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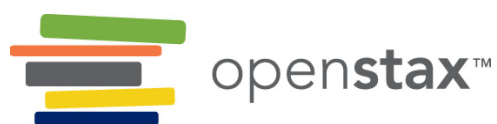
# Principles of Economics 3e

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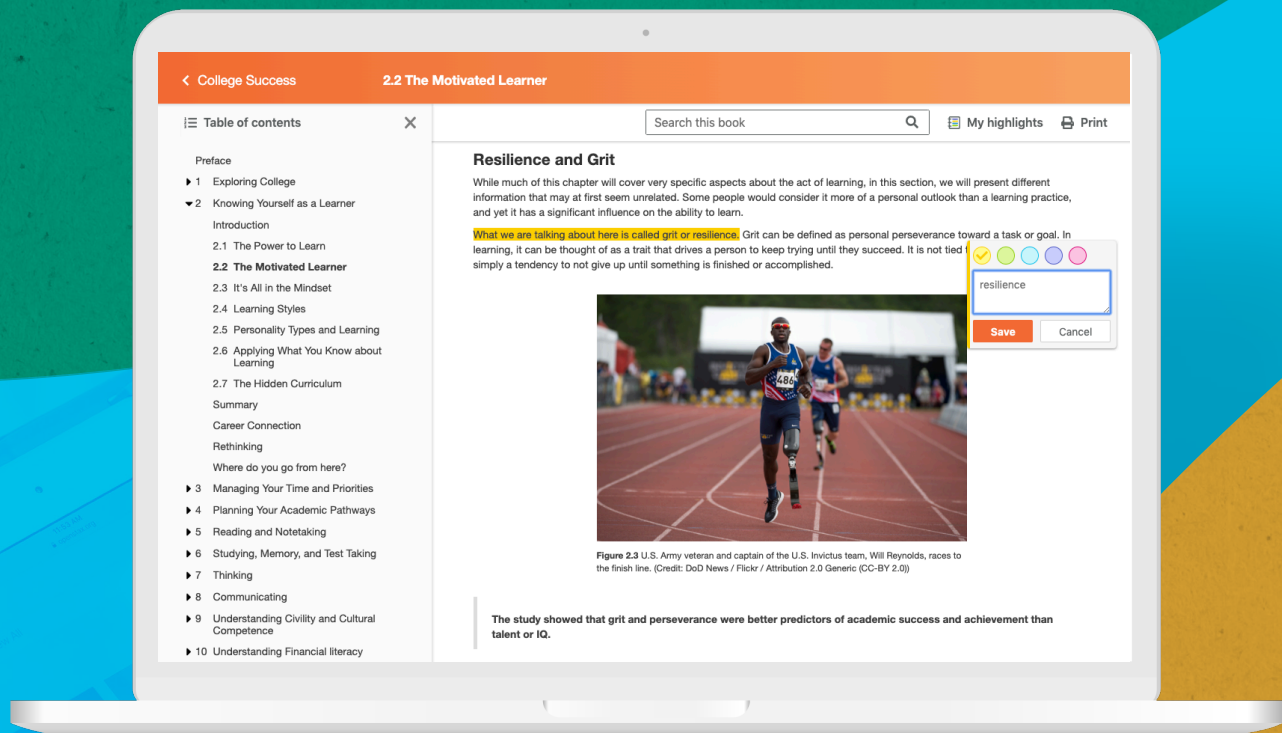
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## Preface

Welcome to *Principles of Economics 3e* (Third Edition), an OpenStax resource. This textbook was written to increase student access to high-quality learning materials, maintaining highest standards of academic rigor at little to no cost.

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#### Format

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### About *Principles of Economics 3e*

*Principles of Economics 3e* aligns to the topics and objectives of most introductory economics courses. Arranged in the traditional progression from microeconomics to macroeconomics, it allows flexibility in coverage and sequencing. The text uses conversational language and ample illustrations to explore economic theories, and provides a wide array of examples using both fictional and real-world scenarios. The third

edition has been carefully and thoroughly updated to reflect current data and understanding, as well as to provide a deeper background in diverse contributors and their impacts on economic thought and analysis.

### Coverage and scope

In response to faculty feedback and to ease transition to a new edition, Principles of Economics 3e retains the organization of the previous editions. The book covers the breadth of economics topics and also provides the necessary depth to ensure the course is manageable for instructors and students alike. We strove to balance theory and application, as well as the amount of calculation and mathematical examples.

The book is organized into eight main parts:

- **What is Economics?** The first two chapters introduce students to the study of economics with a focus on making choices in a world of scarce resources.
- **Supply and Demand**, Chapters 3 and 4, introduces and explains the first analytical model in economics: supply, demand, and equilibrium, before showing applications in the markets for labor and finance.
- **The Fundamentals of Microeconomic Theory**, Chapters 5 through 10, begins the microeconomics portion of the text, presenting the theories of consumer behavior, production and costs, and the different models of market structure, including some simple game theory.
- **Microeconomic Policy Issues**, Chapters 11 through 18, covers the range of topics in applied micro, framed around the concepts of public goods and positive and negative externalities. Students explore competition and antitrust policies, environmental problems, poverty, income inequality, and other labor market issues. The text also covers information, risk and financial markets, as well as public economy.
- **The Macroeconomic Perspective and Goals**, Chapters 19 through 23, introduces a number of key concepts in macro: economic growth, unemployment and inflation, and international trade and capital flows.
- **A Framework for Macroeconomic Analysis**, Chapters 24 through 26, introduces the principal analytic model in macro, namely the aggregate demand/aggregate supply model. The model is then applied to the Keynesian and Neoclassical perspectives. The expenditure-output model is fully explained in a stand-alone appendix.
- **Monetary and Fiscal Policy**, Chapters 27 through 31, explains the role of money and the banking system, as well as monetary policy and financial regulation. Then the discussion switches to government deficits and fiscal policy.
- **International Economics**, Chapters 32 through 34, the final part of the text, introduces the international dimensions of economics, including international trade and protectionism.

### Changes to the third edition

The revision process incorporated extensive feedback from faculty who have used the book in their courses. They advised that the third edition changes focus on currency updates, integration of newer perspectives and more diverse contributors, and relevance to students' lives and careers.

**Current data and analysis:** The authors have updated dozens of explanations, graphs, and tables containing financial, demographic, employment, and related economic data. The corresponding discussions provide context and interpretations of the data, including descriptions of change over time, cause-and-effect relationships, and balanced analysis of policies and opinions.

**Diverse perspectives and contributors:** The third edition highlights the research and views of a broader group of economists. These include people from across the spectrum of economic thought, with a particular focus on those who take what are often considered non-traditional views of economic policy and government action. Examples include:

- Chapter 1: Esther Duflo, Abhijit Banerjee, and Michael Kremer regarding experimental analysis in development economics.

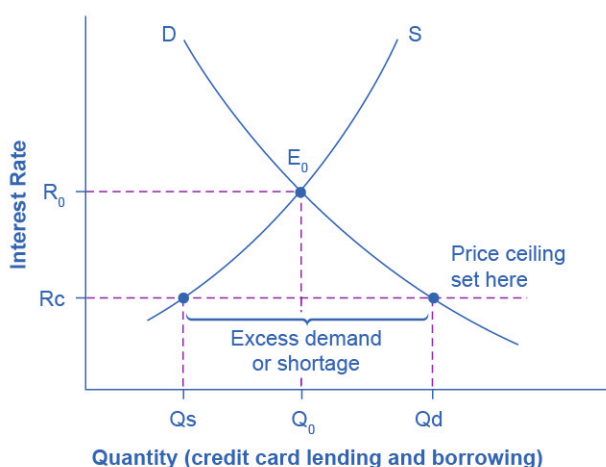
- Chapter 4: Walter Williams and Thomas Sowell regarding the downsides of minimum wages.
- Chapter 13: Carlota Perez regarding employment shifts resulting from innovation; Mariana Mazzucato regarding government involvement in innovation; Elinor Ostrom and the “non-tragedy of the commons.”
- Chapter 14: William A. Darity Jr. on employment discrimination and market forces; Phyllis Ann Wallace and the EEOC.
- Chapter 19: Kate Raworth regarding concepts for expanding economic measures beyond GDP and similar metrics.
- Chapter 32: W. Arthur Lewis and the dual sector economy; Dambisa Moyo regarding the benefits and detriments of foreign aid.

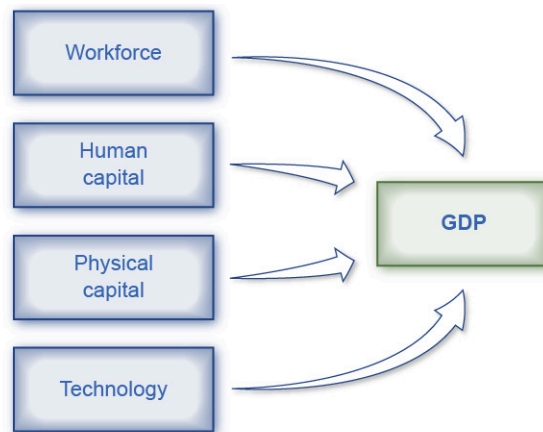
**Relevance and engagement:** In order to show the importance and application of economics in students’ lives and careers, the third edition directly addresses and expands topics likely to connect to various industries, issues, groups, and events. Brief references and deeply explored socio-political examples have been updated to showcase the critical—and sometimes unnoticed—ties between economic developments and topics relevant to students. Examples include education spending, the value of college degrees, discrimination, environmental policies, immigration policies, entrepreneurship and innovation, healthcare and insurance, and general financial literacy. Finally, the COVID-19 pandemic is referenced frequently to demonstrate its deep and evolving impacts on financial data, employment, and other aspects of the economy.

**FRED Data and Graphs:** As in previous editions, the authors have included and referenced data from the Federal Reserve Economic Data (FRED). In some cases, interactive FRED graphs are embedded directly in the web view of the book; students may magnify and focus on specific time periods, analyze individual data points, and otherwise manipulate the graphs from within the OpenStax reading experience. In others cases (and in the PDF), links to the direct source of the FRED data are provided, and students are encouraged to explore the information and the overall FRED resources more thoroughly. Note that other data sources, such as the Bureau of Labor Statistics, U.S. Census Bureau, and World Bank, usually include links in the captions or credits; instructors and students can also explore those sites for more detailed investigations of the topics at hand.

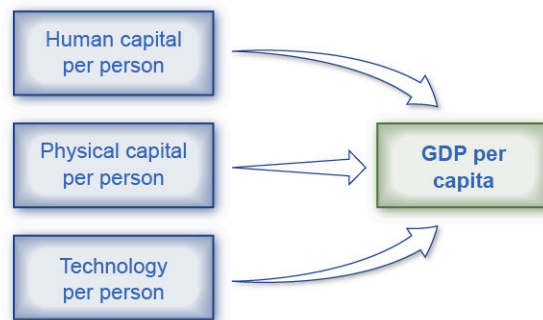
### Updated art

*Principles of Economics 3e* includes updated and redesigned art to clarify concepts and provide opportunities for graphical interpretation. Many graphs are shown with accompanying data tables and explanations of the drivers and consequences of change.





(a) Aggregate production function with GDP as its output



(b) Aggregate production function with GDP per capita as its output

### Pedagogical foundation

The narrative explanations and analysis presented in *Principles of Economics 3e* have been carefully crafted to provide a solid basis in economic concepts, flexibly approach skills and assess understanding, and deepen students' engagement with the course materials. You will also find features that promote economic inquiry and explorations, including:

- **Bring It Home:** These explorations include a brief case study, specific to each chapter, which connects the chapter's main topic to the real world. It is broken up into two parts: the first at the beginning of the chapter (in the intro module) and the second at chapter's end, when students have learned what's necessary to understand the case and "bring home" the chapter's core concepts.
- **Work It Out:** These worked examples progress through an analytical or computational problem, and guide students step by step to find out how its solution is derived.
- **Clear It Up:** These boxes are deeper explanations of something in the main body of the text. Each Clear It Up starts with a question. The rest of the feature explains the answer.

### Questions for each level of learning

*Principles of Economics 3e* offers flexibility in practice and assessment, and provides a range of opportunities to check understanding and encourage deeper thinking and application.

- **Self-Checks** are analytical self-assessment questions that appear at the end of each module. They "click to reveal" an answer in the web view so students can check their understanding before moving on to the next module. Self-Check questions are not simple look-up questions. They push the student to think beyond what is said in the text. Self-Check questions are designed for formative (rather than summative)

assessment. The questions and answers are explained so that students feel like they are being walked through the problem.

- **Review Questions** are simple recall questions from the chapter in open-response format (not multiple choice or true/false). The answers can be looked up in the text.
- **Critical Thinking Questions** are higher-level, conceptual questions that ask students to demonstrate their understanding by applying what they have learned in different contexts.
- **Problems** are exercises that give students additional practice working with the analytic and computational concepts in the module.

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David Shapiro is Professor Emeritus of Economics, Demography, and Women's, Gender, and Sexuality Studies at the Pennsylvania State University. He received a BA in economics and political science from the University of Michigan, and an MA as well as a PhD in economics from Princeton University. He began his academic career at Ohio State University in 1971, and moved to Penn State in 1980. His early research focused on women and youth in the United States labor market. Following a 1978–79 stint as a Fulbright professor at the University of Kinshasa in the Democratic Republic of the Congo, his research shifted focus to fertility in Kinshasa and more broadly, in sub-Saharan Africa. He has also received the top prize for teaching at both Ohio State and Penn State.

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Steven Greenlaw taught principles of economics for 39 years. In 1999, he received the Grellet C. Simpson Award for Excellence in Undergraduate Teaching at the University of Mary Washington. He is the author of *Doing Economics: A Guide to Doing and Understanding Economic Research*, as well as a variety of articles on economics pedagogy and instructional technology, published in the *Journal of Economic Education*, the *International Review of Economic Education*, and other outlets. He wrote the module on Quantitative Writing for *Starting Point: Teaching and Learning Economics*, the web portal on best practices in teaching economics. Steven Greenlaw lives in Alexandria, Virginia with his wife Kathy. Since retiring from full-time teaching, he has been doing faculty development work and other writing projects.

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## Additional Resources

### Student and instructor resources

We've compiled additional resources for both students and instructors, including Getting Started Guides, an instructor's manual, test bank, and image slides. Instructor resources require a verified instructor account, which you can apply for when you log in or create your account on OpenStax.org. Take advantage of these resources to supplement your OpenStax book.

- **Premium Course Shells:** These robust course cartridges are preloaded with assessments, activities, discussion prompts, readings, and other assignable material. They are logically organized to match the way you manage your course, with pre-lecture, synchronous, and post-lecture experiences. Activities and assessments are designed so that the answers are not easily found via online searches. These offerings are provided for D2L, Canvas, and Blackboard, and may require support from campus instructional

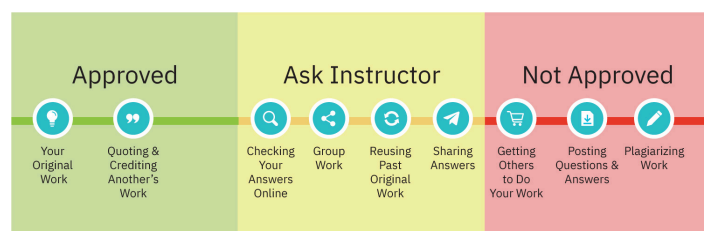
technology or related teams to import and integrate.

- **Enhanced Lecture PowerPoint Slides:** These lecture slides include selected graphics from the text, key concepts and definitions, examples, and discussion questions.
- **Test Bank:** The test bank contains multiple choice, short answer, and essay questions for each chapter of the textbook. Since many instructors use these questions in graded assignments, we ask that you not post these questions and the answers on any publicly available websites.
- **Instructor Solution Guide:** The instructor solutions guide contains the instructor-facing answers to the problems and exercises within the textbook.
- **Video Guide:** This video guide is a collection of videos recommended by instructors and grouped topically by OpenStax textbook chapters.
- **Polling Questions:** Spark discussion and support in-class learning and engagement using this set of polling questions. Survey students' understanding by a raise of hands or by pairing these questions with your polling technology; 3–4 questions are provided for each chapter.

### Academic integrity

Academic integrity builds trust, understanding, equity, and genuine learning. While students may encounter significant challenges in their courses and their lives, doing their own work and maintaining a high degree of authenticity will result in meaningful outcomes that will extend far beyond their college career. Faculty, administrators, resource providers, and students should work together to maintain a fair and positive experience.

We realize that students benefit when academic integrity ground rules are established early in the course. To that end, OpenStax has created an interactive to aid with academic integrity discussions in your course.



Visit our [academic integrity slider \(https://view.genial.ly/61e08a7af6db870d591078c1/interactive-image-defining-academic-integrity-interactive-slider\)](https://view.genial.ly/61e08a7af6db870d591078c1/interactive-image-defining-academic-integrity-interactive-slider). Click and drag icons along the continuum to align these practices with your institution and course policies. You may then include the graphic on your syllabus, present it in your first course meeting, or create a handout for students.

At OpenStax we are also developing resources supporting authentic learning experiences and assessment. Please visit this book's page for updates. For an in-depth review of academic integrity strategies, we highly recommend visiting the International Center of Academic Integrity (ICAI) website at <https://academicintegrity.org/> (<https://academicintegrity.org/>).

### Community hubs

OpenStax partners with the Institute for the Study of Knowledge Management in Education (ISKME) to offer Community Hubs on OER Commons—a platform for instructors to share community-created resources that support OpenStax books, free of charge. Through our Community Hubs, instructors can upload their own materials or download resources to use in their own courses, including additional ancillaries, teaching material, multimedia, and relevant course content. We encourage instructors to join the hubs for the subjects most relevant to your teaching and research as an opportunity both to enrich your courses and to engage with other faculty. To reach the Community Hubs, visit [www.oercommons.org/hubs/openstax](http://www.oercommons.org/hubs/openstax) (<http://www.oercommons.org/hubs/openstax>).

### Technology partners

As allies in making high-quality learning materials accessible, our technology partners offer optional low-cost tools that are integrated with OpenStax books. To access the technology options for your text, visit your book page on [OpenStax.org](https://openstax.org).





**FIGURE 1.1 Do You Use Facebook?** Economics is greatly impacted by how well information travels through society. Today, social media giants Twitter, Facebook, and Instagram are major forces on the information super highway. (Credit: modification of "Social Media Mixed Icons - Banner" by Blogtrepreneur/Flickr, CC BY 2.0)

## CHAPTER OBJECTIVES

In this chapter, you will learn about:

- What Is Economics, and Why Is It Important?
- Microeconomics and Macroeconomics
- How Economists Use Theories and Models to Understand Economic Issues
- How Economies Can Be Organized: An Overview of Economic Systems

## Introduction



### BRING IT HOME

#### Information Overload in the Information Age

To post or not to post? Every day we are faced with a myriad of decisions, from what to have for breakfast, to which show to stream, to the more complex—"Should I double major and add possibly another semester of study to my education?" Our response to these choices depends on the information we have available at any given moment. Economists call this "imperfect" because we rarely have all the data we need to make perfect decisions. Despite the lack of perfect information, we still make hundreds of decisions a day.

Streams, sponsors, and social media are altering the process by which we make choices, how we spend our time, which movies we see, which products we buy, and more. Whether they read the reviews or just check the ratings, it's unlikely for Americans to make many significant decisions without these information streams.

As you will see in this course, what happens in economics is affected by how well and how fast information disseminates through a society, such as how quickly information travels through Facebook. "Economists love nothing better than when deep and liquid markets operate under conditions of perfect information," says Jessica Irvine, National Economics Editor for News Corp Australia.

This leads us to the topic of this chapter, an introduction to the world of making decisions, processing information,

and understanding behavior in markets—the world of economics. Each chapter in this book will start with a discussion about current (or sometimes past) events and revisit it at chapter’s end—to “bring home” the concepts in play.

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What is economics and why should you spend your time learning it? After all, there are other disciplines you could be studying, and other ways you could be spending your time. As the Bring it Home feature just mentioned, making choices is at the heart of what economists study, and your decision to take this course is as much an economic decision as anything else.

Economics is probably not what you think. It is not primarily about money or finance. It is not primarily about business. It is not mathematics. What is it then? It is both a subject area and a way of viewing the world.

## 1.1 What Is Economics, and Why Is It Important?

### LEARNING OBJECTIVES

By the end of this section, you will be able to:

- Discuss the importance of studying economics
- Explain the relationship between production and division of labor
- Evaluate the significance of scarcity

**Economics** is the study of how humans make decisions in the face of scarcity. These can be individual decisions, family decisions, business decisions or societal decisions. If you look around carefully, you will see that scarcity is a fact of life. **Scarcity** means that human wants for goods, services and resources exceed what is available. Resources, such as labor, tools, land, and raw materials are necessary to produce the goods and services we want but they exist in limited supply. Of course, the ultimate scarce resource is time—everyone, rich or poor, has just 24 expendable hours in the day to earn income to acquire goods and services, for leisure time, or for sleep. At any point in time, there is only a finite amount of resources available.

Think about it this way: In 2015 the labor force in the United States contained over 158 million workers, according to the U.S. Bureau of Labor Statistics. The total land area was 3,794,101 square miles. While these are certainly large numbers, they are not infinite. Because these resources are limited, so are the numbers of goods and services we produce with them. Combine this with the fact that human wants seem to be virtually infinite, and you can see why scarcity is a problem.

### Introduction to FRED

Data is very important in economics because it describes and measures the issues and problems that economics seek to understand. A variety of government agencies publish economic and social data. For this course, we will generally use data from the St. Louis Federal Reserve Bank's FRED database. FRED is very user friendly. It allows you to display data in tables or charts, and you can easily download it into spreadsheet form if you want to use the data for other purposes. The [FRED website \(https://openstax.org/1/FRED/\)](https://openstax.org/1/FRED/) includes data on nearly 400,000 domestic and international variables over time, in the following broad categories:

- Money, Banking & Finance
- Population, Employment, & Labor Markets (including Income Distribution)
- National Accounts (Gross Domestic Product & its components), Flow of Funds, and International Accounts
- Production & Business Activity (including Business Cycles)
- Prices & Inflation (including the Consumer Price Index, the Producer Price Index, and the Employment Cost Index)
- International Data from other nations
- U.S. Regional Data
- Academic Data (including Penn World Tables & NBER Macrohistory database)

For more information about how to use FRED, see the variety of [videos \(https://openstax.org/1/FRED\\_intro\)](https://openstax.org/1/FRED_intro) on

YouTube starting with this introduction.



**FIGURE 1.2 Scarcity of Resources** People experiencing homelessness are a stark reminder that scarcity of resources is real. (Credit: "Pittsburgh Homeless" by "daveyinn"/Flickr Creative Commons, CC BY 2.0)

If you still do not believe that scarcity is a problem, consider the following: Does everyone require food to eat? Does everyone need a decent place to live? Does everyone have access to healthcare? In every country in the world, there are people who are hungry, homeless (for example, those who call park benches their beds, as [Figure 1.2](#) shows), and in need of healthcare, just to focus on a few critical goods and services. Why is this the case? It is because of scarcity. Let's delve into the concept of scarcity a little deeper, because it is crucial to understanding economics.

### The Problem of Scarcity

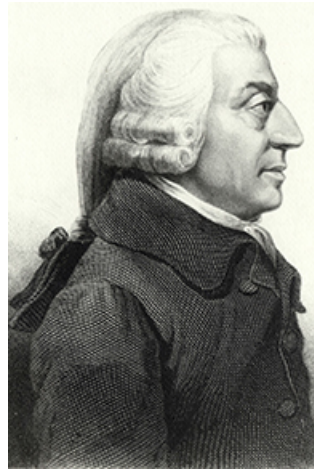
Think about all the things you consume: food, shelter, clothing, transportation, healthcare, and entertainment. How do you acquire those items? You do not produce them yourself. You buy them. How do you afford the things you buy? You work for pay. If you do not, someone else does on your behalf. Yet most of us never have enough income to buy all the things we want. This is because of scarcity. So how do we solve it?

### LINK IT UP

Visit this [website \(http://openstax.org/l/drought\)](http://openstax.org/l/drought) to read about how the United States is dealing with scarcity in resources.

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Every society, at every level, must make choices about how to use its resources. Families must decide whether to spend their money on a new car or a fancy vacation. Towns must choose whether to put more of the budget into police and fire protection or into the school system. Nations must decide whether to devote more funds to national defense or to protecting the environment. In most cases, there just isn't enough money in the budget to do everything. How do we use our limited resources the best way possible, that is, to obtain the most goods and services we can? There are a couple of options. First, we could each produce everything we each consume. Alternatively, we could each produce some of what we want to consume, and "trade" for the rest of what we want. Let's explore these options. Why do we not each just produce all of the things we consume? Think back to pioneer days, when individuals knew how to do so much more than we do today, from building their homes, to growing their crops, to hunting for food, to repairing their equipment. Most of us do not know how to do all—or any—of those things, but it is not because we could not learn. Rather, we do not have to. The reason why is something called *the division and specialization of labor*, a production innovation first put forth by Adam Smith ([Figure 1.3](#)) in his book, *The Wealth of Nations*.



**FIGURE 1.3** Adam Smith Adam Smith introduced the idea of dividing labor into discrete tasks. (Credit: "Adam Smith" by Cadell and Davies (1811), John Horsburgh (1828), or R.C. Bell (1872)/Wikimedia Commons, Public Domain)

### The Division of and Specialization of Labor

The formal study of economics began when Adam Smith (1723–1790) published his famous book *The Wealth of Nations* in 1776. Many authors had written on economics in the centuries before Smith, but he was the first to address the subject in a comprehensive way. In the first chapter, Smith introduces the concept of **division of labor**, which means that the way one produces a good or service is divided into a number of tasks that different workers perform, instead of all the tasks being done by the same person.

To illustrate division of labor, Smith counted how many tasks went into making a pin: drawing out a piece of wire, cutting it to the right length, straightening it, putting a head on one end and a point on the other, and packaging pins for sale, to name just a few. Smith counted 18 distinct tasks that different people performed—all for a pin, believe it or not!

Modern businesses divide tasks as well. Even a relatively simple business like a restaurant divides the task of serving meals into a range of jobs like top chef, sous chefs, less-skilled kitchen help, servers to wait on the tables, a greeter at the door, janitors to clean up, and a business manager to handle paychecks and bills—not to mention the economic connections a restaurant has with suppliers of food, furniture, kitchen equipment, and the building where it is located. A complex business like a large manufacturing factory, such as the shoe factory (Figure 1.4), or a hospital can have hundreds of job classifications.



**FIGURE 1.4** Division of Labor Workers on an assembly line are an example of the divisions of labor. (Credit: "Red Wing Shoe Factory Tour" by Nina Hale/Flickr Creative Commons, CC BY 2.0)

## Why the Division of Labor Increases Production

When we divide and subdivide the tasks involved with producing a good or service, workers and businesses can produce a greater quantity of output. In his observations of pin factories, Smith noticed that one worker alone might make 20 pins in a day, but that a small business of 10 workers (some of whom would need to complete two or three of the 18 tasks involved with pin-making), could make 48,000 pins in a day. How can a group of workers, each specializing in certain tasks, produce so much more than the same number of workers who try to produce the entire good or service by themselves? Smith offered three reasons.

First, **specialization** in a particular small job allows workers to focus on the parts of the production process where they have an advantage. (In later chapters, we will develop this idea by discussing comparative advantage.) People have different skills, talents, and interests, so they will be better at some jobs than at others. The particular advantages may be based on educational choices, which are in turn shaped by interests and talents. Only those with medical degrees qualify to become doctors, for instance. For some goods, geography affects specialization. For example, it is easier to be a wheat farmer in North Dakota than in Florida, but easier to run a tourist hotel in Florida than in North Dakota. If you live in or near a big city, it is easier to attract enough customers to operate a successful dry cleaning business or movie theater than if you live in a sparsely populated rural area. Whatever the reason, if people specialize in the production of what they do best, they will be more effective than if they produce a combination of things, some of which they are good at and some of which they are not.

Second, workers who specialize in certain tasks often learn to produce more quickly and with higher quality. This pattern holds true for many workers, including assembly line laborers who build cars, stylists who cut hair, and doctors who perform heart surgery. In fact, specialized workers often know their jobs well enough to suggest innovative ways to do their work faster and better.

A similar pattern often operates within businesses. In many cases, a business that focuses on one or a few products (sometimes called its “core competency”) is more successful than firms that try to make a wide range of products.

Third, specialization allows businesses to take advantage of **economies of scale**, which means that for many goods, as the level of production increases, the average cost of producing each individual unit declines. For example, if a factory produces only 100 cars per year, each car will be quite expensive to make on average. However, if a factory produces 50,000 cars each year, then it can set up an assembly line with huge machines and workers performing specialized tasks, and the average cost of production per car will be lower. The ultimate result of workers who can focus on their preferences and talents, learn to do their specialized jobs better, and work in larger organizations is that society as a whole can produce and consume far more than if each person tried to produce all of their own goods and services. The division and specialization of labor has been a force against the problem of scarcity.

## Trade and Markets

Specialization only makes sense, though, if workers can use the pay they receive for doing their jobs to purchase the other goods and services that they need. In short, specialization requires trade.

You do not have to know anything about electronics or sound systems to play music—you just buy an iPod or MP3 player, download the music, and listen. You do not have to know anything about artificial fibers or the construction of sewing machines if you need a jacket—you just buy the jacket and wear it. You do not need to know anything about internal combustion engines to operate a car—you just get in and drive. Instead of trying to acquire all the knowledge and skills involved in producing all of the goods and services that you wish to consume, the market allows you to learn a specialized set of skills and then use the pay you receive to buy the goods and services you need or want. This is how our modern society has evolved into a strong economy.

## Why Study Economics?



**FIGURE 1.5** Esther Duflo, Abhijit Banerjee, and Michael Kremer Esther Duflo, Abhijit Banerjee (both from Massachusetts Institute of Technology), and Michael Kremer (University of Chicago) were awarded the Nobel Prize for groundbreaking work in which they established experimental methods to understand poverty and outcomes of initiatives to address it. (Credit: modification of work by U.S. Embassy Sweden/Wikimedia Commons, CC BY 2.0; Financial Times/Wikimedia Commons, CC BY 2.0; U.S. Embassy Sweden/Flickr Creative Commons, CC BY 2.0)

Now that you have an overview on what economics studies, let’s quickly discuss why you are right to study it. Economics is not primarily a collection of facts to memorize, although there are plenty of important concepts to learn. Instead, think of economics as a collection of questions to answer or puzzles to work. Most importantly, economics provides the tools to solve those puzzles.

Consider the complex and critical issue of education barriers on national and regional levels, which affect millions of people and result in widespread poverty and inequality. Governments, aid organizations, and wealthy individuals spend billions of dollars each year trying to address these issues. Nations announce the revitalization of their education programs; tech companies donate devices and infrastructure, and celebrities and charities build schools and sponsor students. Yet the problems remain, sometimes almost as pronounced as they were before the intervention. Why is that the case? In 2019, three economists—Esther Duflo, Abhijit Banerjee, and Michael Kremer—were awarded the Nobel Prize for their work to answer those questions. They worked diligently to break the widespread problems into smaller pieces, and experimented with small interventions to test success. The award citation credited their work with giving the world better tools and information to address poverty and improve education. Esther Duflo, who is the youngest person and second woman to win the Nobel Prize in Economics, said, "We believed that like the war on cancer, the war on poverty was not going to be won in one major battle, but in a series of small triumphs. . . . This work and the culture of learning that it fostered in governments has led to real improvement in the lives of hundreds of millions of poor people."

As you can see, economics affects far more than business. For example:

- Virtually every major problem facing the world today, from global warming, to world poverty, to the conflicts in Syria, Afghanistan, and Somalia, has an economic dimension. If you are going to be part of solving those problems, you need to be able to understand them. Economics is crucial.
- It is hard to overstate the importance of economics to good citizenship. You need to be able to vote intelligently on budgets, regulations, and laws in general. When the U.S. government came close to a standstill at the end of 2012 due to the “fiscal cliff,” what were the issues? Did you know?
- A basic understanding of economics makes you a well-rounded thinker. When you read articles about economic issues, you will understand and be able to evaluate the writer’s argument. When you hear