



openstax™

Principles of
ECO-
nomics

Principles of Economics

SENIOR CONTRIBUTING AUTHORS

STEVEN A. GREENLAW, UNIVERSITY OF MARY WASHINGTON

TIMOTHY TAYLOR, MACALESTER COLLEGE



OpenStax

Rice University
6100 Main Street MS-375
Houston, Texas 77005

To learn more about OpenStax, visit <https://openstax.org>.
Individual print copies and bulk orders can be purchased through our website.

©2017 Rice University. Textbook content produced by OpenStax is licensed under a Creative Commons Attribution 4.0 International License (CC BY 4.0). Under this license, any user of this textbook or the textbook contents herein must provide proper attribution as follows:

- If you redistribute this textbook in a digital format (including but not limited to PDF and HTML), then you must retain on every page the following attribution:
"Download for free at <https://openstax.org/details/books/principles-economics>."
- If you redistribute this textbook in a print format, then you must include on every physical page the following attribution:
"Download for free at <https://openstax.org/details/books/principles-economics>."
- If you redistribute part of this textbook, then you must retain in every digital format page view (including but not limited to PDF and HTML) and on every physical printed page the following attribution:
"Download for free at <https://openstax.org/details/books/principles-economics>."
- If you use this textbook as a bibliographic reference, please include <https://openstax.org/details/books/principles-economics> in your citation.

For questions regarding this licensing, please contact support@openstax.org.

Trademarks

The OpenStax name, OpenStax logo, OpenStax book covers, OpenStax CNX name, OpenStax CNX logo, OpenStax Tutor name, Openstax Tutor logo, Connexions name, Connexions logo, Rice University name, and Rice University logo are not subject to the license and may not be reproduced without the prior and express written consent of Rice University.

PRINT BOOK ISBN-10	1-938168-23-2
PRINT BOOK ISBN-13	978-1-938168-23-9
PDF VERSION ISBN-10	1-947172-28-X
PDF VERSION ISBN-13	978-1-947172-28-9
ENHANCED TEXTBOOK ISBN-10	1-938168-33-X
ENHANCED TEXTBOOK ISBN-13	978-1-938168-33-8
Revision Number	PE-2014-001(03/16)-RS
Original Publication Year	2014

OPENSTAX

OpenStax provides free, peer-reviewed, openly licensed textbooks for introductory college and Advanced Placement® courses and low-cost, personalized courseware that helps students learn. A nonprofit ed tech initiative based at Rice University, we're committed to helping students access the tools they need to complete their courses and meet their educational goals.

RICE UNIVERSITY

OpenStax, OpenStax CNX, and OpenStax Tutor are initiatives of Rice University. As a leading research university with a distinctive commitment to undergraduate education, Rice University aspires to path-breaking research, unsurpassed teaching, and contributions to the betterment of our world. It seeks to fulfill this mission by cultivating a diverse community of learning and discovery that produces leaders across the spectrum of human endeavor.



FOUNDATION SUPPORT

OpenStax is grateful for the tremendous support of our sponsors. Without their strong engagement, the goal of free access to high-quality textbooks would remain just a dream.



Laura and John Arnold Foundation (LJAF) actively seeks opportunities to invest in organizations and thought leaders that have a sincere interest in implementing fundamental changes that not only yield immediate gains, but also repair broken systems for future generations. LJAF currently focuses its strategic investments on education, criminal justice, research integrity, and public accountability.



The William and Flora Hewlett Foundation has been making grants since 1967 to help solve social and environmental problems at home and around the world. The Foundation concentrates its resources on activities in education, the environment, global development and population, performing arts, and philanthropy, and makes grants to support disadvantaged communities in the San Francisco Bay Area.



Calvin K. Kazanjian was the founder and president of Peter Paul (Almond Joy), Inc. He firmly believed that the more people understood about basic economics the happier and more prosperous they would be. Accordingly, he established the Calvin K. Kazanjian Economics Foundation Inc, in 1949 as a philanthropic, nonpolitical educational organization to support efforts that enhanced economic understanding.



Guided by the belief that every life has equal value, the Bill & Melinda Gates Foundation works to help all people lead healthy, productive lives. In developing countries, it focuses on improving people's health with vaccines and other life-saving tools and giving them the chance to lift themselves out of hunger and extreme poverty. In the United States, it seeks to significantly improve education so that all young people have the opportunity to reach their full potential. Based in Seattle, Washington, the foundation is led by CEO Jeff Raikes and Co-chair William H. Gates Sr., under the direction of Bill and Melinda Gates and Warren Buffett.



The Maxfield Foundation supports projects with potential for high impact in science, education, sustainability, and other areas of social importance.



Our mission at The Michelson 20MM Foundation is to grow access and success by eliminating unnecessary hurdles to affordability. We support the creation, sharing, and proliferation of more effective, more affordable educational content by leveraging disruptive technologies, open educational resources, and new models for collaboration between for-profit, nonprofit, and public entities.



The Bill and Stephanie Sick Fund supports innovative projects in the areas of Education, Art, Science and Engineering.

WOULDN'T THIS LOOK BETTER ON A BRAND NEW IPAD MINI?

Knowing where our textbooks are used can help us provide better services to students and receive more grant support for future projects.

If you're using an OpenStax textbook, either as required for your course or just as an extra resource, send your course syllabus to contests@openstax.org and you'll be entered to win an iPad Mini.

If you don't win, don't worry – we'll be holding a new contest each semester.



openstax™



RICE

Table of Contents

Preface	1
Chapter 1: Welcome to Economics!	9
1.1 What Is Economics, and Why Is It Important?	10
1.2 Microeconomics and Macroeconomics	14
1.3 How Economists Use Theories and Models to Understand Economic Issues	15
1.4 How Economies Can Be Organized: An Overview of Economic Systems	17
Chapter 2: Choice in a World of Scarcity	27
2.1 How Individuals Make Choices Based on Their Budget Constraint	28
2.2 The Production Possibilities Frontier and Social Choices	33
2.3 Confronting Objections to the Economic Approach	38
Chapter 3: Demand and Supply	45
3.1 Demand, Supply, and Equilibrium in Markets for Goods and Services	46
3.2 Shifts in Demand and Supply for Goods and Services	51
3.3 Changes in Equilibrium Price and Quantity: The Four-Step Process	61
3.4 Price Ceilings and Price Floors	67
3.5 Demand, Supply, and Efficiency	70
Chapter 4: Labor and Financial Markets	81
4.1 Demand and Supply at Work in Labor Markets	82
4.2 Demand and Supply in Financial Markets	91
4.3 The Market System as an Efficient Mechanism for Information	96
Chapter 5: Elasticity	105
5.1 Price Elasticity of Demand and Price Elasticity of Supply	106
5.2 Polar Cases of Elasticity and Constant Elasticity	111
5.3 Elasticity and Pricing	113
5.4 Elasticity in Areas Other Than Price	121
Chapter 6: Consumer Choices	129
6.1 Consumption Choices	130
6.2 How Changes in Income and Prices Affect Consumption Choices	137
6.3 Labor-Leisure Choices	141
6.4 Intertemporal Choices in Financial Capital Markets	146
Chapter 7: Cost and Industry Structure	157
7.1 Explicit and Implicit Costs, and Accounting and Economic Profit	158
7.2 The Structure of Costs in the Short Run	160
7.3 The Structure of Costs in the Long Run	165
Chapter 8: Perfect Competition	179
8.1 Perfect Competition and Why It Matters	180
8.2 How Perfectly Competitive Firms Make Output Decisions	181
8.3 Entry and Exit Decisions in the Long Run	195
8.4 Efficiency in Perfectly Competitive Markets	198
Chapter 9: Monopoly	205
9.1 How Monopolies Form: Barriers to Entry	206
9.2 How a Profit-Maximizing Monopoly Chooses Output and Price	210
Chapter 10: Monopolistic Competition and Oligopoly	225
10.1 Monopolistic Competition	226
10.2 Oligopoly	234
Chapter 11: Monopoly and Antitrust Policy	245
11.1 Corporate Mergers	246
11.2 Regulating Anticompetitive Behavior	252
11.3 Regulating Natural Monopolies	254
11.4 The Great Deregulation Experiment	257
Chapter 12: Environmental Protection and Negative Externalities	265
12.1 The Economics of Pollution	266
12.2 Command-and-Control Regulation	270
12.3 Market-Oriented Environmental Tools	270
12.4 The Benefits and Costs of U.S. Environmental Laws	274
12.5 International Environmental Issues	277
12.6 The Tradeoff between Economic Output and Environmental Protection	278

Chapter 13: Positive Externalities and Public Goods	289
13.1 Why the Private Sector Under Invests in Innovation	291
13.2 How Governments Can Encourage Innovation	294
13.3 Public Goods	297
Chapter 14: Poverty and Economic Inequality	307
14.1 Drawing the Poverty Line	308
14.2 The Poverty Trap	311
14.3 The Safety Net	314
14.4 Income Inequality: Measurement and Causes	318
14.5 Government Policies to Reduce Income Inequality	324
Chapter 15: Issues in Labor Markets: Unions, Discrimination, Immigration	335
15.1 Unions	338
15.2 Employment Discrimination	344
15.3 Immigration	349
Chapter 16: Information, Risk, and Insurance	357
16.1 The Problem of Imperfect Information and Asymmetric Information	358
16.2 Insurance and Imperfect Information	363
Chapter 17: Financial Markets	377
17.1 How Businesses Raise Financial Capital	379
17.2 How Households Supply Financial Capital	383
17.3 How to Accumulate Personal Wealth	394
Chapter 18: Public Economy	405
18.1 Voter Participation and Costs of Elections	406
18.2 Special Interest Politics	408
18.3 Flaws in the Democratic System of Government	411
Chapter 19: The Macroeconomic Perspective	419
19.1 Measuring the Size of the Economy: Gross Domestic Product	421
19.2 Adjusting Nominal Values to Real Values	429
19.3 Tracking Real GDP over Time	434
19.4 Comparing GDP among Countries	436
19.5 How Well GDP Measures the Well-Being of Society	439
Chapter 20: Economic Growth	447
20.1 The Relatively Recent Arrival of Economic Growth	448
20.2 Labor Productivity and Economic Growth	451
20.3 Components of Economic Growth	457
20.4 Economic Convergence	461
Chapter 21: Unemployment	471
21.1 How the Unemployment Rate is Defined and Computed	472
21.2 Patterns of Unemployment	477
21.3 What Causes Changes in Unemployment over the Short Run	481
21.4 What Causes Changes in Unemployment over the Long Run	485
Chapter 22: Inflation	497
22.1 Tracking Inflation	498
22.2 How Changes in the Cost of Living are Measured	502
22.3 How the U.S. and Other Countries Experience Inflation	506
22.4 The Confusion Over Inflation	511
22.5 Indexing and Its Limitations	516
Chapter 23: The International Trade and Capital Flows	525
23.1 Measuring Trade Balances	526
23.2 Trade Balances in Historical and International Context	530
23.3 Trade Balances and Flows of Financial Capital	532
23.4 The National Saving and Investment Identity	535
23.5 The Pros and Cons of Trade Deficits and Surpluses	539
23.6 The Difference between Level of Trade and the Trade Balance	541
Chapter 24: The Aggregate Demand/Aggregate Supply Model	549
24.1 Macroeconomic Perspectives on Demand and Supply	551
24.2 Building a Model of Aggregate Demand and Aggregate Supply	552
24.3 Shifts in Aggregate Supply	558
24.4 Shifts in Aggregate Demand	560

24.5	How the AD/AS Model Incorporates Growth, Unemployment, and Inflation	564
24.6	Keynes' Law and Say's Law in the AD/AS Model	567
Chapter 25:	The Keynesian Perspective	577
25.1	Aggregate Demand in Keynesian Analysis	578
25.2	The Building Blocks of Keynesian Analysis	582
25.3	The Phillips Curve	585
25.4	The Keynesian Perspective on Market Forces	589
Chapter 26:	The Neoclassical Perspective	595
26.1	The Building Blocks of Neoclassical Analysis	597
26.2	The Policy Implications of the Neoclassical Perspective	602
26.3	Balancing Keynesian and Neoclassical Models	609
Chapter 27:	Money and Banking	615
27.1	Defining Money by Its Functions	616
27.2	Measuring Money: Currency, M1, and M2	618
27.3	The Role of Banks	621
27.4	How Banks Create Money	626
Chapter 28:	Monetary Policy and Bank Regulation	635
28.1	The Federal Reserve Banking System and Central Banks	636
28.2	Bank Regulation	639
28.3	How a Central Bank Executes Monetary Policy	642
28.4	Monetary Policy and Economic Outcomes	645
28.5	Pitfalls for Monetary Policy	650
Chapter 29:	Exchange Rates and International Capital Flows	661
29.1	How the Foreign Exchange Market Works	662
29.2	Demand and Supply Shifts in Foreign Exchange Markets	670
29.3	Macroeconomic Effects of Exchange Rates	674
29.4	Exchange Rate Policies	677
Chapter 30:	Government Budgets and Fiscal Policy	689
30.1	Government Spending	690
30.2	Taxation	693
30.3	Federal Deficits and the National Debt	695
30.4	Using Fiscal Policy to Fight Recession, Unemployment, and Inflation	698
30.5	Automatic Stabilizers	701
30.6	Practical Problems with Discretionary Fiscal Policy	703
30.7	The Question of a Balanced Budget	707
Chapter 31:	The Impacts of Government Borrowing	715
31.1	How Government Borrowing Affects Investment and the Trade Balance	716
31.2	Fiscal Policy, Investment, and Economic Growth	719
31.3	How Government Borrowing Affects Private Saving	724
31.4	Fiscal Policy and the Trade Balance	725
Chapter 32:	Macroeconomic Policy Around the World	733
32.1	The Diversity of Countries and Economies across the World	735
32.2	Improving Countries' Standards of Living	738
32.3	Causes of Unemployment around the World	743
32.4	Causes of Inflation in Various Countries and Regions	744
32.5	Balance of Trade Concerns	745
Chapter 33:	International Trade	755
33.1	Absolute and Comparative Advantage	756
33.2	What Happens When a Country Has an Absolute Advantage in All Goods	762
33.3	Intra-industry Trade between Similar Economies	766
33.4	The Benefits of Reducing Barriers to International Trade	770
Chapter 34:	Globalization and Protectionism	777
34.1	Protectionism: An Indirect Subsidy from Consumers to Producers	778
34.2	International Trade and Its Effects on Jobs, Wages, and Working Conditions	785
34.3	Arguments in Support of Restricting Imports	788
34.4	How Trade Policy Is Enacted: Globally, Regionally, and Nationally	795
34.5	The Tradeoffs of Trade Policy	798
Appendix A:	The Use of Mathematics in Principles of Economics	807
Appendix B:	Indifference Curves	825

Appendix C: Present Discounted Value	839
Appendix D: The Expenditure-Output Model	843
Index	931

PREFACE

Welcome to *Principles of Economics*, an OpenStax resource. This textbook has been created with several goals in mind: accessibility, customization, and student engagement—all while encouraging students toward high levels of academic scholarship. Instructors and students alike will find that this textbook offers a strong foundation in economics in an accessible format.

About OpenStax

OpenStax is a non-profit organization committed to improving student access to quality learning materials. Our free textbooks go through a rigorous editorial publishing process. Our texts are developed and peer-reviewed by educators to ensure they are readable, accurate, and meet the scope and sequence requirements of today's college courses. Unlike traditional textbooks, OpenStax resources live online and are owned by the community of educators using them. Through our partnerships with companies and foundations committed to reducing costs for students, OpenStax is working to improve access to higher education for all. OpenStax is an initiative of Rice University and is made possible through the generous support of several philanthropic foundations.

About OpenStax's Resources

OpenStax resources provide quality academic instruction. Three key features set our materials apart from others: they can be customized by instructors for each class, they are a "living" resource that grows online through contributions from science educators, and they are available free or for minimal cost.

Customization

OpenStax learning resources are designed to be customized for each course. Our textbooks provide a solid foundation on which instructors can build, and our resources are conceived and written with flexibility in mind. Instructors can select the sections most relevant to their curricula and create a textbook that speaks directly to the needs of their classes and student body. Teachers are encouraged to expand on existing examples by adding unique context via geographically localized applications and topical connections.

Principles of Economics can be easily customized using our online platform (<http://cnx.org/content/col11613/>). Simply select the content most relevant to your current semester and create a textbook that speaks directly to the needs of your class. *Principles of Economics* is organized as a collection of sections that can be rearranged, modified, and enhanced through localized examples or to incorporate a specific theme of your course. This customization feature will ensure that your textbook truly reflects the goals of your course. *Principles of Economics* is also available in two volumes, one covering microeconomics and one covering macroeconomics principles.

Curation

To broaden access and encourage community curation, *Principles of Economics* is “open source” licensed under a Creative Commons Attribution (CC-BY) license. The economics community is invited to submit examples, emerging research, and other feedback to enhance and strengthen the material and keep it current and relevant for today's students. You can submit your suggestions to info@openstaxcollege.org.

Cost

Our textbooks are available for free online, and in low-cost print and e-book editions.

About *Principles of Economics*

Principles of Economics is designed for a two-semester principles of economics sequence. The text has been developed to meet the scope and sequence of most introductory courses. At the same time, the book includes a number of innovative features designed to enhance student learning. Instructors can also customize the book, adapting it to the approach that works best in their classroom.

Coverage and Scope

To develop *Principles of Economics*, we acquired the rights to Timothy Taylor's second edition of *Principles of Economics* and solicited ideas from economics instructors at all levels of higher education, from community colleges to Ph.D.-granting universities. They told us about their courses, students, challenges, resources, and how a textbook can best meet the needs of both instructors and students.

The result is a book that covers the breadth of economics topics and also provides the necessary depth to ensure the course is manageable for instructors and students alike. And to make it more applied, we have incorporated many current topics. We hope students will be interested to know just how far-reaching the recent recession was (and still is), for example, and why there is so much controversy even among economists over the Affordable Care Act (Obamacare). The Keystone Pipeline, Occupy Wall Street, minimum wage debates, and the appointment of the United States' first female Federal Reserve chair, Janet Yellen, are just a few of the other important topics covered.

The pedagogical choices, chapter arrangements, and learning objective fulfillment were developed and vetted with feedback from educators dedicated to the project. They thoroughly read the material and offered critical and detailed commentary. The outcome is a balanced approach to micro and macro economics, to both Keynesian and classical views, and to the theory and application of economics concepts. New 2015 data are incorporated for topics that range from average U.S. household consumption in Chapter 2 to the total value of all home equity in Chapter 17. Current events are treated in a politically-balanced way as well.

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, cover 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.

Chapter 1 Welcome to Economics!

Chapter 2 Choice in a World of Scarcity

Chapter 3 Demand and Supply

Chapter 4 Labor and Financial Markets

Chapter 5 Elasticity
 Chapter 6 Consumer Choices
 Chapter 7 Cost and Industry Structure
 Chapter 8 Perfect Competition
 Chapter 9 Monopoly
 Chapter 10 Monopolistic Competition and Oligopoly
 Chapter 11 Monopoly and Antitrust Policy
 Chapter 12 Environmental Protection and Negative Externalities
 Chapter 13 Positive Externalities and Public Goods
 Chapter 14 Poverty and Economic Inequality
 Chapter 15 Issues in Labor Markets: Unions, Discrimination, Immigration
 Chapter 16 Information, Risk, and Insurance
 Chapter 17 Financial Markets
 Chapter 18 Public Economy
 Chapter 19 The Macroeconomic Perspective
 Chapter 20 Economic Growth
 Chapter 21 Unemployment
 Chapter 22 Inflation
 Chapter 23 The International Trade and Capital Flows
 Chapter 24 The Aggregate Demand/Aggregate Supply Model
 Chapter 25 The Keynesian Perspective
 Chapter 26 The Neoclassical Perspective
 Chapter 27 Money and Banking
 Chapter 28 Monetary Policy and Bank Regulation
 Chapter 29 Exchange Rates and International Capital Flows
 Chapter 30 Government Budgets and Fiscal Policy
 Chapter 31 The Impacts of Government Borrowing
 Chapter 32 Macroeconomic Policy Around the World
 Chapter 33 International Trade
 Chapter 34 Globalization and Protectionism

Appendix A The Use of Mathematics in Principles of Economics

Appendix B Indifference Curves

Appendix C Present Discounted Value

Appendix D The Expenditure-Output Model

Alternate Sequencing

Principles of Economics was conceived and written to fit a particular topical sequence, but it can be used flexibly to accommodate other course structures. One such potential structure, which will fit reasonably well with the textbook content, is provided. Please consider, however, that the chapters were not written to be completely independent, and that the proposed alternate sequence should be carefully considered for student preparation and textual consistency.

Chapter 1 Welcome to Economics!

Chapter 2 Choice in a World of Scarcity

Chapter 3 Demand and Supply

Chapter 4 Labor and Financial Markets

Chapter 5 Elasticity

Chapter 6 Consumer Choices

Chapter 33 International Trade

Chapter 7 Cost and Industry Structure

Chapter 12 Environmental Protection and Negative Externalities

Chapter 13 Positive Externalities and Public Goods

Chapter 8 Perfect Competition

Chapter 9 Monopoly

Chapter 10 Monopolistic Competition and Oligopoly

Chapter 11 Monopoly and Antitrust Policy

Chapter 14 Poverty and Economic Inequality

Chapter 15 Issues in Labor Markets: Unions, Discrimination, Immigration
Chapter 16 Information, Risk, and Insurance
Chapter 17 Financial Markets
Chapter 18 Public Economy
Chapter 19 The Macroeconomic Perspective
Chapter 20 Economic Growth
Chapter 21 Unemployment
Chapter 22 Inflation
Chapter 23 The International Trade and Capital Flows
Chapter 24 The Aggregate Demand/Aggregate Supply Model
Chapter 25 The Keynesian Perspective
Chapter 26 The Neoclassical Perspective
Chapter 27 Money and Banking
Chapter 28 Monetary Policy and Bank Regulation
Chapter 29 Exchange Rates and International Capital Flows
Chapter 30 Government Budgets and Fiscal Policy
Chapter 31 The Impacts of Government Borrowing
Chapter 32 Macroeconomic Policy Around the World
Chapter 34 Globalization and Protectionism

Appendix A The Use of Mathematics in Principles of Economics
Appendix B Indifference Curves
Appendix C Present Discounted Value
Appendix D The Expenditure-Output Model

Pedagogical Foundation

Throughout the OpenStax version of *Principles of Economics*, you will find new features that engage the students in economic inquiry by taking selected topics a step further. Our features include:

Bring It Home: This added feature is 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: This added feature asks students to work through a generally analytical or computational problem, and guides them step-by-step to find out how its solution is derived.

Clear It Up: This boxed feature, which includes pre-existing features from Taylor's text, addresses common student misconceptions about the content. Clear It Ups are usually deeper explanations of something in the main body of the text. Each CIU starts with a question. The rest of the feature explains the answer.

Link It Up: This added feature is a very brief introduction to a website that is pertinent to students' understanding and enjoyment of the topic at hand.

Questions for Each Level of Learning

The OpenStax version of *Principles of Economics* further expands on Taylor's original end of chapter materials by offering four types of end-of-module questions for students.

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 a bit 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: Have been retained from Taylor's version, and are simple recall questions from the chapter and are in open-response format (not multiple choice or true/false). The answers can be looked up in the text.

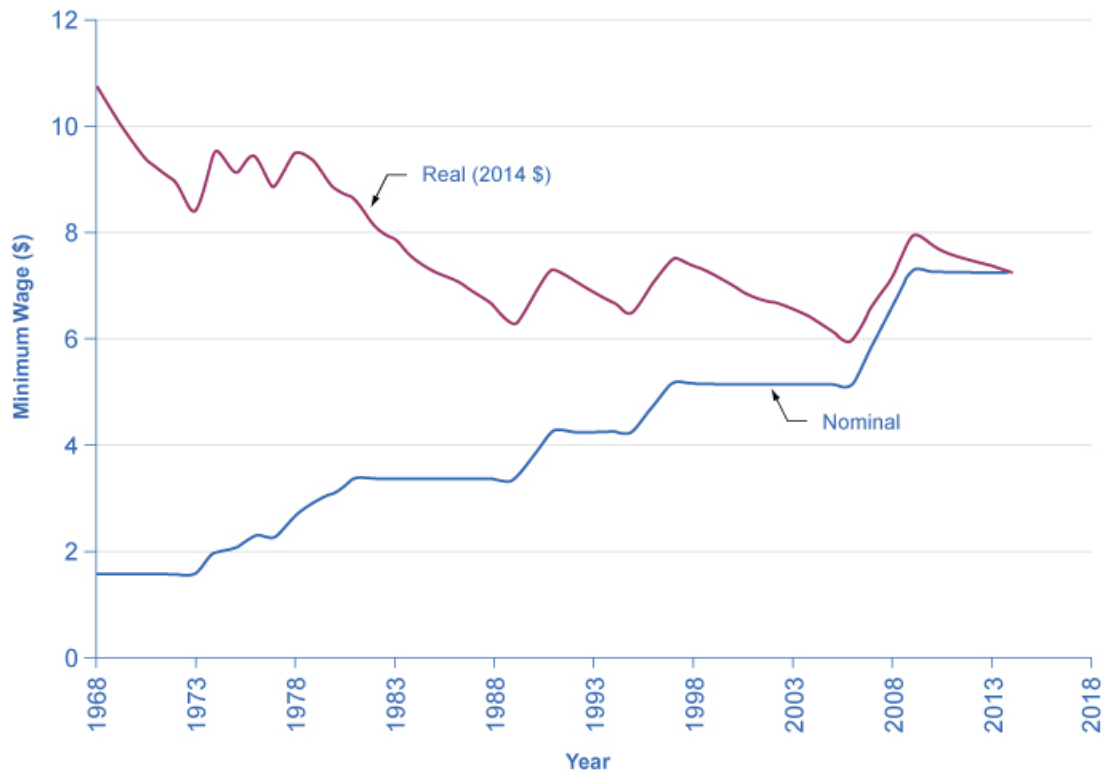
Critical Thinking Questions: Are new higher-level, conceptual questions that ask students to *demonstrate their understanding by applying* what they have learned in different contexts. They ask for outside-the-box

thinking, for *reasoning* about the concepts. They push the student to places they wouldn't have thought of going themselves.

Problems: Are exercises that give students additional practice working with the analytic and computational concepts in the module.

Updated Art

Principles of Economics includes an updated art program to better inform today's student, providing the latest data on covered topics.



After adjusting for inflation, the federal minimum wage dropped more than 30 percent from 1967 to 2010, even though the nominal figure climbed from \$1.40 to \$7.25 per hour. Increases in the minimum wage in 2007, 2008, and 2009 kept the decline from being worse—as it would have been if the wage had remained the same as it did from 1997 through 2006. (Sources: <http://www.dol.gov/whd/minwage/chart.htm>; <http://data.bls.gov/cgi-bin/surveymost?cu>)

About Our Team

Senior Contributing Author

Timothy Taylor, Macalester College

Timothy Taylor has been writing and teaching about economics for 30 years, and is the Managing Editor of the *Journal of Economic Perspectives*, a post he's held since 1986. He has been a lecturer for The Teaching Company, the University of Minnesota, and the Hubert H. Humphrey Institute of Public Affairs, where students voted him Teacher of the Year in 1997. His writings include numerous pieces for journals such as the *Milken Institute Review* and *The Public Interest*, and he has been an editor on many projects, most notably for the Brookings Institution and the World Bank, where he was Chief Outside Editor for the *World Development Report 1999/2000, Entering the 21st Century: The Changing Development Landscape*. He also blogs four to five times per week at <http://conversableeconomist.blogspot.com>. Timothy Taylor lives near Minneapolis with his wife Kimberley and their three children.

Steven A. Greenlaw, University of Mary Washington

Steven Greenlaw has been teaching principles of economics for more than 30 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 and their three children.

Contributing Authors

Eric Dodge	Hanover College
Cynthia Gamez	University of Texas at El Paso
Andres Jauregui	Columbus State University
Diane Keenan	Cerritos College
Dan MacDonald	California State University San Bernardino
Amyaz Moledina	The College of Wooster
Craig Richardson	Winston-Salem State University
David Shapiro	Pennsylvania State University
Ralph Sonenshine	American University

Expert Reviewers

Bryan Aguiar	Northwest Arkansas Community College
Basil Al Hashimi	Mesa Community College
Emil Berendt	Mount St. Mary's University
Zena Buser	Adams State University
Douglas Campbell	The University of Memphis
Sanjukta Chaudhuri	University of Wisconsin - Eau Claire
Xueyu Cheng	Alabama State University
Robert Cunningham	Alma College
Rosa Lea Danielson	College of DuPage
Steven Deloach	Elon University
Debbie Evercloud	University of Colorado Denver
Sal Figueras	Hudson County Community College
Reza Ghorashi	Richard Stockton College of New Jersey
Robert Gillette	University of Kentucky
Shaomin Huang	Lewis-Clark State College
George Jones	University of Wisconsin-Rock County
Charles Kroncke	College of Mount St. Joseph
Teresa Laughlin	Palomar Community College

Carlos Liard-Muriente	Central Connecticut State University
Heather Luea	Kansas State University
Steven Lugauer	University of Notre Dame
William Mosher	Nashua Community College
Michael Netta	Hudson County Community College
Nick Noble	Miami University
Joe Nowakowski	Muskingum University
Shawn Osell	University of Wisconsin, Superior
Mark Owens	Middle Tennessee State University
Sonia Pereira	Barnard College
Brian Peterson	Central College
Jennifer Platania	Elon University
Robert Rycroft	University of Mary Washington
Adrienne Sachse	Florida State College at Jacksonville
Hans Schumann	Texas AM
Gina Shamshak	Goucher College
Chris Warburton	John Jay College of Criminal Justice, CUNY
Mark Witte	Northwestern
Chiou-nan Yeh	Alabama State University

Ancillaries

OpenStax projects offer an array of ancillaries for students and instructors. Please visit <http://openstaxcollege.org> and view the learning resources for this title.

1 | Welcome to Economics!



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: Johan Larsson/Flickr)

Bring it Home

Decisions ... Decisions in the Social Media 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 route to take to class, 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; information economists call "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.

And now, we have another avenue in which to gather information—social media. Outlets like Facebook and Twitter are altering the process by which we make choices, how we spend our time, which movies we see, which products we buy, and more. How many of you chose a university without checking out its Facebook page or Twitter stream first for information and feedback?

As you will see in this course, what happens in economics is affected by how well and how fast information is disseminated 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.

Introduction

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

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 as 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?

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 hours in the day to try to acquire the goods they want. 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 158.6 million workers, according to the U.S. Bureau of Labor Statistics. Similarly, the total area of the United States is 3,794,101 square miles. These are large numbers for such crucial resources, however, they are limited. 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.



Figure 1.2 Scarcity of Resources Homeless people are a stark reminder that scarcity of resources is real. (Credit: "daveynin"/Flickr Creative Commons)

If you still do not believe that scarcity is a problem, consider the following: Does everyone need 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 shown in **Figure 1.2**), 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. Or if you do not, someone else does on your behalf. Yet most of us never have enough to buy all the things we want. This is because of scarcity. So how do we solve it?

Link It Up

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



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. So why do we not each just produce all of the things we consume? The simple answer is most of us do not know how, but that is not the main reason. (When you study economics, you will discover that the obvious choice is not always the right answer—or at least the complete answer. Studying economics teaches you to think in a different of way.) 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. 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*.

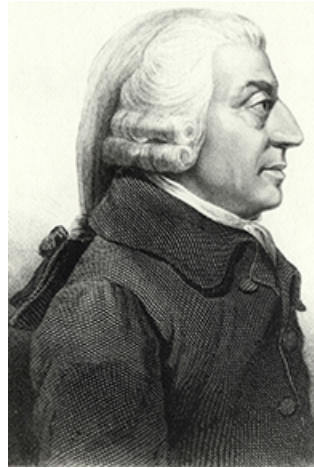


Figure 1.3 Adam Smith Adam Smith introduced the idea of dividing labor into discrete tasks. (Credit: Wikimedia Commons)

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 **division of labor**, which means that the way a good or service is produced is divided into a number of tasks that are performed by different workers, instead of all the tasks being done by the same person.

To illustrate the 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 were often done by different people—all for a pin, believe it or not!

Modern businesses divide tasks as well. Even a relatively simple business like a restaurant divides up 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 shown in **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: Nina Hale/Flickr Creative Commons)

Why the Division of Labor Increases Production

When the tasks involved with producing a good or service are divided and subdivided, workers and businesses can produce a greater quantity of output. In his observations of pin factories, Smith observed 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 do 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, specialization will be affected by geography—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 productive 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?

Now that we have gotten 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 be memorized, though there are plenty of important concepts to be learned. Instead, economics is better thought of as a collection of questions to be answered or puzzles to be worked out. Most important, economics provides the tools to work out those puzzles. If you have yet to be bitten by the economics “bug,” there are other reasons why you should study economics.

- 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 involved? 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 classmates, co-workers, or political candidates talking about economics, you will be able to distinguish between common sense and nonsense. You will find new ways of thinking about current events and about personal and business decisions, as well as current events and politics.

The study of economics does not dictate the answers, but it can illuminate the different choices.

1.2 | Microeconomics and Macroeconomics

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

- Describe microeconomics
- Describe macroeconomics
- Contrast monetary policy and fiscal policy

Economics is concerned with the well-being of *all* people, including those with jobs and those without jobs, as well as those with high incomes and those with low incomes. Economics acknowledges that production of useful goods and services can create problems of environmental pollution. It explores the question of how investing in education helps to develop workers’ skills. It probes questions like how to tell when big businesses or big labor unions are operating in a way that benefits society as a whole and when they are operating in a way that benefits their owners or members at the expense of others. It looks at how government spending, taxes, and regulations affect decisions about production and consumption.

It should be clear by now that economics covers a lot of ground. That ground can be divided into two parts: **Microeconomics** focuses on the actions of individual agents within the economy, like households, workers, and businesses; **Macroeconomics** looks at the economy as a whole. It focuses on broad issues such as growth of production, the number of unemployed people, the inflationary increase in prices, government deficits, and levels of exports and imports. Microeconomics and macroeconomics are not separate subjects, but rather complementary perspectives on the overall subject of the economy.

To understand why both microeconomic and macroeconomic perspectives are useful, consider the problem of studying a biological ecosystem like a lake. One person who sets out to study the lake might focus on specific topics: certain kinds of algae or plant life; the characteristics of particular fish or snails; or the trees surrounding the lake. Another person might take an overall view and instead consider the entire ecosystem of the lake from top to bottom; what eats what, how the system stays in a rough balance, and what environmental stresses affect this balance. Both approaches are useful, and both examine the same lake, but the viewpoints are different. In a similar way, both microeconomics and macroeconomics study the same economy, but each has a different viewpoint.

Whether you are looking at lakes or economics, the micro and the macro insights should blend with each other. In studying a lake, the micro insights about particular plants and animals help to understand the overall food chain, while the macro insights about the overall food chain help to explain the environment in which individual plants and animals live.

In economics, the micro decisions of individual businesses are influenced by whether the macroeconomy is healthy; for example, firms will be more likely to hire workers if the overall economy is growing. In turn, the performance of the macroeconomy ultimately depends on the microeconomic decisions made by individual households and businesses.

Microeconomics

What determines how households and individuals spend their budgets? What combination of goods and services will best fit their needs and wants, given the budget they have to spend? How do people decide whether to work, and if so, whether to work full time or part time? How do people decide how much to save for the future, or whether they should borrow to spend beyond their current means?

What determines the products, and how many of each, a firm will produce and sell? What determines what prices a firm will charge? What determines how a firm will produce its products? What determines how many workers it will hire? How will a firm finance its business? When will a firm decide to expand, downsize, or even close? In the microeconomic part of this book, we will learn about the theory of consumer behavior and the theory of the firm.

Macroeconomics

What determines the level of economic activity in a society? In other words, what determines how many goods and services a nation actually produces? What determines how many jobs are available in an economy? What determines a nation's standard of living? What causes the economy to speed up or slow down? What causes firms to hire more workers or to lay workers off? Finally, what causes the economy to grow over the long term?

An economy's macroeconomic health can be defined by a number of goals: growth in the standard of living, low unemployment, and low inflation, to name the most important. How can macroeconomic policy be used to pursue these goals? **Monetary policy**, which involves policies that affect bank lending, interest rates, and financial capital markets, is conducted by a nation's central bank. For the United States, this is the Federal Reserve. **Fiscal policy**, which involves government spending and taxes, is determined by a nation's legislative body. For the United States, this is the Congress and the executive branch, which originates the federal budget. These are the main tools the government has to work with. Americans tend to expect that government can fix whatever economic problems we encounter, but to what extent is that expectation realistic? These are just some of the issues that will be explored in the macroeconomic chapters of this book.

1.3 | How Economists Use Theories and Models to Understand Economic Issues

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

- Interpret a circular flow diagram
- Explain the importance of economic theories and models
- Describe goods and services markets and labor markets



Figure 1.5 John Maynard Keynes One of the most influential economists in modern times was John Maynard Keynes. (Credit: Wikimedia Commons)

John Maynard Keynes (1883–1946), one of the greatest economists of the twentieth century, pointed out that economics is not just a subject area but also a way of thinking. Keynes, shown in [Figure 1.5](#), famously wrote in the introduction to a fellow economist's book: “[Economics] is a method rather than a doctrine, an apparatus of the mind, a technique of thinking, which helps its possessor to draw correct conclusions.” In other words, economics teaches you how to think, not what to think.

Link It Up

Watch this [video](http://openstaxcollege.org//Keynes) (<http://openstaxcollege.org//Keynes>) about John Maynard Keynes and his influence on economics.



Economists see the world through a different lens than anthropologists, biologists, classicists, or practitioners of any other discipline. They analyze issues and problems with economic theories that are based on particular assumptions about human behavior, that are different than the assumptions an anthropologist or psychologist might use. A **theory** is a simplified representation of how two or more variables interact with each other. The purpose of a theory is to take a complex, real-world issue and simplify it down to its essentials. If done well, this enables the analyst to understand the issue and any problems around it. A good theory is simple enough to be understood, while complex enough to capture the key features of the object or situation being studied.

Sometimes economists use the term **model** instead of theory. Strictly speaking, a theory is a more abstract representation, while a model is more applied or empirical representation. Models are used to test theories, but for this course we will use the terms interchangeably.

For example, an architect who is planning a major office building will often build a physical model that sits on a tabletop to show how the entire city block will look after the new building is constructed. Companies often build models of their new products, which are more rough and unfinished than the final product will be, but can still demonstrate how the new product will work.

A good model to start with in economics is the **circular flow diagram**, which is shown in [Figure 1.6](#). It pictures the economy as consisting of two groups—households and firms—that interact in two markets: the **goods and services market** in which firms sell and households buy and the **labor market** in which households sell labor to business firms or other employees.

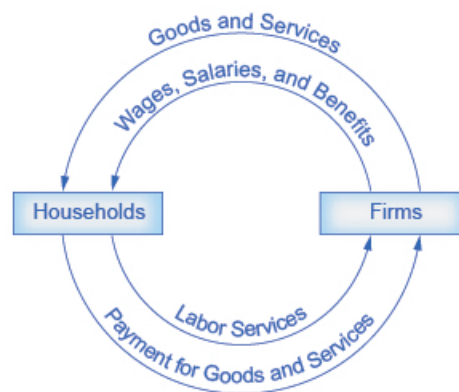


Figure 1.6 The Circular Flow Diagram The circular flow diagram shows how households and firms interact in the goods and services market, and in the labor market. The direction of the arrows shows that in the goods and services market, households receive goods and services and pay firms for them. In the labor market, households provide labor and receive payment from firms through wages, salaries, and benefits.

Of course, in the real world, there are many different markets for goods and services and markets for many different types of labor. The circular flow diagram simplifies this to make the picture easier to grasp. In the diagram, firms

produce goods and services, which they sell to households in return for revenues. This is shown in the outer circle, and represents the two sides of the product market (for example, the market for goods and services) in which households demand and firms supply. Households sell their labor as workers to firms in return for wages, salaries and benefits. This is shown in the inner circle and represents the two sides of the labor market in which households supply and firms demand.

This version of the circular flow model is stripped down to the essentials, but it has enough features to explain how the product and labor markets work in the economy. We could easily add details to this basic model if we wanted to introduce more real-world elements, like financial markets, governments, and interactions with the rest of the globe (imports and exports).

Economists carry a set of theories in their heads like a carpenter carries around a toolkit. When they see an economic issue or problem, they go through the theories they know to see if they can find one that fits. Then they use the theory to derive insights about the issue or problem. In economics, theories are expressed as diagrams, graphs, or even as mathematical equations. (Do not worry. In this course, we will mostly use graphs.) Economists do not figure out the answer to the problem first and then draw the graph to illustrate. Rather, they use the graph of the theory to help them figure out the answer. Although at the introductory level, you can sometimes figure out the right answer without applying a model, if you keep studying economics, before too long you will run into issues and problems that you will need to graph to solve. Both micro and macroeconomics are explained in terms of theories and models. The most well-known theories are probably those of supply and demand, but you will learn a number of others.

1.4 | How Economies Can Be Organized: An Overview of Economic Systems

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

- Contrast traditional economies, command economies, and market economies
- Explain gross domestic product (GDP)
- Assess the importance and effects of globalization

Think about what a complex system a modern economy is. It includes all production of goods and services, all buying and selling, all employment. The economic life of every individual is interrelated, at least to a small extent, with the economic lives of thousands or even millions of other individuals. Who organizes and coordinates this system? Who insures that, for example, the number of televisions a society provides is the same as the amount it needs and wants? Who insures that the right number of employees work in the electronics industry? Who insures that televisions are produced in the best way possible? How does it all get done?

There are at least three ways societies have found to organize an economy. The first is the **traditional economy**, which is the oldest economic system and can be found in parts of Asia, Africa, and South America. Traditional economies organize their economic affairs the way they have always done (i.e., tradition). Occupations stay in the family. Most families are farmers who grow the crops they have always grown using traditional methods. What you produce is what you get to consume. Because things are driven by tradition, there is little economic progress or development.



Figure 1.7 A Command Economy Ancient Egypt was an example of a command economy. (Credit: Jay Bergesen/ Flickr Creative Commons)

Command economies are very different. In a **command economy**, economic effort is devoted to goals passed down from a ruler or ruling class. Ancient Egypt was a good example: a large part of economic life was devoted to building pyramids, like those shown in **Figure 1.7**, for the pharaohs. Medieval manor life is another example: the lord provided the land for growing crops and protection in the event of war. In return, vassals provided labor and soldiers to do the lord's bidding. In the last century, communism emphasized command economies.

In a command economy, the government decides what goods and services will be produced and what prices will be charged for them. The government decides what methods of production will be used and how much workers will be paid. Many necessities like healthcare and education are provided for free. Currently, Cuba and North Korea have command economies.



Figure 1.8 A Market Economy Nothing says "market" more than The New York Stock Exchange. (Credit: Erik Drost/ Flickr Creative Commons)

Although command economies have a very centralized structure for economic decisions, market economies have a very decentralized structure. A **market** is an institution that brings together buyers and sellers of goods or services, who may be either individuals or businesses. The New York Stock Exchange, shown in **Figure 1.8**, is a prime example of market in which buyers and sellers are brought together. In a **market economy**, decision-making is decentralized. Market economies are based on **private enterprise**: the means of production (resources and businesses) are owned and operated by private individuals or groups of private individuals. Businesses supply goods and services based on demand. (In a command economy, by contrast, resources and businesses are owned by the government.) What goods and services are supplied depends on what is demanded. A person's income is based on his or her ability to convert resources (especially labor) into something that society values. The more society values the person's output, the higher the income (think Lady Gaga or LeBron James). In this scenario, economic decisions are determined by market forces, not governments.

Most economies in the real world are mixed; they combine elements of command and market (and even traditional) systems. The U.S. economy is positioned toward the market-oriented end of the spectrum. Many countries in Europe and Latin America, while primarily market-oriented, have a greater degree of government involvement in economic decisions than does the U.S. economy. China and Russia, while they are closer to having a market-oriented system

now than several decades ago, remain closer to the command economy end of the spectrum. A rich resource of information about countries and their economies can be found on the Heritage Foundation's website, as the following Clear It Up feature discusses.

Clear It Up

What countries are considered economically free?

Who is in control of economic decisions? Are people free to do what they want and to work where they want? Are businesses free to produce when they want and what they choose, and to hire and fire as they wish? Are banks free to choose who will receive loans? Or does the government control these kinds of choices? Each year, researchers at the Heritage Foundation and the *Wall Street Journal* look at 50 different categories of economic freedom for countries around the world. They give each nation a score based on the extent of economic freedom in each category.

The 2015 Heritage Foundation's Index of Economic Freedom report ranked 178 countries around the world: some examples of the most free and the least free countries are listed in [Table 1.1](#). Several countries were not ranked because of extreme instability that made judgments about economic freedom impossible. These countries include Afghanistan, Iraq, Syria, and Somalia.

The assigned rankings are inevitably based on estimates, yet even these rough measures can be useful for discerning trends. In 2015, 101 of the 178 included countries shifted toward greater economic freedom, although 77 of the countries shifted toward less economic freedom. In recent decades, the overall trend has been a *higher level of economic freedom around the world*.

Most Economic Freedom	Least Economic Freedom
1. Hong Kong	167. Timor-Leste
2. Singapore	168. Democratic Republic of Congo
3. New Zealand	169. Argentina
4. Australia	170. Republic of Congo
5. Switzerland	171. Iran
6. Canada	172. Turkmenistan
7. Chile	173. Equatorial Guinea
8. Estonia	174. Eritrea
9. Ireland	175. Zimbabwe
10. Mauritius	176. Venezuela
11. Denmark	177. Cuba
12. United States	178. North Korea

Table 1.1 Economic Freedoms, 2015 (Source: The Heritage Foundation, 2015 Index of Economic Freedom, Country Rankings, <http://www.heritage.org/index/ranking>)

Regulations: The Rules of the Game

Markets and government regulations are always entangled. There is no such thing as an absolutely free market. Regulations always define the “rules of the game” in the economy. Economies that are primarily market-oriented have fewer regulations—ideally just enough to maintain an even playing field for participants. At a minimum, these laws govern matters like safeguarding private property against theft, protecting people from violence, enforcing legal contracts, preventing fraud, and collecting taxes. Conversely, even the most command-oriented economies operate using markets. How else would buying and selling occur? But the decisions of what will be produced and what prices will be charged are heavily regulated. Heavily regulated economies often have **underground economies**, which are markets where the buyers and sellers make transactions without the government’s approval.

The question of how to organize economic institutions is typically not a black-or-white choice between all market or all government, but instead involves a balancing act over the appropriate combination of market freedom and government rules.



Figure 1.9 Globalization Cargo ships are one mode of transportation for shipping goods in the global economy. (Credit: Raul Valdez/Flickr Creative Commons)

The Rise of Globalization

Recent decades have seen a trend toward **globalization**, which is the expanding cultural, political, and economic connections between people around the world. One measure of this is the increased buying and selling of goods, services, and assets across national borders—in other words, international trade and financial capital flows.

Globalization has occurred for a number of reasons. Improvements in shipping, as illustrated by the container ship shown in **Figure 1.9**, and air cargo have driven down transportation costs. Innovations in computing and telecommunications have made it easier and cheaper to manage long-distance economic connections of production and sales. Many valuable products and services in the modern economy can take the form of information—for example: computer software; financial advice; travel planning; music, books and movies; and blueprints for designing a building. These products and many others can be transported over telephones and computer networks at ever-lower costs. Finally, international agreements and treaties between countries have encouraged greater trade.

Table 1.2 presents one measure of globalization. It shows the percentage of domestic economic production that was exported for a selection of countries from 2010 to 2013, according to an entity known as The World Bank. **Exports** are the goods and services that are produced domestically and sold abroad. **Imports** are the goods and services that are produced abroad and then sold domestically. The size of total production in an economy is measured by the **gross domestic product (GDP)**. Thus, the ratio of exports divided by GDP measures what share of a country’s total economic production is sold in other countries.

Country	2010	2011	2012	2013
Higher Income Countries				

Table 1.2 The Extent of Globalization (exports/GDP) (Source: <http://databank.worldbank.org/data/>)