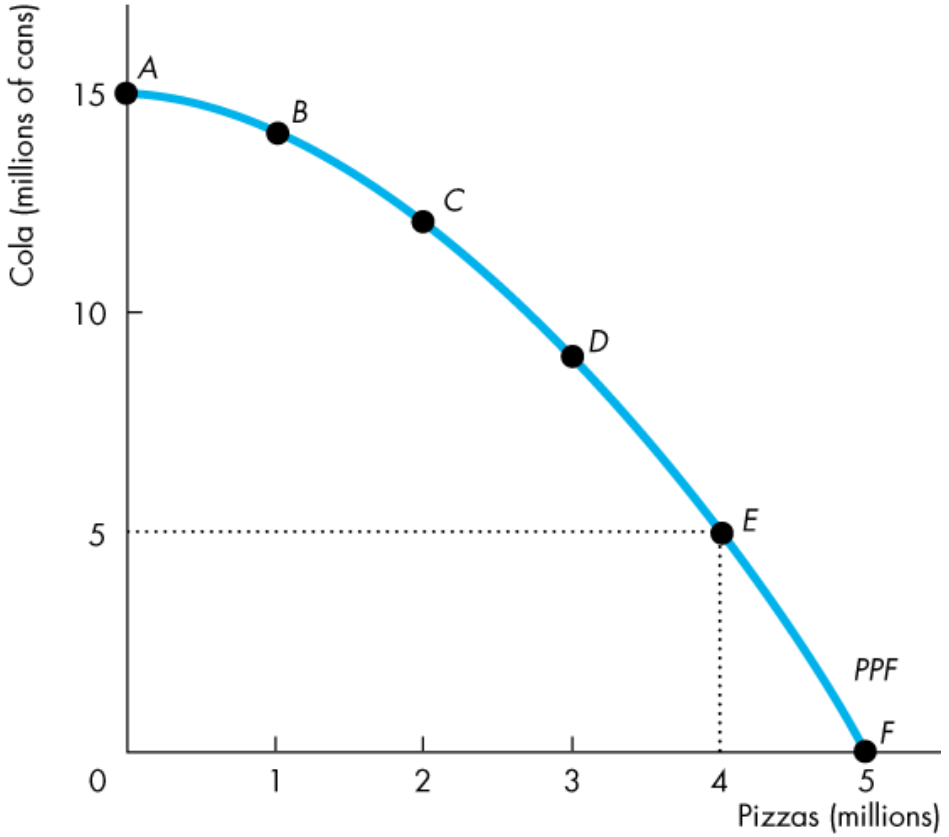
– Figure 2.1 shows the *PPF* for two goods: cola and pizzas.

Possibility	Pizzas (millions)		Cola (millions of cans)
A	0	and	15
B	1	and	14
C	2	and	12
D	3	and	9
E	4	and	5
F	5	and	0



Production Possibilities and Opportunity Cost

- Opportunity Cost
  - –As we move down along the *PPF,*
  - –*we* produce more pizzas, but the quantity of cola we can produce decreases.
  - –The opportunity cost of a pizza is the cola forgone.



Production Possibilities and Opportunity Cost

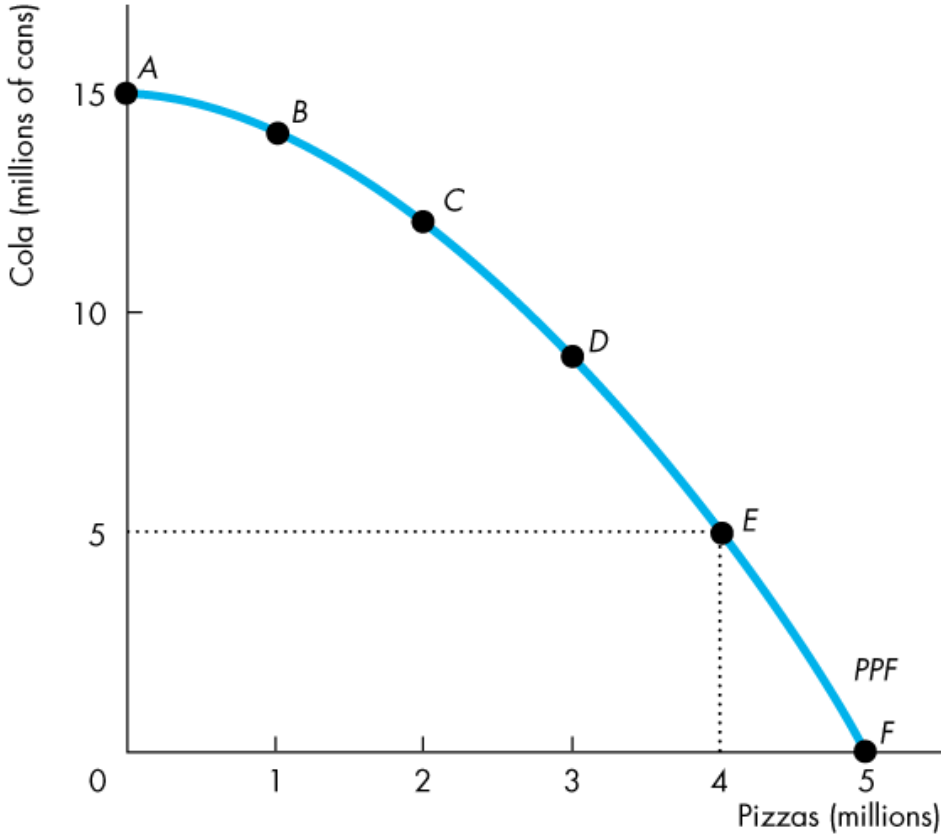
–In moving from *E* to *F*:

–The quantity of pizzas increases by 1 million.

–The quantity of cola decreases by 5 million cans.

–The opportunity cost of the fifth 1 million pizzas is 5 million cans of cola.

–One of these pizzas costs 5 cans of cola.



Production Possibilities and Opportunity Cost

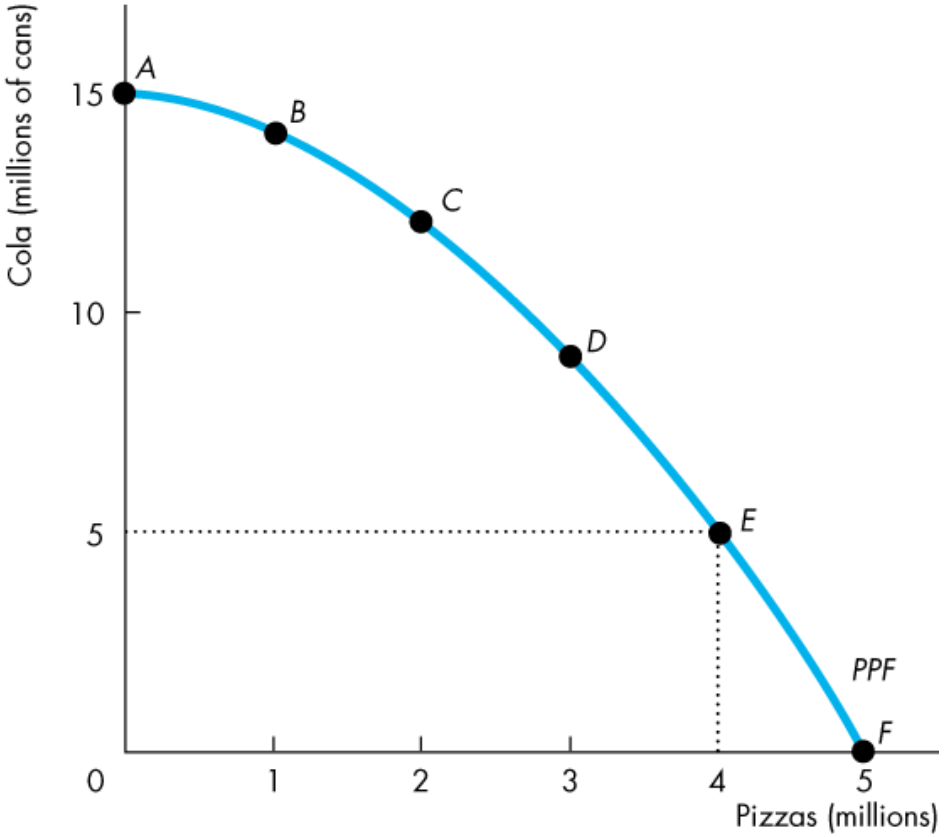
–In moving from *F* to *E*:

–The quantity of cola increases by 5 million cans.

–The quantity of pizzas decreases by 1 million.

–The opportunity cost of the first 5 million cans of cola is 1 million pizzas.

–One of these cans of cola costs 1/5 of a pizza.



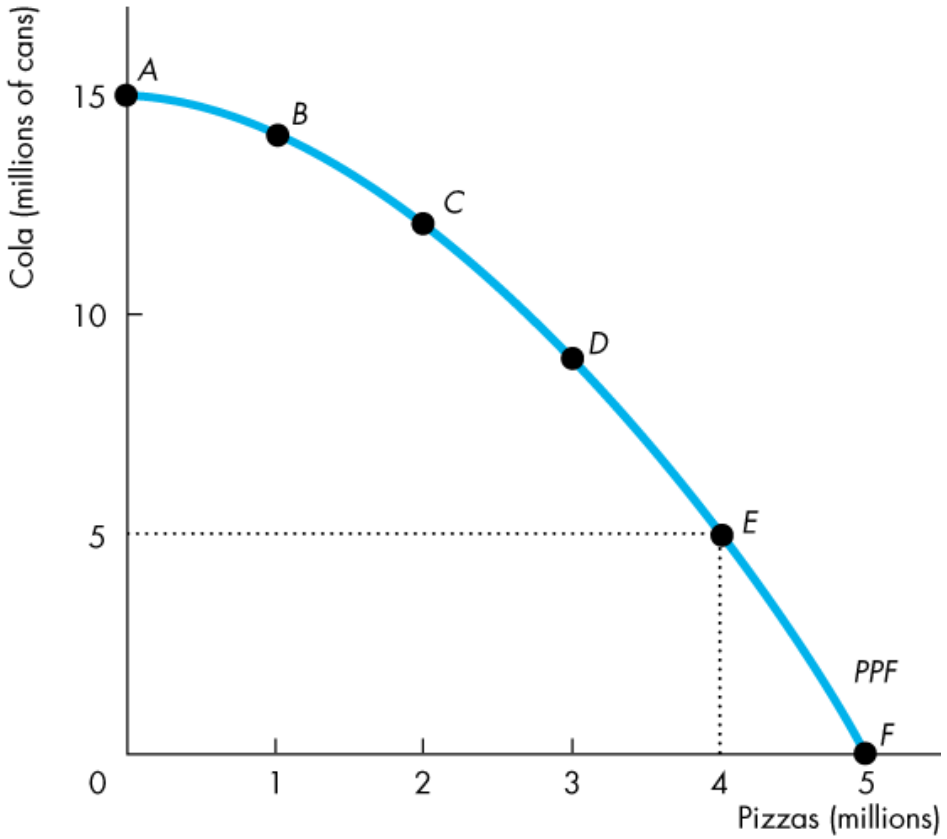
Production Possibilities and Opportunity Cost

–Opportunity Cost Is a Ratio

–The opportunity cost of producing a can of cola is the *inverse* of the opportunity cost of producing a pizza.

–One pizza costs 5 cans of cola.

–One can of cola costs 1/5 of a pizza.



Production Possibilities and Opportunity Cost

- **Opportunity Cost** is a ratio as it is the decrease in quantity produced of one good by the increase in the quantity produced of another good.

Economic Growth

– The expansion of production possibilities—an increase in the standard of living—is called **economic growth**.

– Two key factors influence economic growth:

- Technological change
- Capital accumulation

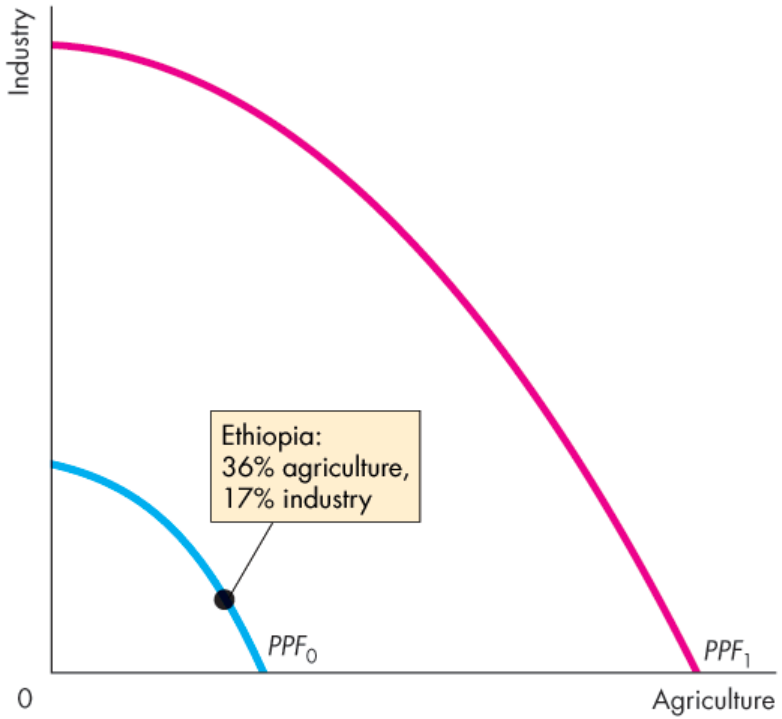
– **Technological change** is the development of new goods and of better ways of producing goods and services.

– **Capital accumulation** is the growth of capital resources, which includes *human capital*.

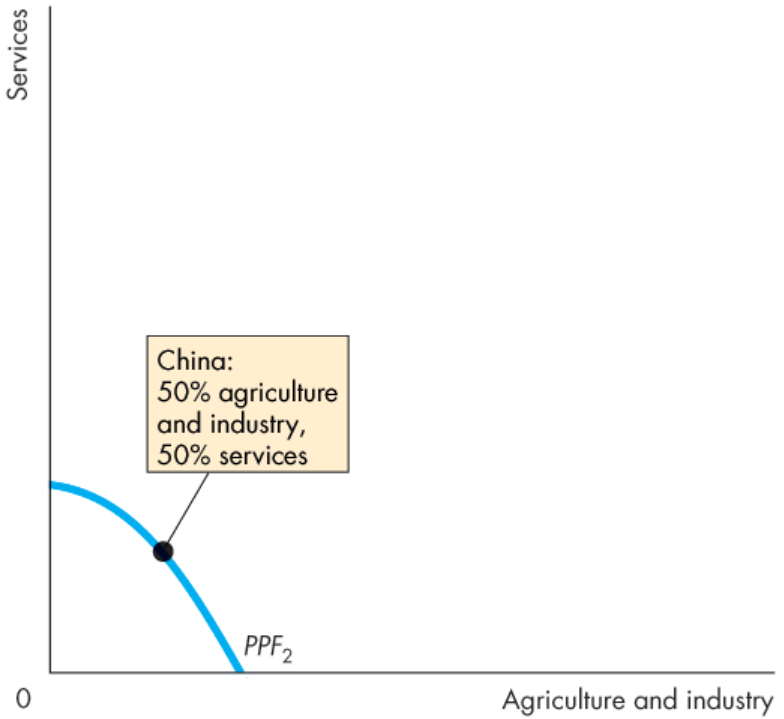
Economic Growth

– Figure 2.9(a) compares low-income Ethiopia and China.

– Figure 2.9(b) compares China and the rich United States.



(a) From Low to Middle Income



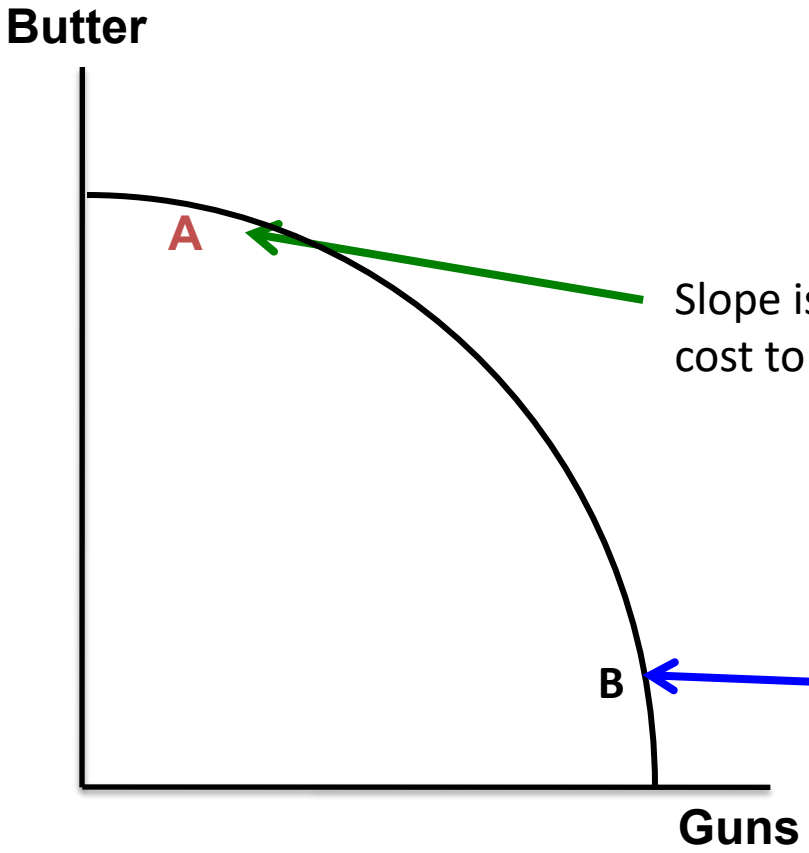
(b) From Middle to High Income


Thank You..!

Increasing Opportunity Costs of the Tradeoff

The principle of increasing marginal opportunity cost tells us that opportunity costs increase the more you concentrate on the activity.

In order to get more of something, generally one must give up ever increasing quantities of something else.



Slope is **flat** at A. This means there is a **low** opportunity cost to produce more guns.

Slope is **steep** at B. This means there is a **high** opportunity cost to produce more guns.

Application: A Production Possibility Table for Guns and Butter

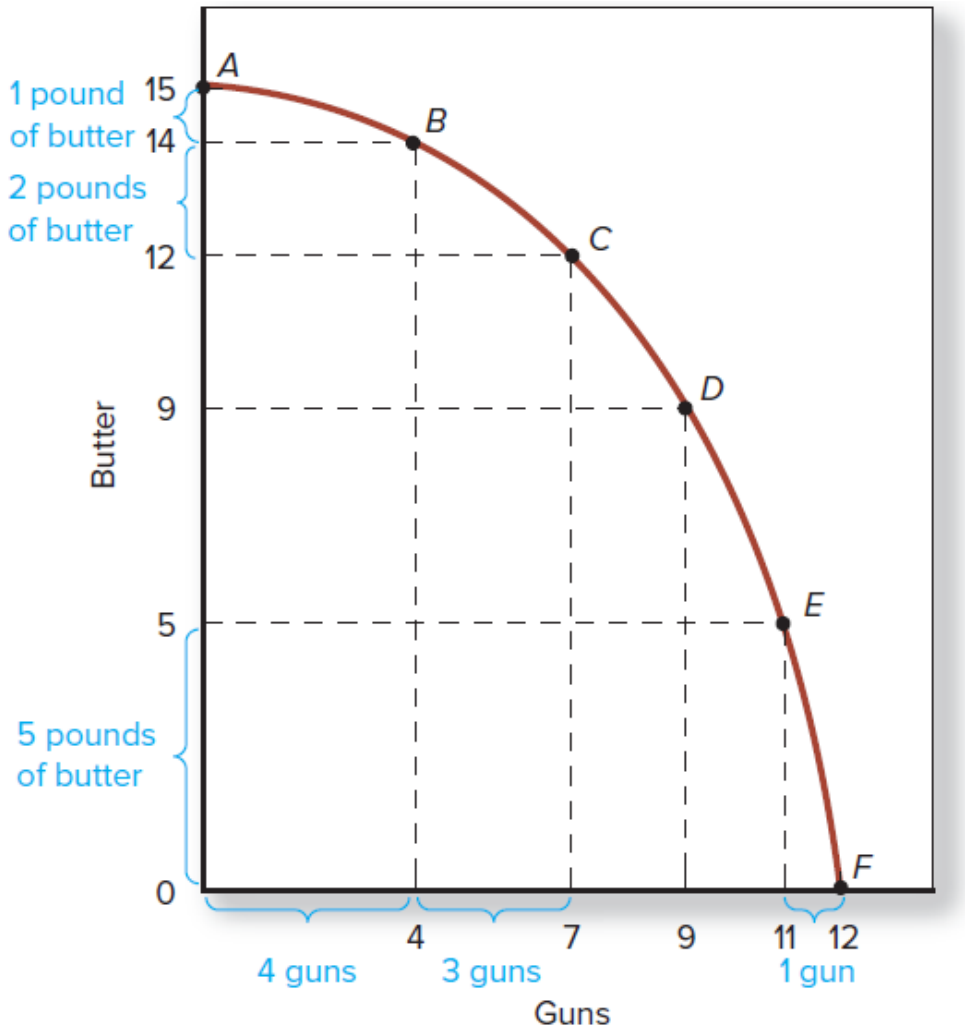
The table shows the trade-of between production of guns and butter.

% of Resources Devoted to Guns	Number of Guns	% of Resources Devoted to Production of Butter	Pounds of Butter	Row
0	0	100	15	A
20	4	80	14	B
40	7	60	12	C
60	9	40	9	D
80	11	20	5	E
100	12	0	0	F

Application: A Production Possibility Curve for Guns and Butter

Opportunity cost of choosing guns over butter increases as you increase the production of guns.

Production possibilities curves typically bow outward because some resources are better suited for certain kinds of goods than other kinds of goods.



(b) Production Possibility Curve