

# Economics:

## The Core Issues

CHAPTER

# 1

### LEARNING OBJECTIVES

*After learning about this chapter, you should know*

- L01-1 What is scarcity.
- L01-2 How scarcity creates opportunity costs.
- L01-3 What the production possibilities curve represents.
- L01-4 The three core economic questions that every society must answer.
- L01-5 How market and government approaches to economic problems differ.

# The Goals of This Course

- To understand how **individuals and businesses** make economic decisions
- To determine how **markets** shape economic outcomes
- To examine the role that **government** can and does play in (re)shaping economic performance
- To understand how **we ourselves** can make better economic decisions

# The Core Issues

- We live in a world of limited resources.
- Three core choices that confront every nation:
  1. **WHAT** to produce with our limited resources.
  2. **HOW** to produce the goods and services we select.
  3. **FOR WHOM** goods and services are produced – that is, who should get them.

# What Is the Economy?

- The economy is us!
- It is the grand sum of all our production and consumption activities.
- For the United States, it is the collective behavior of the 340 million individuals who participate in it.

# Scarcity: The Core Problem

- **Scarcity:** lack of enough resources to satisfy all desired uses of those resources.
- Scarcity of resources limits the amount of goods and services that can be produced.
- This means that:
  - Somebody's wants will have to go unfulfilled.  
*Whose?*
  - Scarcity requires economic choices to be made.  
*Who will decide?*

# Factors of Production

- **Factors of production:** resource inputs used to produce goods and services

## Labor

- skills and abilities of all humans at work

## Capital

- final goods produced for use in further production

## Land

- all natural resources

## Entrepreneurship

- assembling of resources to produce new or improved products, technologies

# Limits to Outputs

- Limited resources requires choices and trade-offs to be made.
- The science of economics helps us frame these choices.
- **Economics** is the study of how best to allocate scarce resources among competing uses.

# Opportunity Cost

- When we choose to use resources to produce one thing, we must give up producing something else with those resources.
  - This trade-off comes with a cost!
- **Opportunity cost** is the most desired goods or services forgone to obtain something else.
  - These costs are associated with every decision.



# Production Possibilities

- Production possibility model illustrates the economic concepts of:
  - scarcity
  - tradeoffs
  - opportunity costs
- **Production possibilities:** the combinations of final goods and services that could be produced in a given time period with all available resources and technology.

# Production Possibilities Example

Production Possibility

Schedule Point	Trucks	Tanks
A	5	0
B	4	2.0
C	3	3.0
D	2	3.8
E	1	4.5
F	0	5.0

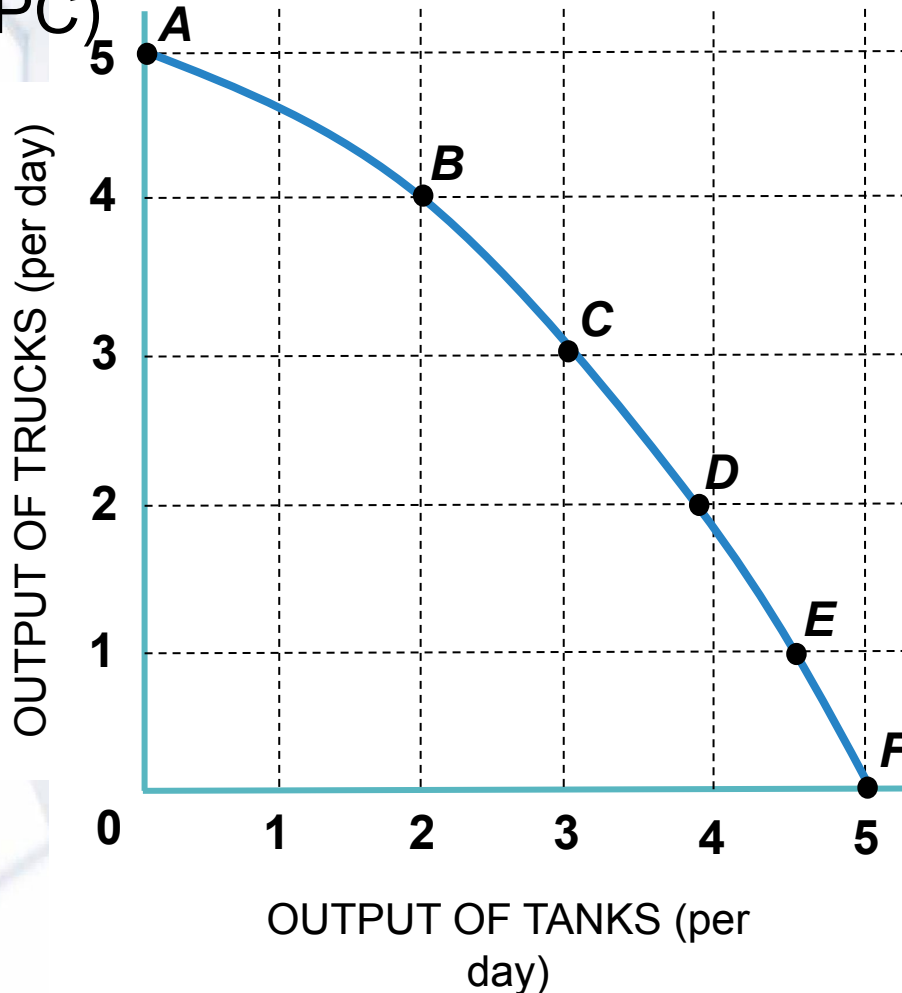
maximum output combos  
given resources

One factory can produce either trucks or tanks, or some of each with the limited resources available.

*Note:* To increase tank production, resources must be shifted away from truck production.

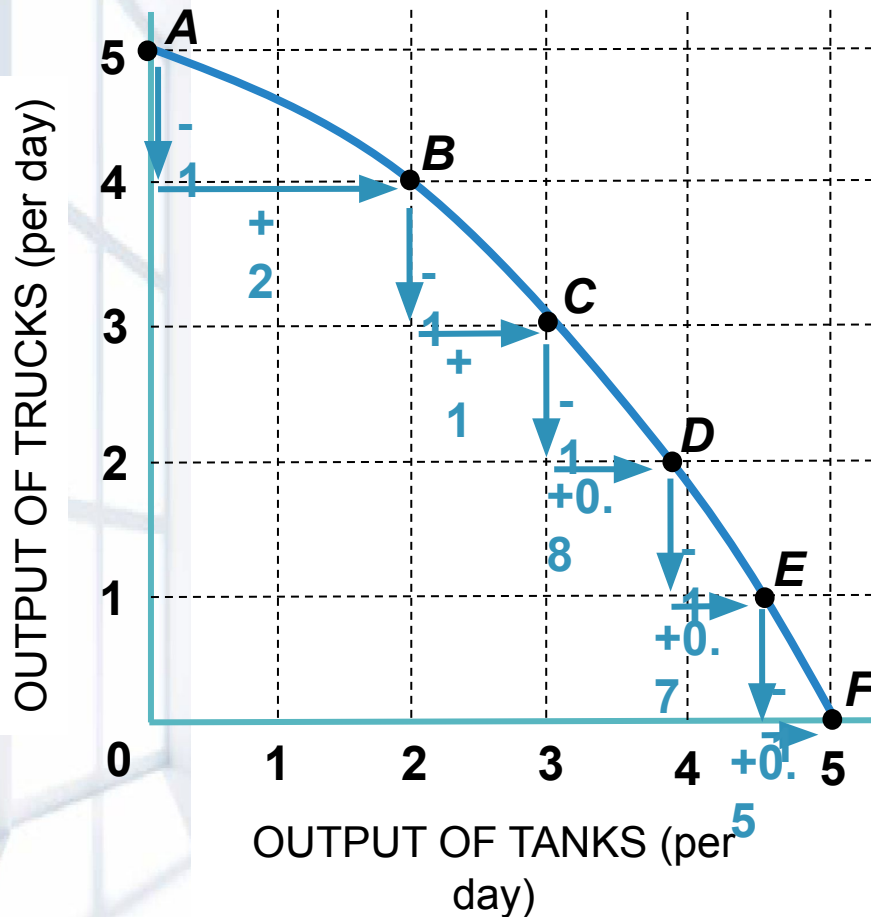
# Production Possibilities Example cont.

Production Possibility Curve  
(PPC)



- There is a limit to output  
= **scarcity**
- To produce more tanks, we must give up production of trucks  
= **trade-offs**
- The number of trucks given up to produce more tanks  
= **opportunity cost**

# Production Possibilities Example continued



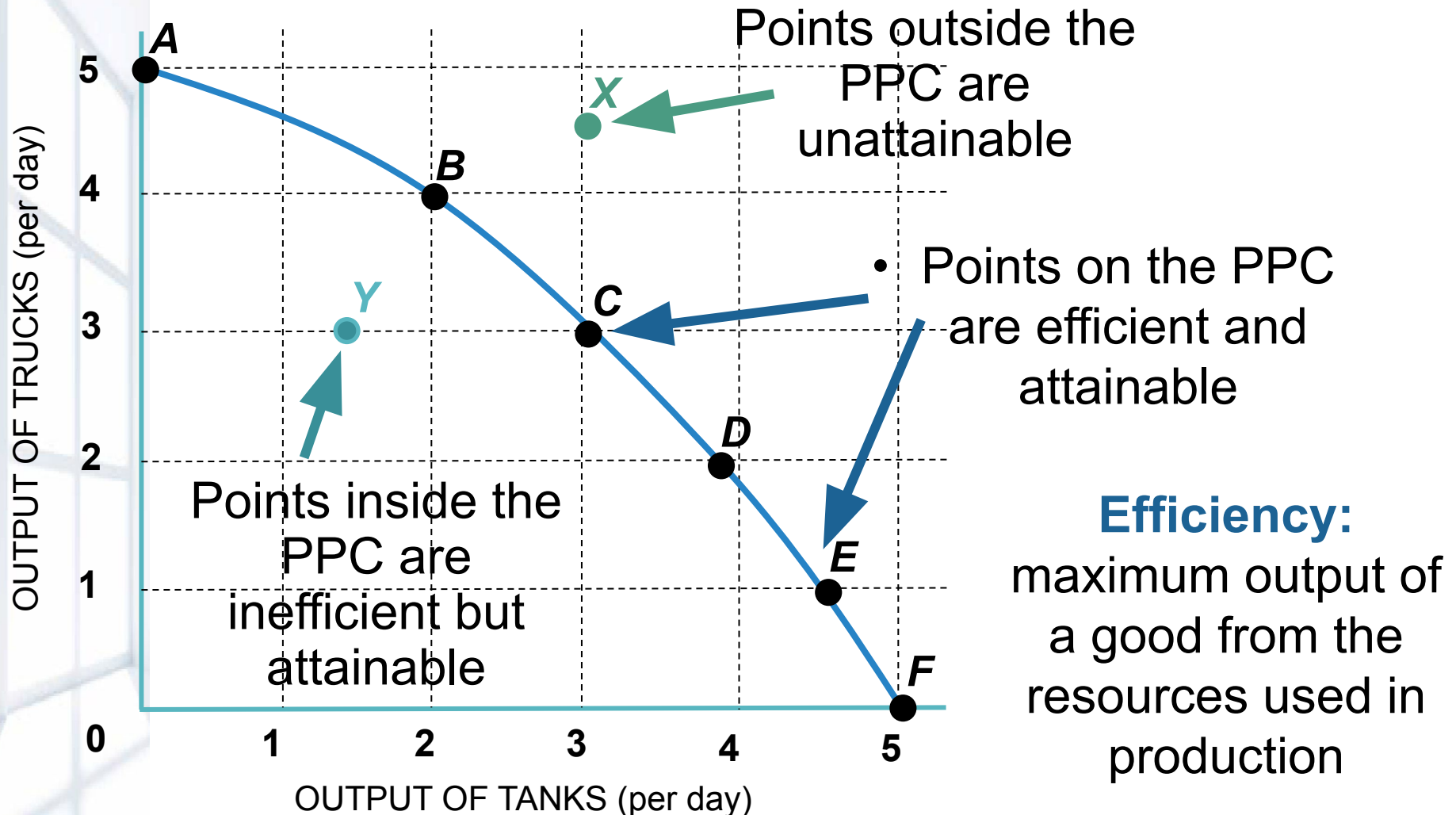
- Calculating opportunity cost
- Start producing only trucks (point **A**) and move to point **B**, we must give up 1 truck to produce 2 tanks
- **B to C**, we must give up 1 truck to produce 1 tank
- **C to D**, we must give up 1 truck to produce 0.8 tank

# Increasing Opportunity Costs

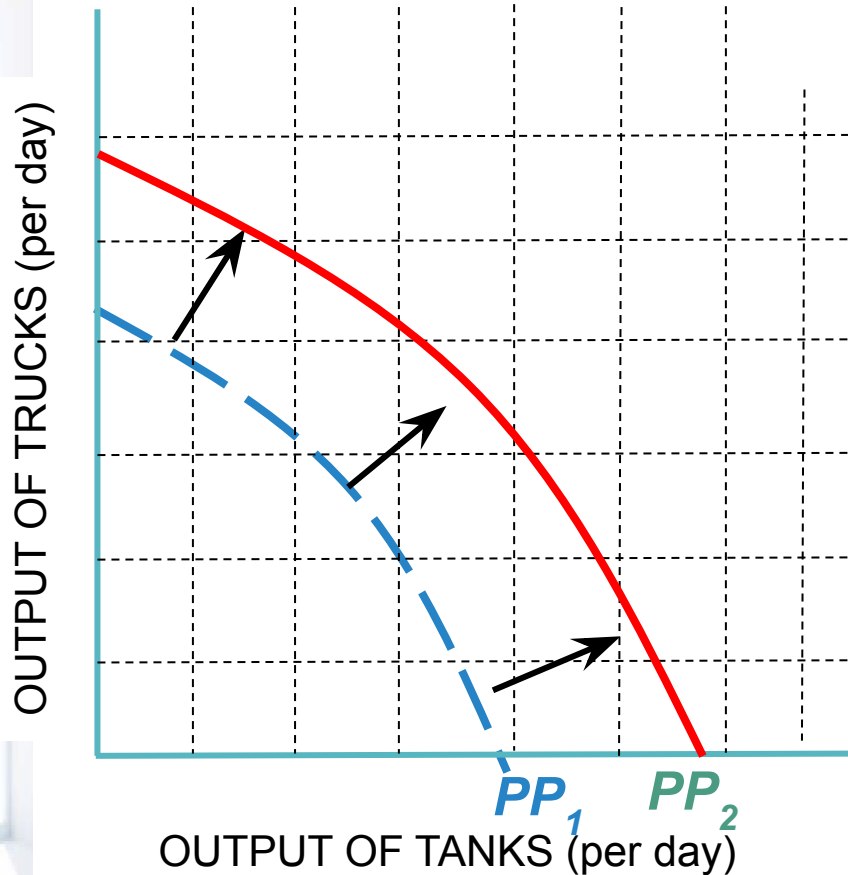
Each time we give up one truck, we get less back in tank production.

- **Why?** Resources are **specialized** to produce one good better than another.
  - The best tank resources are shifted to tank production first.
  - Later shifts involve resources less suited for tank production.
  - This causes the **bowed shape of the PPC** which represents the law of increasing opportunity cost.

# Efficiency and the PPC



# Economic Growth and the PPC



## Economic growth;

- an increase in output; an expansion of production possibilities.
- caused by increasing the available resources or by technology advancing.
- raises our standard of living, satisfies more wants and needs, and creates jobs.

# Three Basic Decisions

## WHAT to produce;

- the point we choose on the production possibilities curve determines what mix of output gets produced.

## HOW to produce;

- someone must decide which production methods and technologies to use.

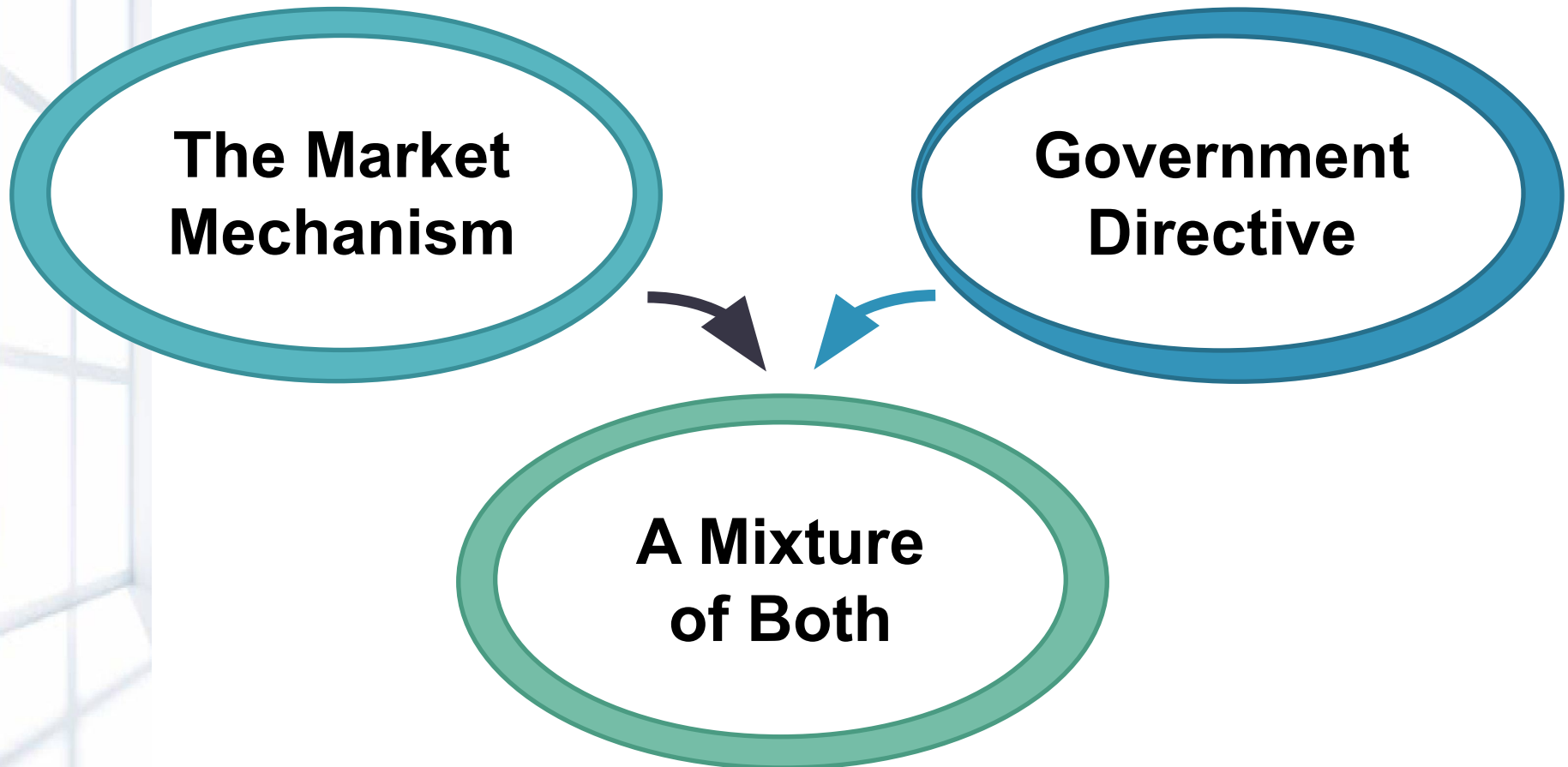
## FOR WHOM to produce;

- there must be a mechanism to determine whose wants and needs will be satisfied and who must go without.



# The Mechanisms of Choice

Basic ways to make economic choices:



# The Market Mechanism

Adam Smith called it “**the invisible hand**”

We now call this the **market mechanism**;

- the use of market prices and sales to signal desired outputs and resource allocations.

Believers in the superiority of the market mechanism advocate for **laissez faire**;

- the doctrine of “leave it alone,” of nonintervention by government in the economy.

# The Market Mechanism II

- Here is how the market answers the three basic questions:
- **WHAT to produce?** Produce goods and services that customers want.
- **HOW to produce?** Profitably; produce goods and services while keeping production costs low.
- **FOR WHOM to produce?** Produce for those who are both willing and able to pay for it.

# Government Directive

- On the other hand, government could intervene and answer all three questions.
- Karl Marx and John Maynard Keynes advocated for government intervention, but to different degrees.
- Decisions about what, how, and for whom would be made by political leaders and bureaucrats.

# A Mixture of Both (A Mixed Market)

- In general, the market is **highly efficient** in production of many goods and services but government:
  - maintains overall balance in the economy.
  - acts when the market outcome is suboptimal (e.g., market failure).
  - provides some goods and services (e.g., public goods) and regulates production for safety.
  - acts to address excessive inequalities.

# What Mix Is Best?

- **Most economies have a mixed market.**
- Few countries have relied exclusively on either pure market or pure government to manage the economy.
- The *Index of Economic Freedom* categorizes nations by the extent of their actual market reliance.
  - market-dominated economies rank high.
  - government-run economies rank low.

# Market Failure and Government Failure

- If the market does not produce the mix of goods that society desires, **market failure** is said to occur.
- This provides an opening for government to step in.
- If government can move us closer to the mix society desires, the intervention is successful.
- However, government can do the opposite, or impose such high costs that a failure occurs (= **government failure**).

# What Economics Is All About

- Understanding how economies function is the basic purpose of studying economics.
- Society and its leaders set the nation's economic goals.
- Economics focuses on the means of achieving those goals.



# What Economics Is All About II

## Normative vs. Positive Analysis

- **Positive analysis**
  - focuses on “*what is*”
  - based on facts
- **Normative analysis**
  - focuses on “*what should be*”
  - based on opinions and judgments

# What Economics Is All About III

## Micro vs. Macro

- **Macroeconomics:** The study of aggregate economic behavior, of the economy as a whole.
  - The “big picture”
- **Microeconomics:** The study of individual behavior in the economy, of the components of the larger economy.
  - What are the goals of individual economic actors?

# What Economics Is All About IV

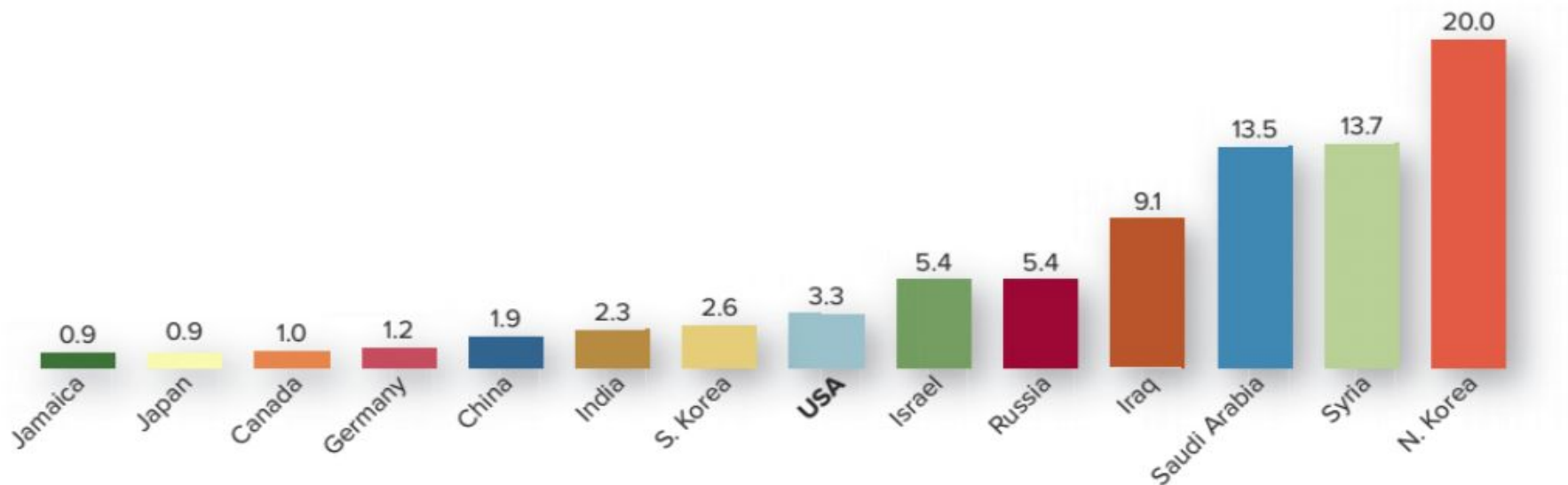
## Theory vs. Reality

- The economy is vast and complex.
- We model the economy and make simplifying assumptions.
  - **Ceteris paribus:** the assumption of nothing else changing.
- We want to develop a reasonable perspective on economic behavior and an understanding of basic principles.
  - Totally useful in life!

# Application: World View

Understanding the opportunity costs of military spending

Percentage of Output Allocated to Military



**FIGURE 1.3**

## **The Military Share of Output**

The share of total output allocated to the military indicates the opportunity cost of maintaining an army. North Korea has the highest cost, using one fifth of its resources for military purposes. Although China and the United States

have much larger armies, their military *share* of output is much smaller.

Source: Stockholm International Peace Research Institute and U.S. Central Intelligence Agency (2015 data).

# **Application: The Economy Tomorrow**

- Energy is always in demand and harnessing the sun is an exciting prospect to provide power for homes and cars.
- Understanding the opportunity costs of converting to solar power:
  - trillions of dollars of resources may be needed for a full-scaled development of solar-power infrastructure.
  - What are the opportunity costs?

# Revisiting the Learning Objectives

- **LO1-1 What is scarcity**
- Scarcity is a basic fact of economics life.
- Factors of production (land, labor, capital, entrepreneurship) are scarce in relation to our desires for goods and services.

# Revisiting the Learning Objectives II

- **LO1-2 How scarcity creates opportunity costs**
- Factors of production are scarce in relation to our desires for goods and services.
- All economic activity entails opportunity costs.
- When we choose to produce one thing, we forsake the opportunity to produce some other good or service.

# Revisiting the Learning Objectives III

- **LO1-3 What the production possibilities curve represents**
- Limits of possible production given available resources and technology.
- Scarcity, trade-offs, and opportunity costs
- Increasing opportunity cost: give up ever-larger amounts of one good to get one more unit of the other good.
- Efficient production, attainable production.
- Economic growth.



# Revisiting the Learning Objectives IV

- **LO1-4 The three core economic questions that every society must answer.**
- Every country must decide **WHAT** to produce, **HOW** to produce, and **FOR WHOM** to produce with its limited resources.
- The study of economics focuses on the broad question of resource allocation.

# Revisiting the Learning Objectives V

- **LO1-5 How market and government approaches to economic problems differ.**
- Choices can be made by the market mechanism or by government directives, or by a combination of the two (mixed economy).
- Market failure and government failure.
- The challenge for economic theory and policy is to find the mix of market signals and government directives that best fulfills social and economic goals.

# Looking Ahead: Chapter 2

- **The U.S. Economy: A Global View**

*After learning about this chapter, you should know;*

- The relative size of the U.S. economy.
- How the U.S. output mix has changed over time.
- How the U.S. is able to produce so much output.
- How incomes are distributed in the U.S. and elsewhere.