

Principles of
**Economics in
Context**

Second Edition

Goodwin | Harris | Nelson | Rajkarnikar | Roach | Torras

Principles of Economics in Context

The study of economics should not be highly abstract, but closely related to real-world events. *Principles of Economics in Context* addresses this challenge, laying out the principles of micro- and macroeconomics in a manner that is thorough, up to date and relevant to students, keeping theoretical exposition close to experience. Emphasizing writing that is compelling, clear, and attractive to students, it addresses such critical concerns as ecological sustainability, distributional equity, the quality of employment, and the adequacy of living standards.

KEY FEATURES INCLUDE:

- Clear explanation of basic concepts and analytical tools, with Discussion Questions at the end of each section, encouraging immediate review of what has been read and relating the material to the students' own experience;
- Full complement of instructor and student support materials online, including test banks and grading through Canvas;
- Key terms highlighted in boldface throughout the text, and important ideas and definitions set off from the main text;
- A glossary at the end of the book containing all key terms, their definitions, and the number of the chapter(s) in which each was first used and defined.

UPDATES FOR THE SECOND EDITION INCLUDE:

- Expanded coverage of topics including inequality, financialization and debt issues, the changing nature of jobs, and sustainable development;
- New material on wage discrimination by race and gender; an expanded section on labor markets and immigration;
- Updated discussion of fiscal policy to include more recent developments such as the Trump tax cuts;
- New material on behavioral economics, public goods, and climate change policy; a new section on "The Economics of Renewable Energy."

This new, affordable edition combines the just-released new editions of *Microeconomics in Context* and *Macroeconomics in Context* to provide an integrated full-year text covering all aspects of both micro- and macro-analysis and application, with many up-to-date examples and extensive supporting Web resources for instructors and students.

Neva Goodwin is Co-Director of the Global Development and Environment Institute (GDAE) at Tufts University, where she is the director of the electronic Social Science Library: Frontier Thinking in Sustainable Development and Human Well-Being. Her current interests focus on ecological restoration, especially with regard to soils.

Jonathan M. Harris is Senior Research Associate at the Global Development and Environment Institute at Tufts University. His current research focuses on the implications of large-scale environmental problems, especially global climate change, for macroeconomic theory and policy.

Julie A. Nelson is Professor of Economics at the University of Massachusetts Boston and Senior Research Fellow at the Global Development and Environment Institute at Tufts University. Many of her books and articles critique economic methodology from a feminist perspective. She has published in journals ranging from *Econometrica* and the *Journal of Political Economy* to *Hypatia: A Journal of Feminist Philosophy* and *Ecological Economics*.

Pratistha Joshi Rajkarnikar is a Postdoctoral Scholar at the Global Development and Environment Institute at Tufts University. Her research covers topics on women's empowerment, economic development, and the impacts of globalization on developing economies. She has taught economics in visiting positions at Trinity College and University of Massachusetts Boston.

Brian Roach is Director of the Theory and Education Program at the Tufts University Global Development and Environment Institute, and a lecturer at Tufts and Brandeis universities. He specializes in environmental economics and is co-author (with Jonathan Harris) of *Environmental and Natural Resource Economics: A Contemporary Approach*.

Mariano Torras teaches economics at Adelphi University in Garden City, New York. A heterodox economist who specializes in ecological and development economics, his recent research has been in the areas of institutional economics and economic methodology; particular attention has been on approaches to addressing climate change.

Principles of Economics in Context

Second Edition

NEVA GOODWIN

JONATHAN M. HARRIS

JULIE A. NELSON

PRATISTHA JOSHI RAJKARNIKAR

BRIAN ROACH

MARIANO TORRAS

 Routledge
Taylor & Francis Group
LONDON AND NEW YORK

Second edition published 2020
by Routledge
52 Vanderbilt Avenue, New York, NY 10017

and by Routledge
2 Park Square, Milton Park, Abingdon, Oxon, OX14 4RN

Routledge is an imprint of the Taylor & Francis Group, an informa business

© 2020 Taylor & Francis

The right of Neva Goodwin, Jonathan M. Harris, Julie A. Nelson,
Pratistha Joshi Rajkarnikar, Brian Roach, and Mariano Torras to be identified as
authors of this work has been asserted by them in accordance with
sections 77 and 78 of the Copyright, Designs and Patents Act 1988.

All rights reserved. No part of this book may be reprinted or reproduced or
utilised in any form or by any electronic, mechanical, or other means, now known or
hereafter invented, including photocopying and recording, or in any information
storage or retrieval system, without permission in writing from the publishers.

Trademark notice: Product or corporate names may be trademarks or
registered trademarks, and are used only for identification and explanation
without intent to infringe.

First edition published by M.E. Sharpe 2014
Published by Routledge 2015

Library of Congress Cataloging-in-Publication Data

Names: Goodwin, Neva R., author.

Title: Principles of economics in context / Neva Goodwin [and five others].

Description: 2nd edition. | New York, NY : Routledge, 2019.

Identifiers: LCCN 2019013331 | ISBN 9781138344037 (hardback)

Subjects: LCSH: Economics.

Classification: LCC HB171 .G624 2019 | DDC 330—dc23

LC record available at <https://lccn.loc.gov/2019013331>

ISBN: 978-1-138-34403-7 (hbk)

ISBN: 978-0-429-43875-2 (ebk)

Typeset in Times New Roman
by Apex CoVantage, LLC

Visit the companion website: www.gdae.org/principles

Brief Contents

Introduction xxiii

PART I

The Context for Economic Analysis 1

- 0. Economics and Well-Being 3
- 1. Economic Activity in Context 40
- 2. Useful Tools and Concepts 55
- 3. Markets and Society 72

PART II

Basic Economic Analysis 83

- 4. Supply and Demand 85
- 5. Elasticity 109
- 6. Welfare Analysis 127
- 7. International Trade and Trade Policy 147

PART III

Economics and Society 171

- 8. Economic Behavior and Rationality 173
- 9. Consumption and the Consumer Society 188
- 10. Markets for Labor 216

PART IV

Essential Topics for Contemporary Economics 245

- 11. Economic and Social Inequality 247
- 12. Taxes and Tax Policy 277
- 13. The Economics of the Environment 297
- 14. Common Property Resources and Public Goods 320

PART V

Resources, Production, and Market Organization 339

- 15. Capital Stocks and Resource Management 341
- 16. Production Costs 355
- 17. Perfectly Competitive Markets 372
- 18. Markets with Market Power 391

PART VI

Macroeconomic Basics 413

- 19. Introduction to Macroeconomics 415
- 20. Macroeconomic Measurement: The Current Approach 432

- 21. Macroeconomic Measurement: Environmental and Social Dimensions 455
- 22. The Structure of the United States Economy 481
- 23. Employment, Unemployment, and Wages 505

PART VII

Macroeconomic Theory and Policy 529

- 24. Aggregate Demand and Economic Fluctuations 531
- 25. Fiscal Policy 558
- 26. Money, Banking, and Finance 580
- 27. The Federal Reserve and Monetary Policy 597
- 28. Aggregate Supply, Aggregate Demand, and Inflation: Putting It All Together 625
- 29. The Global Economy and Policy 645

PART VIII

Macroeconomic Issues and Applications 671

- 30. Financial Instability and Economic Inequality 673
- 31. Deficits and Debt 701
- 32. How Economies Grow and Develop 722
- 33. Growth and Sustainability in the Twenty-First Century 746

Glossary 773

Index 787

Contents

Introduction	xxiii
Sample Course Outlines	xxxiii

PART I The Context for Economic Analysis 1

0. Economics and Well-Being 3

Time Trends Graphs:

1. U.S. GDP per Capita 5
2. U.S. Unemployment Rate 6
3. U.S. Inflation Rate 7
4. Taxes as a Percentage of GDP 8
5. Stock Market Performance 9
6. Median Home Prices 10
7. Median Worker Earnings versus Corporate Profits 11
8. Gender-Based Earnings Inequality 12
9. Global International Trade 13
10. Global Carbon Dioxide Emissions 14

Bar Graphs for the United States:

11. Income Inequality 15
12. Unequal Income Growth 16
13. Educational Attainment 17
14. Industrial Concentration Ratios 18

International Comparison Graphs:

15. GDP per Capita 19
16. Recent Growth Rate of GDP per Capita 20
17. Net National Savings 21
18. Government Debt 22
19. Labor Productivity 23
20. Average Annual Hours Worked 24
21. Unemployment Rate (Percent of Labor force) 25
22. Inflation 26
23. Taxes Received by Central Government (Percent of GDP) 27
24. Trade Balance (Percent of GDP) 28

- 25. Income Inequality (Gini Coefficient) 29
- 26. CEO Pay versus Worker Pay 30
- 27. Absolute Poverty 31
- 28. Foreign Aid (Donors) 32
- 29. Foreign Aid (Recipients) 33
- 30. Internet Users 34
- 31. Educational Performance 35
- 32. Life Expectancy 36
- 33. Subjective Well-Being 37
- 34. Carbon Dioxide Emissions per Capita 38
- 35. Local Air Quality 39

1. Economic Activity in Context 40

- 1. Our Starting Point 40
- 2. The Goals of an Economy 41
 - 2.1 *Intermediate and Final Goals* 42
 - 2.2 *Traditional Economic Goals* 42
 - 2.3 *Components of Well-Being* 43
 - 2.4 *Economics and Well-Being* 44
- 3. The Issues That Define Economics 45
 - 3.1 *The Four Essential Economic Activities* 45
 - 3.2 *The Three Basic Economic Questions* 48
- 4. Economic Tradeoffs 48
 - 4.1 *Society's Production-Possibilities Frontier* 49
 - 4.2 *Tradeoffs Over Time* 51

2. Useful Tools and Concepts 55

- 1. Our Tools for Understanding 55
 - 1.1 *Empirical Investigation* 55
 - 1.2 *Theoretical Investigation* 57
 - 1.3 *Historical Investigation* 58
- 2. Different Economic Theories: Examples of Two Basic Models 59
 - 2.1 *The Basic Neoclassical Model* 59
 - 2.2 *The Contextual Model* 60
- 3. The Three Spheres of Economic Activity 62
 - 3.1 *The Core Sphere* 62
 - 3.2 *The Public Purpose Sphere* 63
 - 3.3 *The Business Sphere* 65
 - 3.4 *The Size of the Three Spheres* 67
 - 3.5 *The Informal Sphere and Less Industrialized Countries* 67

3. Markets and Society 72

- 1. Three Definitions of Markets 72
 - 1.1 *Markets as Places to Buy and Sell* 72
 - 1.2 *Markets Defined by Product Categories* 72
 - 1.3 *"The Market" as an Economic System* 73

2. The Institutional Requirements of Markets 73
 - 2.1 *Institutions Related to Property and Decision Making* 74
 - 2.2 *Social Institutions of Trust* 74
 - 2.3 *Infrastructure for the Smooth Flow of Goods and Information* 75
 - 2.4 *Money as a Medium of Exchange* 75
3. Types of Markets 76
 - 3.1 *Markets Defined by What Is Sold* 77
 - 3.2 *Markets Defined by How Prices Are Determined* 77
4. Advantages and Limitations of Markets 78
 - 4.1 *Overview of Advantages and Disadvantages of Markets* 79
 - 4.2 *Assessing Market Outcomes* 81

PART II Basic Economic Analysis 83

4. Supply and Demand 85

1. Introduction to the Microeconomic Market Model 85
2. The Theory of Supply 86
 - 2.1 *The Supply Schedule and Supply Curve* 87
 - 2.2 *Changes in Supply* 88
 - 2.3 *Nonprice Determinants of Supply* 89
3. The Theory of Demand 91
 - 3.1 *The Demand Schedule and Demand Curve* 91
 - 3.2 *Changes in Demand* 92
 - 3.3 *Nonprice Determinants of Demand* 93
4. The Theory of Market Adjustment 95
 - 4.1 *Surplus, Shortage, and Equilibrium* 95
 - 4.2 *Market Forces and Other Considerations* 97
 - 4.3 *Shifts in Supply and Demand* 98
5. Topics in Market Analysis 102
 - 5.1 *Real-World Prices* 102
 - 5.2 *Markets and Equity* 103
 - 5.3 *Shortage, Scarcity, and Inadequacy* 104
 - 5.4 *Precision versus Accuracy* 104

5. Elasticity 109

1. The Price Elasticity of Demand 109
 - 1.1 *Price-Inelastic Demand* 110
 - 1.2 *Price-Elastic Demand* 110
 - 1.3 *Measuring Price Elasticity* 111
 - 1.4 *Two Extreme Cases* 112
 - 1.5 *Demand Curves and Elasticity* 113
 - 1.6 *Elasticity and Revenues* 116
 - 1.7 *Price Elasticity of Demand in the Real World* 117
2. The Price Elasticity of Supply 119
3. Income Elasticity of Demand 121
4. Income and Substitution Effects of a Price Change 122
5. Short-Run versus Long-Run Elasticity 123

6. Welfare Analysis 127

1. Welfare Economics 127
2. Consumer Surplus 128
 - 2.1 *Quantifying Consumer Benefits* 128
 - 2.2 *Consumer Surplus and Demand Curves* 130
 - 2.3 *Consumer Surplus in an Entire Market* 131
3. Producer Surplus 133
 - 3.1 *Quantifying Producer Benefits* 133
 - 3.2 *Producer Surplus and Supply Curves* 133
 - 3.3 *Producer Surplus in an Entire Market* 135
4. Social Efficiency 136
 - 4.1 *Market Equilibrium and Social Efficiency* 137
 - 4.2 *Price Ceilings* 138
 - 4.3 *Price Floors* 140
5. Policy Inferences from Welfare Analysis 142
 - 5.1 *Laissez-Faire Economics* 142
 - 5.2 *Market Failure* 143

7. International Trade and Trade Policy 147

1. Trade, Specialization, and Productivity 147
2. Gains from Trade 148
 - 2.1 *The Theory of Comparative Advantage* 148
 - 2.2 *Factor Price Equalization* 151
 - 2.3 *Other Benefits of Free Trade* 152
3. Drawbacks of Free Trade 153
 - 3.1 *Vulnerability and Lock-In* 153
 - 3.2 *Power Differentials* 154
 - 3.3 *Trade and the Environment* 154
 - 3.4 *Inequality and Other Social Impacts of Trade* 156
4. Globalization and Policy 158
 - 4.1 *Globalization Data and Trends* 158
 - 4.2 *National Trade Policies* 159
 - 4.3 *International Trade Agreements* 162
5. Conclusion: Free Trade and Fair Trade 163
- Appendix: A Formal Theory of Gains from Trade 168

PART III Economics and Society 171

8. Economic Behavior and Rationality 173

1. Historical Perspectives on Economic Behavior 173
 - 1.1 *Classical Economic Views of Human Nature* 173
 - 1.2 *The Neoclassical Model* 174
2. Modern Perspectives on Economic Behavior 174
 - 2.1 *Behavioral Economics* 175
 - 2.2 *The Role of Time in Economic Decisions* 176
 - 2.3 *The Role of Emotions in Economic Decisions* 177

- 2.4 *The Role of Influential Factors* 178
- 2.5 *Selfishness and Altruism* 178
- 2.6 *Insights from Neuroeconomics* 180
- 3. Economic Behavior in Contextual Economics 180
 - 3.1 *Alternatives to Maximizing Behavior* 180
 - 3.2 *The Model of Economic Behavior in Contextual Economics* 181
- 4. Policy Inferences from our Model of Economic Behavior 182
 - 4.1 *Predictable Irrationality and Nudges* 182
 - 4.2 *Government Policy Examples* 183
 - 4.3 *Concluding Thoughts* 184

9. Consumption and the Consumer Society 188

- 1. Economic Theory and Consumption 188
 - 1.1 *Consumer Sovereignty* 188
 - 1.2 *The Budget Line* 189
 - 1.3 *Consumer Utility* 190
 - 1.4 *Limitations of the Standard Consumer Model* 192
- 2. Consumption in Historical and International Context 193
 - 2.1 *A Brief History of Consumer Society* 193
 - 2.2 *Limits to Modern Consumerism* 195
- 3. Consumption in a Social Context 197
 - 3.1 *Social Comparisons* 197
 - 3.2 *Advertising* 198
 - 3.3 *Private versus Public Consumption* 200
- 4. Consumption in an Environmental Context 200
 - 4.1 *The Link Between Consumption and the Environment* 200
 - 4.2 *Green Consumerism* 202
- 5. Consumption and Well-Being 203
 - 5.1 *Does Money Buy Happiness?* 203
 - 5.2 *Affluenza and Voluntary Simplicity* 205
 - 5.3 *Consumption and Public Policy* 206
- Appendix: A Formal Theory of Consumer Behavior 212
 - A1. *The Assumptions* 212
 - A2. *The Budget Line and Its Slope* 212
 - A3. *Indifference Curves* 213
 - A4. *Utility Maximization* 214
 - A5. *Response to Variations in Price* 215

10. Markets for Labor 216

- 1. Economic Theory of Labor Markets 216
 - 1.1 *The Firm's Decision to Hire Labor* 217
 - 1.2 *The Individual's Decision to Supply Labor* 218
 - 1.3 *The Individual Supply Curve for Labor* 219
 - 1.4 *The Market Supply Curve for Labor* 220
 - 1.5 *Market Demand Curves* 222
 - 1.6 *Market Adjustment* 222

- 2. Explaining Variations in Wages 223
 - 2.1 *Wage Variations in the Neoclassical Labor Model* 223
 - 2.2 *Social Norms, Bargaining Power, and Labor Unions* 226
 - 2.3 *Efficiency Wages and Dual Labor Markets* 228
 - 2.4 *Discrimination* 229
- 3. Contemporary Labor Issues and Policies 231
 - 3.1 *Labor Market Flexibility* 231
 - 3.2 *Labor Markets and Immigration* 232
 - 3.3 *Cooperatives* 233
 - 3.4 *Work–Life Balance* 234
 - 3.5 *Labor Markets, Inequality, and Power* 236
- Appendix: A Formal Model of a Firm’s Hiring Decision 242

PART IV Essential Topics for Contemporary Economics 245

11. Economic and Social Inequality 247

- 1. Defining and Measuring Inequality 247
 - 1.1 *Inequality of What?* 247
 - 1.2 *Measuring Inequality* 248
- 2. Inequality Trends and Further Considerations 252
 - 2.1 *Income Inequality Over Time in the United States* 252
 - 2.2 *Wealth Inequality* 254
 - 2.3 *Further Perspectives on Inequality* 256
 - 2.4 *Economic Mobility* 257
- 3. International Data on Inequality 259
 - 3.1 *Cross-Country Comparisons* 259
 - 3.2 *Global Inequality* 260
- 4. Causes and Consequences of Inequality 262
 - 4.1 *Causes of Inequality* 262
 - 4.2 *Consequences of Inequality* 266
- 5. Responding to Inequality 267
 - 5.1 *Tax and Transfer Policies* 267
 - 5.2 *Wage Policies* 269
 - 5.3 *Public Spending and Regulatory Policies* 269
 - 5.4 *Addressing Inequality in Developing and Transitional Countries* 270
 - 5.5 *Concluding Thoughts* 271

12. Taxes and Tax Policy 277

- 1. Economic Theory and Taxes 277
 - 1.1 *Taxes in the Supply-and-Demand Model* 277
 - 1.2 *Tax Revenues* 279
 - 1.3 *Welfare Analysis of Taxation* 280
- 2. The Structure of Taxation in the United States 282
 - 2.1 *Tax Progressivity* 282
 - 2.2 *Federal Income Taxes* 283

- 2.3 *Federal Social Insurance Taxes* 285
- 2.4 *Federal Corporate Taxes* 285
- 2.5 *Other Federal Taxes* 285
- 2.6 *State and Local Taxes* 286
- 3. *Tax Analysis and Policy Issues* 287
 - 3.1 *Tax Data for the United States* 287
 - 3.2 *International Data on Taxes* 288
 - 3.3 *Current Tax Policy Issues* 289

13. The Economics of the Environment 297

- 1. *The Theory of Externalities* 298
 - 1.1 *Negative Externalities in the Supply-and-Demand Model* 298
 - 1.2 *Internalizing Negative Externalities* 299
 - 1.3 *Positive Externalities* 300
 - 1.4 *Policy Implications of Externalities* 301
- 2. *Valuing the Environment* 303
 - 2.1 *Total Economic Value* 303
 - 2.2 *Nonmarket Valuation Methodologies* 303
 - 2.3 *Cost-Benefit Analysis* 306
- 3. *Environmental Policies in Practice* 309
 - 3.1 *Policy Options* 309
 - 3.2 *Design and Performance of Environmental Policies* 311
- Appendix: *Formal Analysis of Negative Externalities* 317

14. Common Property Resources and Public Goods 320

- 1. *Goods Other than Private Goods* 320
- 2. *Artificially Scarce Goods* 322
- 3. *Common Property Resources* 323
 - 3.1 *Modeling a Common Property Resource* 324
 - 3.2 *Policies for Common Property Resource Management* 325
- 4. *Public Goods* 326
- 5. *Climate Change* 328
 - 5.1 *Climate Change Data and Projections* 329
 - 5.2 *Economic Analysis of Climate Change* 331
 - 5.3 *Climate Change Policy* 331
 - 5.4 *Economics of Renewable Energy* 332

PART V Resources, Production, and Market Organization 339

15. Capital Stocks and Resource Management 341

- 1. *Capital Stocks* 341
 - 1.1 *Stocks versus Flows* 342
 - 1.2 *The Five Types of Capital* 342
- 2. *Natural Capital* 343
 - 2.1 *Renewable and Nonrenewable Natural Capital* 344
 - 2.2 *Natural Capital and Sustainability* 345

- 3. Manufactured Capital 345
 - 3.1 *Fixed Manufactured Capital* 345
 - 3.2 *Inventories* 346
 - 3.3 *Manufactured Capital in the Core and Public Purpose Spheres* 346
- 4. Human Capital 347
 - 4.1 *Physical Human Capital* 348
 - 4.2 *Intangible Human Capital* 348
- 5. Social Capital 349
- 6. Financial Capital 350
 - 6.1 *Equity Finance* 350
 - 6.2 *Debt Finance* 350
- 7. Sustaining Capital Stocks 351

16. Production Costs 355

- 1. An Overview of Production 355
 - 1.1 *The Goals of Production* 355
 - 1.2 *An Economic Perspective on Production* 356
- 2. Types of Production Costs 357
 - 2.1 *Fixed versus Variable Costs* 357
 - 2.2 *Accounting versus Economic Costs* 357
 - 2.3 *Private versus External Costs* 358
- 3. The Production Function 359
 - 3.1 *Thinking About Inputs and Outputs* 359
 - 3.2 *Graphing Production Functions* 360
 - 3.3 *Production in the Short Run* 361
- 4. Production Costs 363
 - 4.1 *Production Costs in the Short Run* 363
 - 4.2 *Production Costs in the Long Run* 366
 - 4.3 *Production Process Choice* 368

17. Perfectly Competitive Markets 372

- 1. Understanding Market Power and Competition 372
 - 1.1 *The Business Perspective on Competition and Market Power* 372
 - 1.2 *The Consumer Perspective on Competition and Market Power* 372
 - 1.3 *The Citizen Perspective on Competition and Market Power* 373
 - 1.4 *The Economists' Perspective on Competition and Market Power* 373
- 2. Perfect Competition 374
 - 2.1 *The Conditions of Perfect Competition* 374
 - 2.2 *Examples of Perfect Competition?* 375
- 3. Profit Maximization Under Perfect Competition 376
 - 3.1 *Revenues* 376
 - 3.2 *Profit Maximization Example* 376
 - 3.3 *Profits Under Perfect Competition* 379
- 4. Losses and Exit 381
 - 4.1 *Losses in the Short Run* 381
 - 4.2 *Losses in the Long Run* 383

- 5. Production, Efficiency, and Equity 383
 - 5.1 *Path Dependence* 384
 - 5.2 *Network Externalities* 384
 - 5.3 *Markets, Efficiency, and Equity* 385
- Appendix: A Formal Model of Perfect Competition 388

18. Markets with Market Power 391

- 1. The Traditional Models 391
- 2. Pure Monopoly: One Seller 391
 - 2.1 *The Conditions of Monopoly* 392
 - 2.2 *Examples of Monopoly* 393
 - 2.3 *Profit Maximization for a Monopolist* 393
 - 2.4 *Monopoly and Inefficiency* 395
 - 2.5 *Can Monopoly Be Efficient?* 396
- 3. Monopolistic Competition 400
 - 3.1 *The Conditions of Monopolistic Competition* 400
 - 3.2 *Examples of Monopolistic Competition* 400
 - 3.3 *Profit Maximization with Monopolistic Competition* 401
 - 3.4 *Monopolistic Competition and Long-Run Efficiency* 402
- 4. Oligopoly 402
 - 4.1 *Market Structure of an Oligopolistic Industry* 402
 - 4.2 *Oligopoly and the Behavior of Firms* 403
 - 4.3 *Examples of Oligopoly* 405
- 5. Market Power, Well-Being, and Politics 406
 - 5.1 *Market Concentration and Politics* 406
 - 5.2 *Final Thoughts* 408
- Appendix: Formal Analysis of Monopoly and Monopolistic Competition 411
 - A1. *The Assumptions* 411
 - A2. *Monopoly* 411
 - A3. *Monopolistic Competition* 412

PART VI Macroeconomic Basics 413

19. Introduction to Macroeconomics 415

- 1. What Is Macroeconomics About? 415
- 2. Macroeconomic Goals 416
 - 2.1 *Living Standards* 417
 - 2.2 *Stability and Security* 419
 - 2.3 *Sustainability* 421
- 3. Macroeconomics and the Dynamics of Real-World Markets 423
 - 3.1 *When Price Adjustments Are Slow* 423
 - 3.2 *When Prices Swing Too Much: Market Instability* 424
- 4. Macroeconomics in Context 426
 - 4.1 *The Classical Period* 426
 - 4.2 *The Great Depression and Keynes* 427

- 4.3 *The Crisis of the 1970s and Retreat from Keynesian Economics* 427
- 4.4 *Macroeconomics for the Twenty-First Century* 428

20. Macroeconomic Measurement: The Current Approach 432

- 1. An Overview of National Accounting 432
 - 1.1 *Conventions About National Accounting Sectors* 432
 - 1.2 *Conventions About Capital Stocks* 433
 - 1.3 *Conventions About Investment* 434
- 2. Defining Gross Domestic Product 435
- 3. Measuring Gross Domestic Product 436
 - 3.1 *The Product Approach* 436
 - 3.2 *The Spending Approach* 438
 - 3.3 *The Income Approach* 440
- 4. Growth, Price Changes, and Real GDP 441
 - 4.1 *Nominal versus Real GDP* 442
 - 4.2 *Calculating Real GDP* 442
 - 4.3 *Price Indexes and Inflation Rates* 444
 - 4.4 *Calculating GDP Growth Rates* 448
- 5. Savings, Investment, and Trade 448
 - 5.1 *The Relationship of Savings, Investment, and Trade* 449
 - 5.2 *Net Domestic Product and Saving* 449
- Appendix: Chained Dollar Real GDP 452

21. Macroeconomic Measurement: Environmental and Social Dimensions 455

- 1. Why GDP Is Not A Measure Of Well-Being 456
- 2. A Broader View of National Income Accounting 457
 - 2.1 *Satellite Accounts* 458
 - 2.2 *Measuring Well-Being* 459
 - 2.3 *The Genuine Progress Indicator (GPI)* 461
 - 2.4 *The Better Life Index (BLI)* 464
 - 2.5 *The Human Development Index (HDI)* 466
 - 2.6 *Other National Accounting Alternatives* 467
- 3. Measuring Household Production 468
 - 3.1 *Measuring Household Labor* 469
 - 3.2 *Time-Use Surveys* 470
 - 3.3 *Methods of Valuing Household Production* 471
- 4. Accounting for the Environment 472
 - 4.1 *Methods of Valuing the Environment* 473
 - 4.2 *Monetary Valuation of Environmental Factors* 474
- 5. Conclusion: Measuring Economic Well-Being 476

22. The Structure of the United States Economy 481

- 1. The Three Major Productive Sectors in an Economy 481
 - 1.1 *A Quick Review of Categories* 481
 - 1.2 *The Relative Size of the Output Sectors in the United States* 482
 - 1.3 *Historical Trends and Global Comparisons* 483

2. The Primary Sector in the United States 485
 - 2.1 *The Food System* 485
 - 2.2 *The Energy System* 488
3. The Secondary (Industrial) Sector in the United States 490
 - 3.1 *Manufacturing* 491
 - 3.2 *Construction* 492
 - 3.3 *Rising Productivity in the Secondary Sector* 493
4. The Tertiary (Service) Sector 494
 - 4.1 *The Growth of the Tertiary Sector* 495
 - 4.2 *Analyzing the Tertiary Sector by Subcategories* 495
 - 4.3 *Retail Services* 497
 - 4.4 *Finance and Financialization* 498
 - 4.5 *Human Services: Health* 499
 - 4.6 *Human Services: Education* 501
5. Concluding Thoughts 501

23. Employment, Unemployment, and Wages 505

1. Employment and Unemployment 505
 - 1.1 *Measuring Employment and Unemployment* 505
 - 1.2 *The Unemployment Rate* 507
 - 1.3 *Discouraged Workers and Underemployment* 508
 - 1.4 *Labor Force Participation* 508
2. A Closer Look at Unemployment 511
 - 2.1 *Types of Unemployment* 511
 - 2.2 *Patterns of Unemployment* 512
3. Theories of Employment, Unemployment, and Wages 514
 - 3.1 *The Classical Theory* 514
 - 3.2 *Alternative Theories of Labor Markets* 516
 - 3.3 *Policy Responses* 517
4. Special Issues for the Twenty-First Century 519
 - 4.1 *Jobs and Technological Change* 519
 - 4.2 *Some Future Possibilities* 520

PART VII Macroeconomic Theory and Policy 529

24. Aggregate Demand and Economic Fluctuations 531

1. The Business Cycle 531
 - 1.1 *What Happens During the Business Cycle* 531
 - 1.2 *A Stylized Business Cycle* 534
 - 1.3 *The Downturn Side of the Story* 534
2. Macroeconomic Modeling 536
 - 2.1 *Simplifying Assumptions* 536
 - 2.2 *Output, Income, and Aggregate Expenditure* 536
 - 2.3 *The Problem of Leakages* 538
 - 2.4 *The Classical Solution to Leakages* 539

- 3. The Keynesian Model 542
 - 3.1 *Consumption* 542
 - 3.2 *Investment* 545
 - 3.3 *The Aggregate Expenditure Schedule* 546
 - 3.4 *The Possibility of Unintended Investment* 548
 - 3.5 *Movement to Equilibrium in the Keynesian Model* 549
 - 3.6 *The Problem of Persistent Unemployment* 550
 - 3.7 *The Multiplier* 552
- 4. Concluding Thoughts 553
- Appendix: An Algebraic Approach to the Multiplier 556

25. Fiscal Policy 558

- 1. The Role of Government Spending and Taxes 559
 - 1.1 *A Change in Government Spending* 559
 - 1.2 *Taxes and Transfer Payments* 561
 - 1.3 *The Circular Flow with Government Spending and Taxes* 562
 - 1.4 *Expansionary and Contractionary Fiscal Policy* 563
- 2. The Federal Budget 564
 - 2.1 *Deficits and Surpluses* 565
 - 2.2 *Automatic Stabilizers* 567
 - 2.3 *Discretionary Policy* 569
- 3. Policy Issues 572
 - 3.1 *Crowding Out and Crowding In* 572
 - 3.2 *Different Multiplier Effects* 574
 - 3.3 *Applying Fiscal Policy* 574
- Appendix: More Algebraic Approaches to the Multiplier 577
 - A1. *An Algebraic Approach to the Multiplier, with a Lump-Sum Tax* 577
 - A2. *An Algebraic Approach to the Multiplier, with a Proportional Tax* 578

26. Money, Banking, and Finance 580

- 1. Why Money? 580
 - 1.1 *Money and Aggregate Expenditure* 580
 - 1.2 *“Running the Printing Press”* 581
 - 1.3 *Deflation and Financial Crises* 582
- 2. What Is Money? 583
 - 2.1 *The Roles of Money* 583
 - 2.2 *Types of Money* 584
 - 2.3 *Measures of Money* 586
- 3. The Banking System 587
 - 3.1 *Commercial Banks* 587
 - 3.2 *Bank Types* 588
 - 3.3 *How Banks Create Money* 590
- 4. The Financial System 591
 - 4.1 *Functions of Finance* 591
 - 4.2 *Nonbank Financial Institutions* 592
 - 4.3 *Financialization and Financial Bubbles* 593

27. The Federal Reserve and Monetary Policy 597

1. The Federal Reserve System 597
2. Monetary Policy 598
 - 2.1 *How the Fed Creates Money and Credit* 598
 - 2.2 *Other Monetary Policy Tools* 601
3. The Theory of Money, Interest Rates, and Aggregate Expenditure 603
 - 3.1 *The Federal Funds Rate and Other Interest Rates* 603
 - 3.2 *Interest Rates and Investment* 605
 - 3.3 *Monetary Policy and Aggregate Expenditure* 607
4. Monetary Policies in Practice 608
 - 4.1 *The Fed and Monetary Policy: A Brief History* 608
 - 4.2 *The Liquidity Trap and Credit Rationing* 611
5. Theories of Money, Prices, and Inflation 612
 - 5.1 *The Quantity Equation* 613
 - 5.2 *Competing Theories* 613
6. Complications and Policy Controversies 615
 - 6.1 *The Fed's Dilemma* 615
 - 6.2 *Rules versus Activism* 616
- Appendix 619
 - A1. *Bond Prices and Interest Rates* 619
 - A2. *Short- versus Long-Run and Real versus Nominal Interest Rates* 620
 - A3. *Money Supply and Money Demand* 622

28. Aggregate Supply, Aggregate Demand, and Inflation: Putting It All Together 625

1. Aggregate Demand and Inflation 625
 - 1.1 *The Aggregate Demand (AD) Curve* 625
 - 1.2 *Shifts of the AD Curve: Spending and Taxation* 626
 - 1.3 *Shifts of the AD Curve: Monetary Policy* 626
2. Capacity and the Aggregate Supply Curve 627
 - 2.1 *The Aggregate Supply (AS) Curve* 627
 - 2.2 *Shifts of the AS Curve: Inflationary Expectations* 629
 - 2.3 *Shifts of the AS Curve: Supply Shocks* 630
3. Putting the AS/AD Model to Work 631
 - 3.1 *An Economy in Recession* 631
 - 3.2 *An Overheated Economy* 633
 - 3.3 *Stagflation* 634
 - 3.4 *A Hard Line Against Inflation* 635
 - 3.5 *Technology and Globalization* 636
4. Competing Theories 638
 - 4.1 *Classical Macroeconomics* 638
 - 4.2 *Keynesian Macroeconomics* 639
- Appendix: More Schools of Macroeconomics 643
 - A1. *New Classical Economics* 643
 - A2. *The Neoclassical Synthesis and New Keynesian Macroeconomics* 644
 - A3. *Post-Keynesian Macroeconomics* 644

29. The Global Economy and Policy 645

1. Macroeconomics in a Global Context 645
 - 1.1 *Global Connections* 645
 - 1.2 *Major Policy Tools* 646
 - 1.3 *Patterns of Trade and Finance* 648
2. The Trade Balance: Completing the Picture 650
 - 2.1 *The Circular Flow Revisited* 650
 - 2.2 *Effects on the Multiplier* 651
 - 2.3 *Balance Between Savings, Investment, and Net Borrowing* 652
3. International Finance 654
 - 3.1 *Purchasing Power Parity* 654
 - 3.2 *Currency Exchange Rates* 655
 - 3.3 *The Balance of Payments* 658
4. Macroeconomics in an Open Economy 661
 - 4.1 *Fiscal Policy* 662
 - 4.2 *Monetary Policy* 662
 - 4.3 *Managed versus Flexible Foreign Exchange* 663
 - 4.4 *A Special Case: The Eurozone and the Euro Crisis* 666
5. International Financial Institutions 667
- Appendix: An Algebraic Approach to the Multiplier, in a Model with Trade 670

PART VIII Macroeconomic Issues and Applications 671

30. Financial Instability and Economic Inequality 673

1. The 2007–2008 Financial Crisis 673
 - 1.1 *Entering the Crisis* 673
 - 1.2 *The Collapse of the Housing Bubble and Impacts of the Crisis* 676
 - 1.3 *Policy Responses for Recovery* 679
2. A Broader Understanding of the Crisis 682
 - 2.1 *Deregulation and Financialization* 682
 - 2.2 *Theories of Financial Instability* 685
3. The Creation of an Unequal Society 687
 - 3.1 *Causes of Rising Wage Inequality* 688
 - 3.2 *Financialization and Inequality* 690
 - 3.3 *Macroeconomic Policies and Inequality* 693
4. Policies to Promote Financial Stability and Greater Equality 695

31. Deficits and Debt 701

1. Deficits and the National Debt 701
2. The U.S. National Debt: A Historical Perspective 704
 - 2.1 *Two Centuries of Deficits and Debt* 704
 - 2.2 *“Supply-Side” Economics* 704
 - 2.3 *1989 to the Present* 704

3. The Debt and Its Links to Finance 705
 - 3.1 *Taxonomy of Debt Types* 705
 - 3.2 *Federal Government Borrowing: Potential Problems* 707
4. Political Economy of the Debt 709
 - 4.1 *Who Owns the Debt?* 709
 - 4.2 *The Twin Deficits* 711
 - 4.3 *The Balanced Budget Debate* 712
 - 4.4 *Imposed Austerity: The Case of the European Union* 713
5. Deficit Projections and Potential Policy Responses 715
 - 5.1 *Deficit Projections* 715
 - 5.2 *Policy Choices* 717
 - 5.3 *Debt and Deficits in Context* 719

32. How Economies Grow and Develop 722

1. Economic Growth and Development 722
 - 1.1 *Experiences of Economic Growth Around the World* 723
 - 1.2 *Standard Economic Growth Theory* 723
 - 1.3 *Defining Poverty* 725
2. Economic Development in the World Today 728
 - 2.1 *Early Experiences and Theories of Development* 728
 - 2.2 *A Second Wave of Development Theory* 730
3. Twenty-First-Century Reconsiderations of the Sources of Economic Growth 732
4. Growth, Inequality, and Development 737
 - 4.1 *Economic Growth and “Convergence”* 737
 - 4.2 *Inequality and the Kuznets Hypothesis* 738
 - 4.3 *Inequality and Economic Well-Being* 738
5. Recent Perspectives and Sustainable Development Goals 739
6. Different Kinds of Economies 741

33. Growth and Sustainability in the Twenty-First Century 746

1. Macroeconomics and Sustainability 746
2. Major Environmental Issues 749
 - 2.1 *Global Population* 749
 - 2.2 *Nonrenewable Resource Availability* 749
 - 2.3 *Renewable Resources* 751
 - 2.4 *Pollution and Wastes* 752
3. Climate Change 753
 - 3.1 *Climate Change Science, Data, and Impacts* 753
 - 3.2 *The Economics of Climate Change* 755
 - 3.3 *Climate Change Policy* 756
4. Economic Growth and the Environment 758
 - 4.1 *The Environmental Kuznets Curve Hypothesis* 759
 - 4.2 *Does Protecting the Environment Harm Employment and Economic Growth?* 760
 - 4.3 *Economic Perspectives on the Transition to a Sustainable Economy* 761

- 5. Policies for Sustainable Development 764
 - 5.1 *Rethinking Employment and Production* 764
 - 5.2 *Rethinking Economic Incentives* 765
 - 5.3 *Green Keynesianism* 766
- 6. Concluding Thoughts 767

Glossary 773

Index 787

Introduction

For students taking a full-year introductory economics course, *Principles of Economics in Context* lays out the principles of economics in a manner that is thorough, up to date, and highly readable. Whether students take this class simply to gain some understanding of how economics can be useful to them, or go on to further studies in economics or business, this book will equip them with the tools and the critical understanding that they need to succeed. It introduces students both to the standard topics and tools taught in most introductory courses and to a broader and richer set of topics and tools to deepen comprehension of the economic realities of the twenty-first century.

The study of economics should not be highly abstract, but closely related to real-world events. *Principles of Economics in Context* addresses this challenge by keeping the theoretical exposition close to experience. The authors believe that students will achieve a deeper and more memorable understanding of economic theory if they can relate it to contemporary issues of interest and importance.

This textbook is written to encourage engaged and critical thinking about topics in economics. While demonstrating the uses of economic theory, it also provides a variety of viewpoints. Woven throughout the book are themes of great importance in everyday life as well as for an understanding of the economy. There is a full treatment of standard neoclassical market theory and related topics, but the text also integrates discussion of broader themes of social and environmental well-being and sustainability, with specific attention to issues of inequality, globalization, unpaid work, technology, and the environment, as well as the financialization of the economy, the Great Recession, and its aftermath. These elements are not add-ons but are integrated within discussions of historical, institutional, political, and social factors that affect, and are affected by, the economy.

The microeconomic and macroeconomic subject matter in *Principles of Economics in Context* is also available in two single-semester texts, *Macroeconomics in Context* (3rd edn) and *Microeconomics in Context* (4th edn), also published by Routledge.

On pages xxxiii–xxxvi you will find several possible course plans based on different emphases (such as ecological, global, human development, and structural). We hope that this will help in planning the course that will best suit the needs of instructors and students.

CONTENT AND ORGANIZATION

Some of the innovative features of this text are apparent in even a quick scan of the table of contents, the sample course outlines on pp. xxxiii–xxxvi, and the data presentations in Chapter 0, or Chapter 1. Although this textbook takes a broader and more contextual approach to economic activities, it fits these within a familiar overall organizational strategy.

- **Part I, “The Context for Economic Analysis”** presents the themes of the book and the major actors in the economy. It begins with the innovative “Chapter 0,” which provides background information on many key economic statistics, along with some ecological and socioeconomic measures. Students are introduced to a range of economic questions and goals, to basic empirical and theoretical tools, and to the basic activities and institutions of a modern economy.
- **Part II, “Basic Economic Analysis”** introduces basic supply-and-demand analysis, elasticities, and welfare analysis. It also includes a chapter on international trade. Most of this material will look very

familiar to teachers of economics, although this text gives greater recognition than is typical to real-world market institutions and the limitations of traditional welfare analysis.

- **Part III, “Economics and Society”** considers the economic roles that will be familiar to all readers throughout their lives, both as workers and as consumers. These roles are illustrated with examples that depart from the standard models—for example, household production is recognized throughout. This part is introduced by a chapter on economic behavior, based on the latest studies in behavioral economics. It also includes a chapter on the topic of consumerism, and one on labor markets.
- **Part IV, “Essential Topics for Contemporary Economics”** puts the economy in a social context, with a chapter on distribution, inequality, and poverty, and another on taxes and tax policy. The ecological context for the economy is then examined in two chapters that take up issues such as pollution, externalities, common property, and public goods.
- **Part V “Resources, Production, and Market Organization”** goes more into more detail on market topics by describing the idealized model of perfect competition, presenting models of market power, and analyzing various resource markets.
- **Part VI, “Macroeconomic Basics”** introduces basic macroeconomic definitions and accounting methods, including gross domestic product (GDP), inflation, aggregate demand, and unemployment. These are supplemented with a discussion of how new accounting systems are being developed to measure the economic contributions of the natural environment, unpaid household labor, and other previously uncounted factors. The second half of Part VI brings these abstractions down to earth with a description of the structure of the U.S. macroeconomy and discussion of the labor market and unemployment.
- **Part VII, “Macroeconomic Theory and Policy”** explores the issue of macroeconomic fluctuations. The first chapters clearly present Keynesian and classical theories of the determination of aggregate demand and the effects of fiscal and monetary policies. This section also develops a dynamic *AS/AD* model of output and inflation, with inflation rather than price level on the vertical axis, and extensive examples of real world applications. Part VII concludes with a chapter discussing macroeconomic issues in the global economy.
- **Part VIII, “Macroeconomic Issues and Applications”** addresses the contemporary issues of financial instability, inequality, the Great Recession and its aftermath, debt and deficits, economic development, and the environment. While the first two chapters here are presented from a largely U.S. perspective, the second half of this part widens the lens to explore current global issues of poverty and inequality, economic growth, human development, and global environmental challenges.

In order to focus on “contextual” discussions, we have generally placed more formal instruction in algebraic modeling techniques in optional appendices to the chapters. Also, while this book reviews the basics of supply and demand and includes “new classical” economics among the theories discussed, it devotes fewer pages to the concept of efficient markets than many books do and certainly less than recent books that have adopted a strongly “new classical” slant. Instead, this text gives prominent consideration to new thinking in behavioral economics, analysis of financial instability and market bubbles, social and environmental issues, and policy responses to problems of unemployment, inequality, and environmental damage.

WHAT MAKES THIS BOOK DIFFERENT FROM OTHER TEXTS?

This text covers the traditional topics included in most economics texts but treats them from a broader, more holistic perspective. The following chapter-by-chapter synopsis shows how this book manages both to be “similar enough” to fit into a standard curriculum and “different enough” to respond to commonly expressed needs and dissatisfactions.

Chapter 0, “Economics and Well-Being” presents graphically illustrated data on 35 variables, including data for the United States as well as international comparisons, using a selected set of countries. The related website www.gdae.org/principles allows users to see the same variables listed in order for all countries in the world where such data are available. This innovative chapter can be used in a variety of ways, including as an introduction to later topics, as a reference for use with other chapters, or as material to draw on in designing research projects.

Chapter 1, “Economic Activity in Context” defines economics as “the study of how people manage their resources to meet their needs and enhance their well-being,” which immediately sets economics within a broader context, with the overarching concept of “well-being” encompassing social,

environmental, and other dimensions. Most textbooks discuss three essential activities—production, distribution, and consumption—but we add the activity of “resource management” to draw attention to the importance of maintaining capital stocks, including stocks of natural (environmental) capital. The difference between stocks and flows is explained, and basic concepts of abundance, scarcity, tradeoffs, and opportunity costs are introduced and illustrated with production possibility curve analysis.

Chapter 2, “Useful Tools and Concepts” introduces standard concepts of economic modeling. It includes a review of graphing techniques and the use of empirical data. In addition to the usual economic “circular flow” diagram, this chapter presents a model of economic activity as embedded in social and physical contexts and relates this approach to issues of economic concern. Economic activity is described in terms of three “spheres”: business, public purpose, and “core” or household/community spheres.

Chapter 3, “Markets and Society” defines the concept of market and discusses the key institutional requirements of markets. In describing the operation of market systems, we introduce the concepts of market power, transaction costs, information and expectations, and concern for human needs and equity. The early introduction of these topics allows us to demonstrate why markets, while useful, are not on their own sufficient for organizing economic life in the service of well-being.

Chapter 4, “Supply and Demand” presents basic supply-and-demand analysis, including discussions of the slopes of the curves, factors that shift the curves, equilibrium and market adjustment, and the signaling and rationing functions of prices. Our contextual approach, however, leads to some subtle shifts in presentation. The model is explicitly presented as a thought experiment—a humanly created analytical tool that may help us gain insight—rather than as a set of “laws” about “the way the world works.” Instead of concentrating solely on the efficiency effects of markets, the contextual approach demands that distributional consequences and power issues also be raised.

Chapter 5, “Elasticity” presents definitions and discussions of price elasticities of demand and supply, income elasticity of demand, and the income and substitution effects of a price change.

Chapter 6, “Welfare Analysis” presents standard welfare analysis, including the topics of consumer and producer surplus. It also includes a careful look at different ways of understanding efficiency. Consideration of what is efficient—and for whom—is followed by a first look at policy conclusions that have been drawn from this approach, and a first look at the requirements for “market perfection” that underlie traditional welfare analysis.

Chapter 7, “International Trade and Trade Policy” covers the gains-from-trade story that is important in discussing topical issues of global commerce. (The formal theory of comparative advantage and the gains from trade is spelled out in the appendix to the chapter.) We also discuss some possible negative impacts of trade as they may affect both developed and developing countries, and put these in the context of the globalized world, as it differs from the historical example of trade between England and Portugal.

Chapter 8, “Economic Behavior and Rationality” elaborates on the topics of individual choice, rationality, and self-interest. It updates and amplifies standard expositions, drawing on studies of human economic behavior by scholars such as Herbert Simon and Daniel Kahneman, and introduces issues of organizational structure and behavior. It presents a more nuanced perspective of consumer motivation than the simple (and often unrealistic) model of utility maximization.

Chapter 9, “Consumption and the Consumer Society” begins by presenting the traditional utility-theoretic model of consumer behavior. The chapter explains the notion of consumer sovereignty, shows students how to graph a budget line, and explains the rule for utility maximization derived from marginal analysis. We also delve into topics of “consumer society,” including social and environmental aspects, the relationship between income and happiness, and public policy alternatives. The appendix presents a formal theory of consumer behavior, using budget lines and indifference curves to illustrate utility maximization in the standard model.

Chapter 10, “Markets for Labor” includes the traditional derivation of profit-maximizing labor demand by a perfectly informed and perfectly competitive firm, and the upward-sloping and backward-bending individual paid labor supply curves. The chapter also offers additional ways of understanding how wages are determined, including theories of compensating wage differentials, market power, worker motivation, and labor market discrimination. The appendix sets out in formal terms the standard theory of the firm’s hiring decisions.

Chapter 11, “Economic and Social Inequality” introduces Part Four, moving from definitions and measurement of inequality to data on trends in the United States and other countries. The second half of the chapter focuses on what is known about the underlying causes of inequality, and discusses possible policy responses.

Chapter 12, “Taxes and Tax Policy” starts out, like many of the other chapters in the book, with standard theory—in this case, taxes in the supply-and-demand model—and (referring back to the chapter on welfare analysis) it analyzes deadweight losses from taxes. Moving then to discuss taxation specifically in the United States, data are presented on the structure of various federal taxes, and their impacts. The chapter includes an analysis of the regressive impact of the 2017 U.S. tax cuts.

Chapter 13, “The Economics of the Environment” shows how an understanding of externalities makes supply-and-demand analysis more relevant. This topic raises the problem of the valuation of externalities. We draw a distinction between standard and ecological views of the value of natural capital, raising the question of whether a standard cost-benefit framework can reasonably be applied to issues with unpredictable effects over the very long term (given the complexity of natural systems). A section on approaches to nonmarket environmental valuation is followed by a survey of some policy options for dealing with externalities. The appendix offers a formal analysis of negative externalities.

Chapter 14, “Common Property Resources and Public Goods” differentiates between private and public goods. It relates recent work on this important topic to environmental considerations, contrasting Garrett Hardin’s “tragedy of the commons” analysis with Elinor Ostrom’s work on common property management. These analyses are then applied to a discussion of the challenge of global climate change.

Chapter 15, “Capital Stocks and Resource Management” is the first of two chapters on production. It begins with a discussion of the activity of resource management—that is, the importance of taking into consideration the effect of flows created by economic activity on the stocks of productive resources that will be available for future use. In a departure from other treatments, this book examines the crucial contributions of natural capital (environmental resources), human capital, and social capital to economic activity and human well-being. It also incorporates treatments of manufactured capital (machinery and physical infrastructure) and financial capital.

In **Chapter 16, “Production Costs,”** the discussion of production continues with a focus on the costs of production. We present the traditional model of a firm’s cost structure, with a focus on marginal costs. The chapter includes a discussion of fixed and variable inputs; diminishing, constant, and increasing returns; total and marginal costs, and short-run versus long-run issues. We set this model in context in two important ways. First, the chapter encourages students to reflect on the idea that because of externalities, private and social net benefits from production may not be equivalent. Second, the chapter offers examples of cases where other economic actors (besides firms) make production decisions, and cases where other methods of decision making are necessary.

Chapter 17, “Perfectly Competitive Markets” discusses the theoretic characteristics and the zero-economic-profit and efficiency outcomes of perfectly competitive markets. Rather than simply concluding that perfectly competitive markets are always efficient, it balances the perfectly competitive model with a discussion of efficiency and equity, including the topics of path dependence and network externalities. The appendix offers a formal model of perfect competition.

Chapter 18, “Markets with Market Power” covers traditional models of monopoly, monopolistic competition, and oligopoly. These different market structures are presented along a competitiveness continuum, with perfect competition and pure monopoly the “ideal types” representing the opposite extremes. The chapter provides abundant examples of the different market structures.

Chapter 19, “Introduction to Macroeconomics” begins Part VI of the book with a presentation of basic macroeconomic concepts. The goals of macroeconomics are defined in terms of (1) improvement in living standards, (2) stability and security, and (3) financial, social, and ecological sustainability. Thus growth in GDP alone may or may not contribute to the general goal of human well-being, depending on whether it furthers these ultimate objectives. It considers some micro-foundations issues including discussion of price changes that are either too slow (i.e., “sticky”) or too volatile (e.g., financial market speculation), leading to macroeconomic instability. These issues are placed in historical context, introducing themes related to classical and Keynesian economics that will be developed more fully in subsequent chapters.

Chapter 20, “Macroeconomic Measurement: The Current Approach” presents an introduction to national income accounting, emphasizing that the accounts have been created for specific purposes, with conventions that reflect particular assumptions or choices. It notes how the production and investments undertaken in the “household and institutions” and government sectors have historically been de-emphasized in national accounting.

Chapter 21, “Macroeconomic Measurement: Environmental and Social Dimensions” gives a thorough introduction to alternative measures of economic performance, including the Genuine Progress Indicator, the Better Life Index, the Human Development Index, and other current approaches for assessing well-being. It includes discussions of issues in the valuation of environmental and household services and of satellite accounts for environmental and household production.

Chapter 22, “The Structure of the United States Economy” describes key features of production and employment in the U.S. economy, broken down into its primary, secondary, and tertiary sectors. This discussion presents the context to illustrate several economic debates, such as the loss of manufacturing jobs, the rising costs of health care, and the meaning of the trend toward an ever-growing service sector and growing financialization of the economy.

Chapter 23, “Employment, Unemployment, and Wages” discusses standard macroeconomic labor topics such as the definition of the unemployment rate, the different types of unemployment, and theories of the causes of unemployment. In addition, there is a special focus on labor market institutions and alternative theories of labor markets. The chapter discusses changes in labor force participation rates, the sources of wage differentials and inequalities, and the impact of technological change on the structure of employment.

Chapter 24, “Aggregate Demand and Economic Fluctuations” introduces the analysis of business cycles, presents the classical theory of savings–investment balance through the market for loanable funds, and develops Keynesian aggregate demand analysis in the form of the “Keynesian cross” diagram. Our contextual approach emphasizes the possibility of instability and unemployment, rather than focusing primarily on adjustment to full-employment equilibrium.

Chapter 25, “Fiscal Policy” balances formal analysis of fiscal policy with real-world data and examples. An algebraic treatment of more complex multiplier effects is included in appendices. While the basic analysis presented here follows the Keynesian model, the text also discusses classical and supply-side perspectives, and the issue of “crowding out” and “crowding in.” The section on the federal budget should give students a basic understanding—developed further in Chapter 16—of deficits, debt, and how these affect the economy. The difference between automatic stabilizers and discretionary policy is made clear, and recent fiscal policies are discussed.

Chapter 26, “Money, Banking, and Finance” presents the basics of money and the banking system, including inflation, deflation, liquidity, and the different aggregate measures of money. Students are introduced to asset and liabilities tables, different banking institutions, and the process of money creation through the fractional reserve system. The chapter concludes with a discussion of nonbank financial institutions, financialization, and financial bubbles.

Chapter 27, “The Federal Reserve and Monetary Policy” focuses on the role of the Federal Reserve and the implementation of monetary policy. Here we discuss the Federal Reserve’s structure, functions, and monetary policy tools that it employs to create money. The chapter also spotlights the monetary economy in the United States since the year 2000, with particular attention to the role of monetary policy in the 2007–2008 financial crisis, and the nature of the monetary response to the crisis. The appendix deals with the bond market, real and nominal interest rates, and theories of money supply and demand.

Chapter 28, “Aggregate Supply, Aggregate Demand, and Inflation: Putting It All Together” addresses the tricky problem of how to teach the relationship between output and inflation to introductory students in a way that is simple yet intellectually defensible. The model presented in this chapter has many features that will be familiar to instructors. But unlike AS/AD models that put the price level on the vertical axis, implying a static equilibrium at a certain level of prices, this model has the inflation rate on the vertical axis, which makes it more relevant for discussing historical examples as well as current events.* Rather than focusing on long-run full-employment equilibrium output, we emphasize how the macroeconomy adjusts dynamically to often-unpredictable economic events. (More classically oriented approaches are not, however, neglected. They are also discussed in the chapter and the appendix.)

*Regarding the theoretical underpinnings of our model, our downward-sloped AD curve is based on the AD curve developed by David Romer (“Keynesian Macroeconomics without the LM Curve,” *Journal of Economic Perspectives*, 14: 2 (2000): 149–169) and adopted by other introductory textbook writers, including John B. Taylor (*Principles of Macroeconomics*, Houghton Mifflin, various editions). Our curved AS is based on the notion of an expectations-augmented Phillips curve, translated into inflation and output space. The idea of a dynamically evolving economy, rather than one always headed toward settling at full employment, is an approach based on Keynes’ own (rather than new Keynesian) thought, as explained in the appendix to Chapter 13.

Chapter 29, “The Global Economy and Policy” adds the foreign sector to the circular-flow picture, which now includes savings, investment, taxes, government spending, exports, and imports. This chapter provides a detailed treatment of the factors that influence currency exchange rates worldwide. Chapter 29 also highlights open-economy macroeconomics, analyzing the increasingly important links between fiscal and monetary policies and the global economy, and concludes with a description of the operation of international financial institutions.

Chapter 30, “Financial Instability and Economic Inequality” applies many of the insights introduced in earlier chapters to explain some of the causes and consequences of the financial crisis that led to the Great Recession, including excessive reliance on finance and growing inequality. It presents theories of financial instability and also discusses financial reforms needed to avoid such crises in the future.

Chapter 31, “Deficits and Debt” focuses on the fiscal implications of deficits and debt, including issues of stimulus versus austerity, internal and external debt, and sovereign debt. The chapter concludes with discussion of deficit projections and policy responses, including consideration of recent budgetary and tax policy.

Chapter 32, “How Economies Grow and Develop” presents basic concepts related to economic growth, such as the Rostow and Harrod-Domar models, which emphasize the importance of investment in manufactured capital. The chapter also focuses on broader concepts of development, and provides examples of how investment in other types of capital—e.g., human or natural capital—can be equally, if not more, important. It also explores in detail the question of whether less developed countries have been “catching up” with the industrialized world (“convergence”) or falling behind. Country diversity is a central theme; the chapter highlights that the “one size fits all” approach to economic development emphasizing structural reforms—such as those embodied in the Washington Consensus—has produced disappointing results, and that different approaches are required to meet sustainable development goals.

Chapter 33, “Growth and Sustainability in the Twenty-First Century” examines global ecological challenges, including a section on global climate change. While it covers standard theories such as the environmental Kuznets curve, it raises serious challenges to the belief that economic growth and markets can solve this century’s social and environmental problems on their own. Finally, the chapter presents ideas for alternative approaches including “green Keynesianism” and sustainable employment strategies.

SPECIAL FEATURES

Each chapter in this text contains many features designed to enhance student learning.

- *Key terms* are highlighted in **boldface** throughout the text, and important ideas and definitions are set off from the main text.
- *Discussion Questions* at the end of each section encourage immediate review of what has been read and relate the material to the students’ own experiences. The frequent appearance of these questions throughout each chapter helps students review manageable portions of material, and thus boosts comprehension. The questions can be used for participatory exercises involving the entire class or for small-group discussion.
- *Review Questions* at the ends of chapters are designed to encourage students to create their own summary of concepts. They also serve as helpful guidelines to the importance of various points.
- *Exercises* at the ends of chapters encourage students to work with and apply the material, thereby gaining increased mastery of concepts, models, and investigative techniques.
- Throughout the chapters, boxes enliven the material with real-world illustrations drawn from a variety of sources regarding applications of economic concepts and recent economic developments.
- In order to make the chapters as lively and accessible as possible, some formal and technical material (suitable for inclusion in some but not all course designs) is carefully and concisely explained in chapter appendices.
- A *glossary* at the end of the book contains all key terms, their definitions, and the number of the chapter(s) in which each was first used and defined.

SUPPLEMENTS

The supplements package includes an *Instructor’s Resource Manual* and *Test Bank* to accompany *Principles of Economics in Context*. To access these electronically, send a request via e-mail to gdae@tufts.edu with information to verify your instructor status.

For each chapter, the *Instructor's Resource Manual* includes a statement of objectives for student learning, a list of key terms, a lecture outline, and answers to all review questions and end-of-chapter exercises. In addition, the “Notes on Discussion Questions” section provides not only suggested answers to these questions but also ideas on how the questions might be used in the classroom. Sections titled “Web Resources” and “Extensions” provide supplementary material and links to other passages in the book or other materials that can be used to enrich lectures and discussion.

The *Test Bank* includes multiple-choice and true/false questions for each chapter. The correct answer for each question is indicated.

PowerPoint slides of figures and tables from the text and a *Student Study Guide* that provides ample opportunity for students to review and practice the key concepts are available for free download at www.gdae.org/principles.

NOTE ON DIFFERENCES FROM THE FIRST EDITION

The first edition of this book was published in 2014; much has happened in the world since then—and many real-world events have been reflected in new ways of understanding and teaching about the economy. In addition to updating data in the text, tables, figures, and boxes, the second edition of *Principles in Context* has been extensively revised and refreshed in response to new economic developments. Some of the most significant revisions include:

- *Chapter 0 (Economics and Well-Being)*: a figure showing distribution of foreign aid by recipient country has been added.
- *Chapter 3 (Markets and Society)*: an expanded discussion of the informal sphere focused on developing countries; and a new concluding section on “Assessing Market Outcomes” have been added.
- *Chapter 7 (International Trade and Trade Policy)*: more detail on calculating opportunity costs is provided; a new section on trade and the environment; new material on the redistributive impacts of trade; a new section on “Globalization Data and Trends.”
- *Chapter 8 (Economic Behavior and Rationality)*: A new section on neuroeconomics; a new concluding section that focuses on policy inferences from behavioral economics.
- *Chapter 9 (Consumption and Consumer Society)*: expanded discussion of the relationship between income and well-being.
- *Chapter 10 (Markets for Labor)*: new material on wage discrimination by race and gender; a new section on labor force participation rates; an expanded section on “Labor Markets and Immigration.”
- *Chapter 11 (Economic and Social Inequality)*: more international data on inequality, including a new section on global inequality; a new discussion of the Kuznets curve hypothesis; new material on the role of transfers in reducing inequality; a new section on “Addressing Inequality in Developing and Transitional Countries.”
- *Chapter 12 (Taxes and Tax Policy)*: an expanded discussion of the relationship between taxes and economic growth.
- *Chapter 14 (Common Property Resources and Public Goods)*: new material on climate change policy; a new section on “The Economics of Renewable Energy.”
- *Chapter 18 (Markets with Market Power)*: an expanded discussion of payoff matrices; a new concluding section on “Market Power, Well-Being, and Politics.”
- *Chapter 21 (Macroeconomic Measurement: Environmental and Social Dimensions)*: updated treatment of the Genuine Progress Indicator, the evaluation of unpaid work and of the environment, and Green GDP measures.
- *Chapter 22 (The Structure of the United States Economy)* and *Chapter 23 (Employment, Unemployment and Wages)*: thoroughly updated chapter content, while retaining the same basic structure.
- *Chapter 24 (Aggregate Demand and Economic Fluctuations)*: the term “aggregate expenditure” is introduced for the construction of the Keynesian model, with an explanation that we will return to the broader term “aggregate demand” when we introduce price changes and inflation in Chapter 28. Boxes have been updated to relate to recent economic developments in the areas of consumption and investment.
- *Chapter 25 (Fiscal Policy)*: updated discussion of fiscal policy to include more recent developments such as the Trump tax cuts.
- *Chapter 26 (Money, Banking, and Finance)* and *Chapter 27 (The Federal Reserve and Monetary Policy)*: increased emphasis on credit money; new material on the changing Fed policy under Chairs Yellen and Powell.

- *Chapter 28 (Aggregate Supply, Aggregate Demand, and Inflation)*: new material on the aggregate supply curve to represent the experience of deflation; expanded discussion of the European experience as well as of changing policies in the U.S. in response to a recovering economy.
- *Chapter 29 (The Global Economy and Policy)*: updated treatment of open-economy macroeconomics, including a focus on the eurozone crisis and U.S.–China trade and investment flows.
- *Chapter 30 (Financial Instability and Economic Inequality)*: adds a treatment of the Minskian theory of financial crises, contrasting this with the efficient markets hypothesis; new material on the causes and consequences of inequality, and the changing distribution of economic gains among income sectors, is added including recent data from studies by Piketty and Saez.
- *Chapter 31 (Debt and Deficits)*: updated data and information on deficits and debt, including two new boxes on social security and the impacts of the 2017 tax cuts; new section on “twin deficits” (fiscal and trade).
- *Chapter 32 (How Economies Grow and Develop)*: more material on dependency theory, global inequality, and sustainable development goals.
- *Chapter 33 (Growth and Sustainability in the Twenty-First Century)*: more discussion of theories of sustainability, ecological footprint analysis, and recent developments in macro-level environmental issues such as climate change; updated analysis of green economy scenarios and economic incentives for sustainability.

ACKNOWLEDGMENTS

Principles of Economics in Context was written under the auspices of the Global Development and Environment Institute (GDAE), a research institute at Tufts University. All contributors of written materials were paid through grants raised by the Global Development and Environment Institute.

This text has been a long time in the making, and many people have been involved along the way. First, we would like to thank Wassily Leontief, who initially urged us to write a book on economic principles for students in transitional economies. He provided inspiration and encouragement during those early years. We also are enormously grateful to Kelvin Lancaster, who allowed us to use *Modern Economics: Principles and Policy* (a textbook that he and Ronald Dulany wrote in the 1970s) as a jumping-off point for our work.

Dr. James Devine of Loyola Marymount University, Los Angeles, contributed to the macro-modeling chapters; Ben Beachy contributed to Chapter 30 on financial crisis; and Dr. Nathan Perry of Colorado Mesa University contributed to Chapter 31 on deficits and debt.

We thank a number of instructors who were exceptionally generous in giving us detailed comments on the previous and the new edition, including Alison Butler, Willamette University; Gary Flomenhoft, University of Vermont; Robin King, Georgetown University; Dennis Leyden, University of North Carolina, Greenville; Valerie Luzadis, SUNY-ESF, Syracuse; Eric Nilsson, California State University San Bernardino; Chiara Piovani, University of Utah; Rebecca Smith, Mississippi State University; Saranna Thornton, Hampden-Sydney College; Marjolein van der Veen, Bellevue Community College; and Thomas White, Assumption College.

David Garman, of the Tufts University Economics Department, arranged an opportunity for us to class-test a very early draft of the micro portion of the text. Other faculty who assisted in the developmental stage of this text include Steven Cohn (Knox College), Julie Heath (University of Memphis), and Geoffrey Schneider (Bucknell University).

We would also like to thank Robert Scott Gassler (Vesalius College of the Vrije Universiteit Brussels), Julie Matthaei (Wellesley College), and Adrian Meuller (CEPE Centre for Energy Policy and Economics), who, among others, provided helpful comments on an early draft of the text.

This early draft also formed the basis for editions designed for transitional economies, which were translated and published in Russia (Russian State University for the Humanities, 2002) and Vietnam (Hanoi Commercial University, 2002). Economists who contributed ideas to the transitional economies texts included Oleg Ananyin (Institute of Economics and Higher School of Economics, Moscow), Pham Vu Luan and Hoang Van Kinh (Hanoi Commercial University), Peter Dorman (Evergreen College); Susan Feiner (University of Southern Maine); Drucilla Barker (Hollins College); Robert McIntyre (Smith College); Andrew Zimbalist (Smith College); Cheryl Lehman (Hofstra University); and Raymond Benton (Loyola University).

Among the many faculty who provided valuable comments on earlier editions of the micro and macro sections, we would like to thank Sandy Baum (Skidmore College), Jose Juan Bautista (Xavier University of Louisiana), Gary Ferrier (University of Arkansas), Ronald L. Friesen (Bluffton College), and Abu N. M. Wahid (Tennessee State University), Fred Curtis (Drew University), James Devine (Loyola Marymount University), Richard England (University of New Hampshire), Mehrene Larudee (Bates College), Akira Motomura (Stonehill College), Shyamala Raman (Saint Joseph College), Judith K. Robinson (Castleton State College), Marjolein van der Veen (Bellevue Community College), Timothy E. Burson (Queens University of Charlotte), Will Cummings (Grossmont College), Dennis Debrecht (Carroll College), Amy McCormick Diduch (Mary Baldwin College), Miren Ivankovic (Southern Wesleyan University), Eric P. Mitchell (Randolph-Macon Woman's College), Malcolm Robinson (Thomas More College), June Roux (Salem Community College), Edward K. Zajicek (Kalamazoo College), Steve Balkin (Roosevelt University), Ernest Diedrich (College of St. Benedict/St. John's University), Mark Maier (Glendale Community College), Ken Meter (Kennedy School of Government), Sigrid Stagl (University of Leeds), and Myra Strober (Stanford University), David Ciscel (University of Memphis), Polly Cleveland (Columbia University), Judex Hyppolite (Indiana University), Bruce Logan (Lesley College), Valerie Luzadis (SUNY-ESF), Maeve Powlick (Skidmore College), Mark Wenzel (Wayne State University), Rachel Bouvier (University of Southern Maine), and Armagan Gezici (Keene State College).

Special thanks go to the many students who provided feedback on previous editions, including Brian Cotroneo and Marc McDunch of Boston College; Castleton State College students Kevin Boucher, April L. Cole, Shawn Corey, Lisa Dydo, Tim Florentine, Roger Gillies, Ashley Kennedy, Nicole LaDuc, Matt Lane, Noah Bartmess, Joseph O'Reilly, Kevin Perry, James Riehl, Jessica Schoof, Josh Teresco, Jennifer Trombey, Monica Tuckerman, Craig Wetzel, and Liza Wimble; Colby College student Eric Seidel; Drew University students Sigourney Giblin, Erin Hoffman, Jennifer Marsico, Leo A. Mihalkovitz, Peter Nagy, and Sofia Novozilova; Catherine Hazzard, a student at Saint Joseph College; Stonehill College student Anthony Budri; Sarah Barthelmes, Kathryn Cash, Aris Dinitraropolous, Jen Hanley, Krista Leopold, Mary Pat Reed, E. Rose, Kaitlyn Skelley, and Ryan Tewksbury from the University of New Hampshire; Rebecca Clausen of the University of Oregon; and students from Will Cummings' class at Grossmont College.

Essential support work on research and manuscript preparation, including data analysis for Chapter 0, was provided by GDAE Research Coordinator Mitchell Stallman, Max Schmulewitz, and Hannah Mirviss. Administrative and outreach support at the Global Development and Environment Institute was provided by Angela Trowbridge, Monica Barros, and Erin Coutts. We also thank the staff at Routledge, for their enthusiasm and meticulous work in getting this book to press.

Finally, we would like to thank the many students we've had the privilege to teach over the years—you continually inspire us and provide hope for a bright future.



Taylor & Francis

Taylor & Francis Group

<http://taylorandfrancis.com>

Sample Course Outlines

Providing both standard and innovative materials for introductory economics, *Principles of Economics in Context* can be used as the basis for a variety of approaches, depending on which topics and approaches are of particular interest.

To help identify the chapter assignments that make the most sense for a particular class, we have put together some ideas for course outlines below. Arranged in terms of broad selections and more specific emphases, they are designed to help instructors choose among chapters when there is not enough time to cover everything in this textbook.

We understand that in many departments one primary objective of the introductory course is to teach in some detail “how (neoclassical) economists think.” For instructors who choose to focus primarily on neoclassical content, the most traditional combination of the selections described below—the Base Chapters, combined with some or all of the Basic Microeconomics and Basic Macroeconomics Selection and the Neoclassical Emphasis and Macro-Modeling Emphasis chapters—will provide what you need. This combination of chapters does not come close to exploiting fully the richness of *Principles of Economics in Context*, but the contextual discussions (a hallmark of this text) that are woven into the standard material will broaden the students’ understanding of economic theory and provide tools for critical thinking.

Many instructors seek to combine coverage of traditional neoclassical ideas with other material. Addressing such users of *Principles of Economics in Context*, we suggest that you make use of the special structure of the book, which enables you to introduce traditional concepts in your introductory course while still reserving class time for other areas of interest. Ecological sustainability, for example, is an issue of increasing importance and is deeply linked to the functioning of the economy. For this focus, the Base Chapters Selection and most of the Basic Microeconomics and Basic Macroeconomics Selection could be combined with the Ecological Emphasis Selection.

Some instructors and students may have less interest in the formalities of economic modeling, in which case it might make sense to cover the Base Chapters Selection, some material from the Basic Microeconomics and Basic Macroeconomics Selection, and much more material from the topical emphases such as Human Development and Poverty/Inequality/Social Justice. For coverage of alternative and critical perspectives, the Critiques of Neoclassical Economics and Keynesian/Post-Keynesian/Institutionalist emphases will be useful.

The data presented in Chapter 0 cover a wide variety of topics and applications, and it may be appropriate to refer back to this chapter for almost any of the selections below.

BASE CHAPTERS SELECTION

- Chapter 1, “Economic Activity in Context”
- Chapter 2, “Useful Tools and Concepts”
- Chapter 3, “Markets and Society”
- Chapter 4, “Supply and Demand”

BASIC MICROECONOMICS SELECTION

- Chapter 5, “Elasticity”
- Chapter 7, “International Trade and Trade Policy,” Sections 1 and 2

- Chapter 10, “Markets for Labor,” Sections 1 and 2
- Chapter 11, “Economic and Social Inequality,” Section 1
- Chapter 16, “Production Costs”
- Chapter 17, “Perfectly Competitive Markets,” Sections 2–4
- Chapter 18, “Markets with Market Power,” Sections 1–4

BASIC MACROECONOMICS SELECTION

- Chapter 19, “Introduction to Macroeconomics”
- Chapter 20, “Macroeconomic Measurement: The Current Approach”
- Chapter 23, “Employment, Unemployment, and Wages”
- Chapter 24, “Aggregate Demand and Economic Fluctuations”
- Chapter 25, “Fiscal Policy”
- Chapters 26 and 27, “Money, Banking and Finance,” and “The Federal Reserve and Monetary Policy”
- Chapter 28, “Aggregate Supply, Aggregate Demand, and Inflation: Putting It All Together”
- Chapter 32, “How Economies Grow and Develop”

TRADITIONAL EMPHASIS

- Chapter 7, “International Trade and Trade Policy,” Appendix
- Chapter 8, “Economic Behavior and Rationality,” Section 1
- Chapter 9, “Consumption and the Consumer Society,” Section 1 and Appendix
- Chapter 10, “Markets for Labor,” Appendix
- Chapter 17, “Perfectly Competitive Markets,” Appendix
- Chapter 18, “Markets with Market Power,” Appendix

EMPHASIS ON CRITIQUES OF TRADITIONAL APPROACHES

- Chapter 1, “Economic Activity in Context,” Sections 2 and 5
- Chapter 2, “Useful Tools and Concepts,” Section 2
- Chapter 4, “Supply and Demand,” Section 5
- Chapter 7, “International Trade and Trade Policy,” Sections 3 and 5
- Chapter 8, “Economic Behavior and Rationality,” Sections 2 and 3
- Chapter 9, “Consumption and Consumer Society,” Section 5
- Chapter 10, “Markets for Labor,” Section 5
- Chapter 17, “Perfectly Competitive Markets,” Sections 1 and 5

WELFARE ANALYSIS EMPHASIS

- Chapter 6, “Welfare Analysis”
- Chapter 12, “Taxes and Tax Policy,” Section 1
- Chapter 13, “The Economics of the Environment,” Section 1 and Appendix

APPLIED MICROECONOMICS/POLICY EMPHASIS

- Chapter 6, “Welfare Analysis,” Section 5
- Chapter 7, “International Trade and Trade Policy,” Section 4
- Chapter 8, “Economic Behavior and Rationality,” Section 4
- Chapter 9, “Consumption and the Consumer Society,” Section 5
- Chapter 10, “Markets for Labor,” Section 3
- Chapter 11, “Economic and Social Inequality,” Section 5
- Chapter 12, “Taxes and Tax Policy,” Sections 2 and 3
- Chapter 13, “The Economics of the Environment,” Section 3
- Chapter 18, “Markets with Market Power,” Section 5

ECOLOGICAL EMPHASIS

- Chapter 9, “Consumption and the Consumer Society,” Section 4
- Chapter 13, “The Economics of the Environment”

- Chapter 14, “Common Property Resources and Public Goods,” Sections 3–5
- Chapter 15, “Capital Stocks and Resource Management,” Section 2
- Chapter 21, “Macroeconomic Measurement: Social and Environmental Dimensions”
- Chapter 22, “The Structure of the United States Economy,” Sections 1 and 2
- Chapter 33, “Growth and Sustainability in the Twenty-First Century”

GLOBAL EMPHASIS

- Chapter 7, “International Trade and Trade Policy”
- Chapter 29, “The Global Economy and Policy”
- Chapter 32, “How Economies Grow and Develop”
- Chapter 33, “Growth and Sustainability in the Twenty-First Century”

HUMAN DEVELOPMENT EMPHASIS

- Chapter 21, “Macroeconomic Measurement: Environmental and Social Dimensions”
- Chapter 32, “How Economies Grow and Develop”

STRUCTURAL EMPHASIS

- Chapter 22, “The Structure of the United States Economy”
- Chapter 30, “Financial Instability and Economic Inequality”
- Chapter 31, “Deficits and Debt”

BEHAVIORAL ECONOMICS EMPHASIS

- Chapter 8, “Economic Behavior and Rationality,” Sections 2 and 3
- Chapter 9, “Consumption and the Consumer Society,” Sections 3 and 5

KEYNESIAN/POST-KEYNESIAN/INSTITUTIONALIST EMPHASIS

- Chapter 19, “Introduction to Macroeconomics,” Sections 3 and 4
- Chapter 28, “Aggregate Supply, Aggregate Demand, and Inflation: Putting It All Together,” Appendix Section A3
- Chapter 30, “Financial Instability and Economic Inequality”

MACRO-MODELING EMPHASIS

- Chapter 24, “An Algebraic Approach to the Multiplier,” Appendix
- Chapter 25, “Fiscal Policy,” Appendix
- Chapter 28, “Aggregate Supply, Aggregate Demand, and Inflation: Putting It All Together,” Appendix
- Chapter 29, “The Global Economy and Policy,” Section 4
- Chapter 32, “How Economies Grow and Develop,” Section 1

MONEY AND FINANCE EMPHASIS

- Chapters 26 and 27, “Money, Banking and Finance” and “The Federal Reserve and Monetary Policy”
- Chapter 30, “Financial Instability and Economic Inequality,” Sections 1 and 2
- Chapter 31, “Deficits and Debt”

POVERTY/INEQUALITY/SOCIAL JUSTICE EMPHASIS

- Chapter 9, “Consumption and the Consumer Society,” Section 3
- Chapter 10, “Markets for Labor,” Sections 2 and 3
- Chapter 11, “Economic and Social Inequality”
- Chapter 18, “Markets with Market Power,” Section 5
- Chapter 21, “Macroeconomic Measurement: Social and Environmental Dimensions”
- Chapter 23, “Employment, Unemployment, and Wages,” Section 3
- Chapter 32, “How Economies Grow and Develop,” Section 4

CONTRASTING SCHOOLS OF THOUGHT EMPHASIS

- Chapter 19, “Introduction to Macroeconomics,” Section 4
- Chapter 28, “Aggregate Supply, Aggregate Demand, and Inflation: Putting It All Together,” Section 4 and Appendix
- Chapter 33, “Growth and Sustainability in the Twenty-First Century,” Sections 4 and 5

PART

I

The Context for Economic Analysis



Taylor & Francis

Taylor & Francis Group

<http://taylorandfrancis.com>

0

Economics and Well-Being

What comes to your mind when you think of the word “economics”? Perhaps you think about things like money, the stock market, unemployment, gross domestic product (GDP), and supply and demand. These things are definitely important in our study of economics, and we will spend much of our time in this book studying these concepts.

But the goals of economics are about much more than these. As we will see in Chapter 1, economics is *the study of how people manage their resources to meet their needs and enhance their well-being*. The term “well-being” can mean different things to different people. Traditional economic indicators like growth, income, inflation, and unemployment clearly affect our well-being. But so does our health, the quality of our environment, our leisure time, our perceptions of fairness and justice, and many other factors. In this book, we will take an inclusive approach to well-being. Our study of economics will help you better understand many of the policies and outcomes we observe, and think about ways that we might be able to improve things. Many of the topics that we will study relate to current economic and political debates, such as economic inequality, the environment, taxes, and globalization.

The purpose of this introductory chapter is to provide an overview of many of the topics we will cover in more detail later in the book. You may find some of this information surprising. Sometimes data-based results differ from common perceptions and media representations. But we have tried to be as objective as possible by presenting a wide range of data from reliable sources. Good data are essential for informed debates about how to enhance well-being in our communities.

The information in this chapter is divided into three sections: time trends, showing how a particular variable changes over time; bar graphs showing data for different sections of the population or different industries; and bar graphs showing international comparisons. While we focus on the United States here, and in much of the rest of the book, it is important to see individual country data within the global context. If you are interested in the performance of specific countries we have not included here, detailed tables are available on the book’s companion website: www.gdae.org/principles.

The graphs that appear in this chapter are:

Time Trends

- | | |
|---------------------------------|--|
| 1. U.S. GDP per Capita | 7. Median Worker Earnings versus Corporate Profits |
| 2. U.S. Unemployment Rate | 8. Gender-Based Earnings Inequality |
| 3. U.S. Inflation Rate | 9. Global International Trade |
| 4. Taxes as a Percentage of GDP | 10. Global Carbon Dioxide Emissions |
| 5. Stock Market Performance | |
| 6. Median Home Prices | |

Bar Graphs for the United States

- | | |
|---------------------------|-------------------------------------|
| 11. Income Inequality | 13. Educational Attainment |
| 12. Unequal Income Growth | 14. Industrial Concentration Ratios |

International Comparisons

- | | |
|---|--|
| 15. GDP per Capita | 24. Trade Balance (Percent of GDP) |
| 16. Recent Growth Rate of GDP per Capita | 25. Income Inequality (Gini Coefficient) |
| 17. Net National Savings | 26. CEO Pay versus Worker Pay |
| 18. Government Debt | 27. Absolute Poverty |
| 19. Labor Productivity | 28. Foreign Aid (Donors) |
| 20. Average Annual Hours Worked | 29. Foreign Aid (Recipients) |
| 21. Unemployment Rate (Percent of Labor Force) | 30. Internet Users |
| 22. Inflation | 31. Educational Performance |
| 23. Taxes Received by Central Government (Percent of GDP) | 32. Life Expectancy |
| | 33. Subjective Well-Being |
| | 34. Carbon Dioxide Emissions per Capita |
| | 35. Local Air Quality |

International comparison rankings are based on the available data, including the highest and lowest values for each variable. While there are over 200 countries in the world, data are not available for all countries for each variable, so the number of countries ranked for each variable differs.¹ The United States is shown in a different color. The rankings are presented with the “highest” at the top and the “lowest” at the bottom. However, this does not always mean that it is best to be at the top. For example, we present graphs showing unemployment rate, the percentage of people living in absolute poverty, and carbon dioxide emissions per capita. Obviously, it is not a good thing to be ranked first (the highest) for these variables.

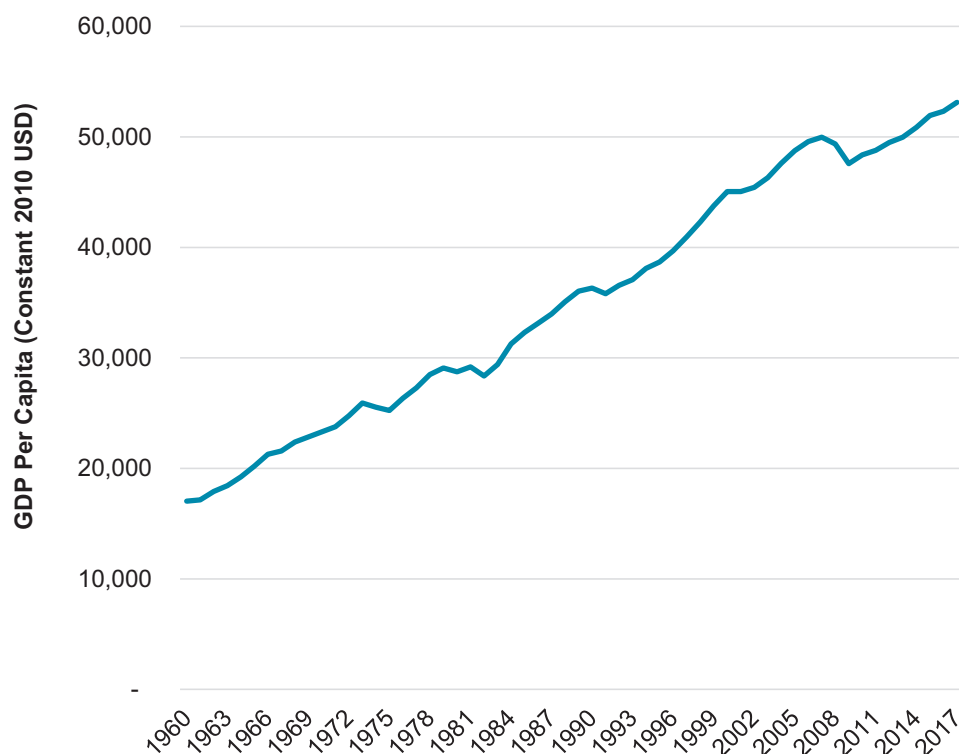
¹ In our discussion of bar graphs showing international comparisons, we use the classification provided by the World Bank to categorize countries into high-income, middle-income, and low-income groups based on their gross national income (GNI) per capita. Countries with GNI per capita of \$1,025 or less in 2015 are categorized as low income. Countries with GNI per capita between \$1,026 and \$4,035 are categorized as lower middle-income, and those with GNI per capita between \$4,036 and \$12,475 are categorized as upper middle-income. Countries with GNI per capita above \$12,475 are categorized as high-income countries.

1. U.S. GDP PER CAPITA

What it is: GDP, or Gross Domestic Product, is a measure of the total value of goods and services produced in a country. As discussed in Chapters 20 and 21, there are controversies about exactly what is covered, or not covered, by GDP, but the measure is used very widely as an index of the status and growth of an economy. GDP can be seen both as a measure of product and of income. GDP per capita, shown here, is GDP divided by the country's population, and the time trend of GDP per capita shows how average income changes over time.

The results: U.S. GDP per capita has increased nearly threefold since 1960. The progression has not been entirely smooth, with pauses and declines especially during periods of economic recession, but the overall trend is upwards. One of the largest breaks in this trend was the recession of 2007–2009, discussed in detail in Chapters 28 and 30. As the graph shows, GDP per capita started to recover after 2010, but remained below its 2007 peak until 2013. GDP per capita has continued to grow, reaching over \$53,000 in 2017.

Figure 0.1 **GDP per Capita, 1960–2017 (Constant 2010 USD)**



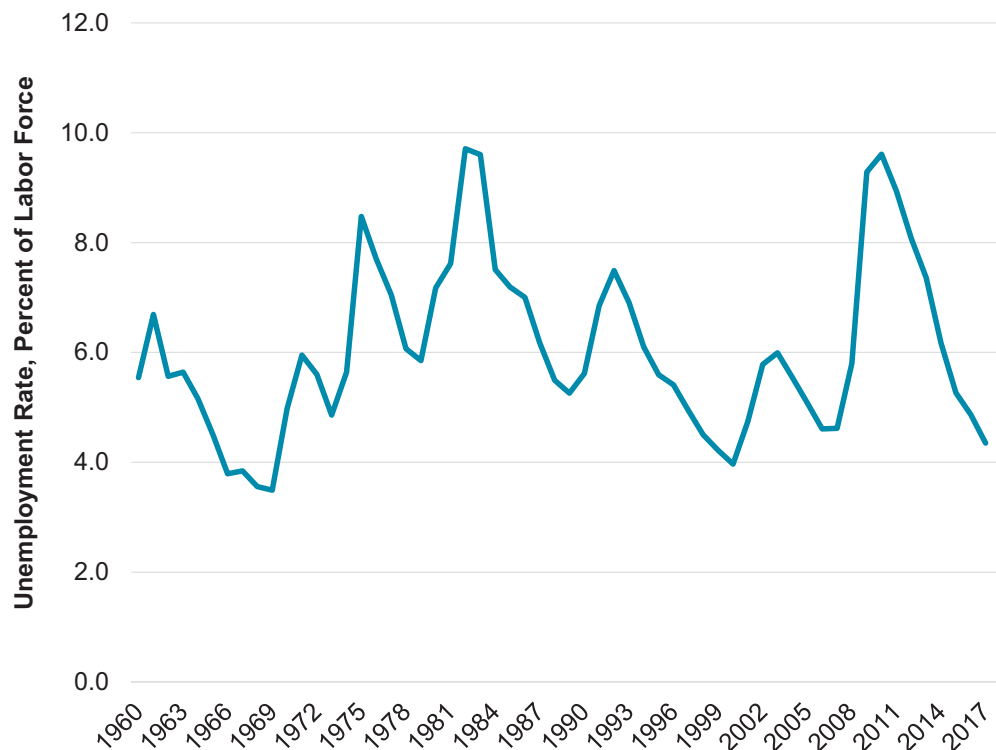
Source: World Bank, World Development Indicators database.

2. U.S. UNEMPLOYMENT RATE

What it is: The unemployment rate is a measure of the proportion of people in the labor force who are seeking jobs but unable to find them (discussed in detail in Chapter 23). The measure does not include people who have part-time work but would like full-time work, nor does it include “discouraged workers” who have given up looking for work. The unemployment rate typically falls during economic expansions, and rises during and immediately after economic recessions.

The results: U.S. unemployment has varied since 1960 between about 3 and 10 percent. In expansionary periods such as the late 1960s and the late 1990s, it was between 3.5 and 5 percent. In recessions it has typically risen above 6 percent, with peaks of between 8 and 10 percent in 1975, 1982, and 2010, resulting from severe recessions. Since 2016, the unemployment rate has remained below 5 percent, and in September 2018 it reached a nearly five-decade low of 3.7 percent, suggesting strong labor market conditions.

Figure 0.2 Unemployment Rate (Annual average) 1960–2017



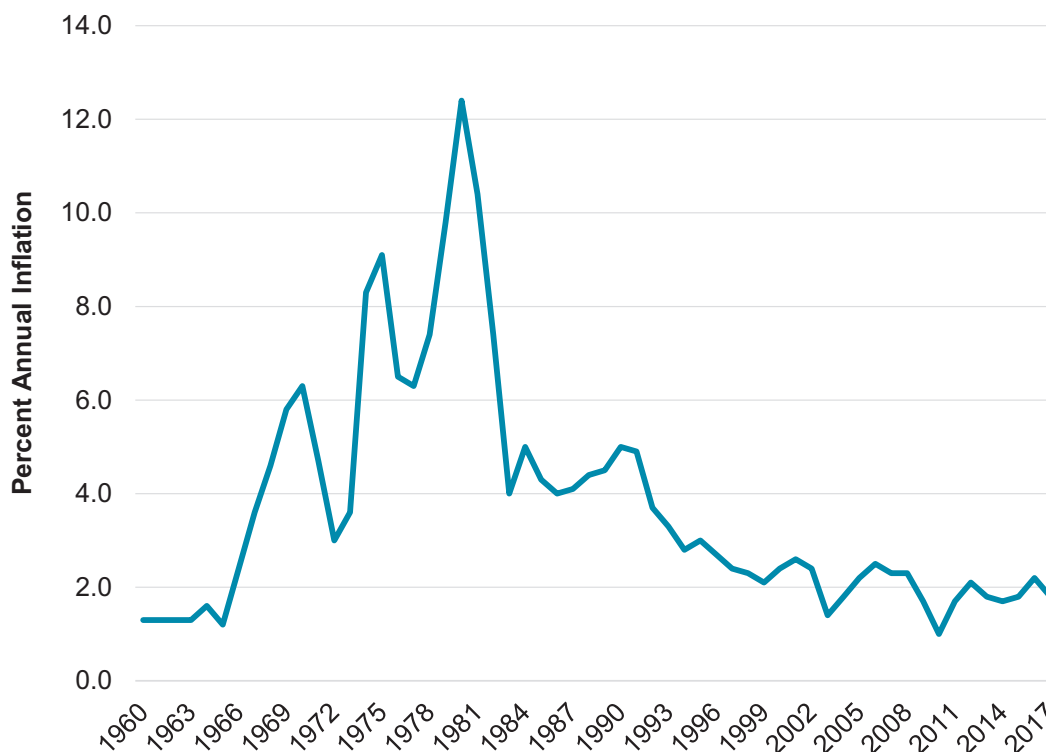
Source: U.S. Bureau of Labor Statistics, Current Population Survey, 2018.

3. U.S. INFLATION RATE

What it is: The inflation rate is a measure of the average increase in prices between one year and the next. It is measured by the change in the Consumer Price Index, discussed in Chapter 20. There are various versions of the Consumer Price Index (CPI); the graph below is based on the CPI-U, which measures the cost of living in urban areas.

The results: The U.S. inflation rate has varied considerably since 1960, with noticeable peaks in the late 1970s and early 1980s. At these times, the inflation rate rose above 10 percent (referred to as “double-digit inflation”). This level of inflation is considered significantly harmful to an economy, as discussed in Chapters 26–28. Since 1992, inflation rates in the United States have generally been fairly low, not rising above 4 percent, and averaging around 2 percent. During the 2007–2009 recession, inflation briefly fell to zero, arousing concern about deflation—negative inflation or generally falling prices. (Although some might think that falling prices would be a good thing, sustained deflation can be very damaging to businesses and reduce employment, as occurred during the Great Depression of the 1930s.)

Figure 0.3 Inflation Rate, 1960–2017



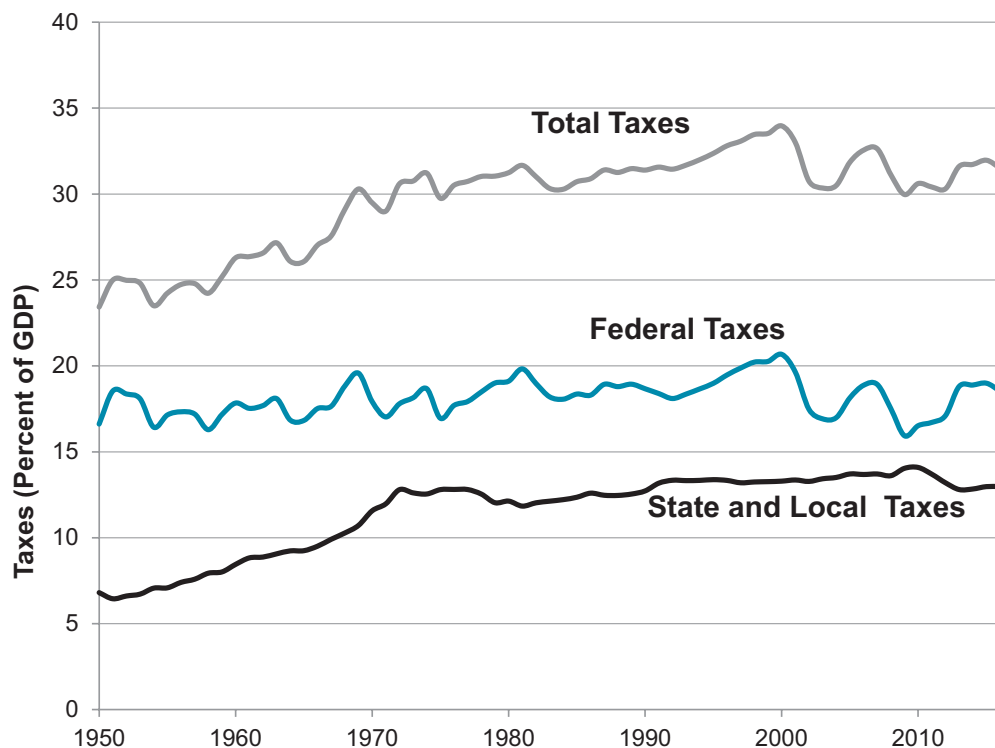
Source: U.S. Bureau of Labor Statistics, Consumer Price Index (CPI-U), 2018.

4. TAXES AS A PERCENTAGE OF GDP

What it is: The graph below shows tax collections in the United States over the period 1950–2016, measured as a percentage of GDP. Total taxes are divided into federal taxes and state and local taxes.

The results: Total tax collections in the United States gradually increased from about 25 percent of GDP in the 1950s to close to 35 percent of GDP in the late 1990s. Since then, federal tax revenues have fluctuated—falling during recessions and increasing during economic recoveries. While surveys of Americans show that many people believe taxes have gone up in recent years (particularly federal taxes), this is generally not true. We will discuss taxes in more detail in Chapters 12 and 25.

Figure 0.4 Taxes as a Percentage of GDP, 1950–2016



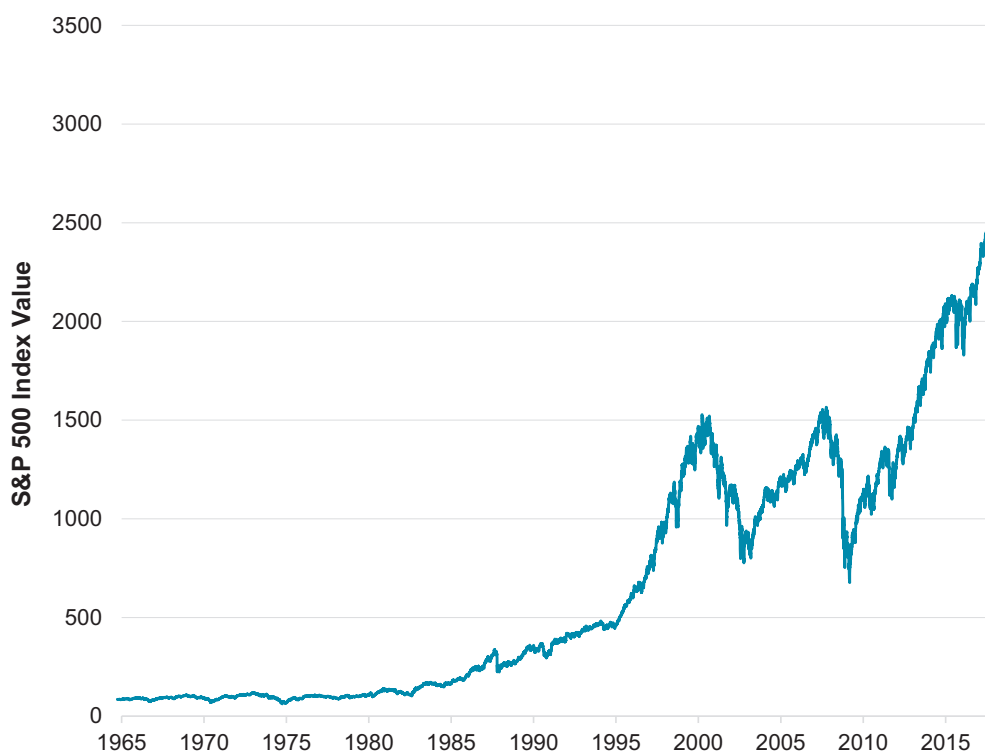
Source: U.S. Bureau of Economic Analysis, online database.

5. STOCK MARKET PERFORMANCE

What it is: Media stories about the economy often focus on the performance of the stock market. Several common stock indices, such as the Dow Jones Composite, the Nasdaq Composite, and S&P (Standard & Poor's) 500 Index, provide a broad overview of stock market prices. The graph below shows the value of the S&P 500 Index from 1965 to early 2018. The S&P 500 Index is calculated based on the stock prices of 500 large, mostly American, companies.

The results: From 1965 to 2000, the S&P 500 Index rose from about 100 to over 1,500. Since 2000, there have been two major “crashes” in the American stock market. Recovering from the Great Recession, the S&P 500 increased by about 300 percent between 2009 and 2018. While we won't discuss the stock market in much detail in this book, we will spend considerable time discussing how markets operate, including the factors that lead to price fluctuations.

Figure 0.5 **Stock Market Performance, 1965–2017**



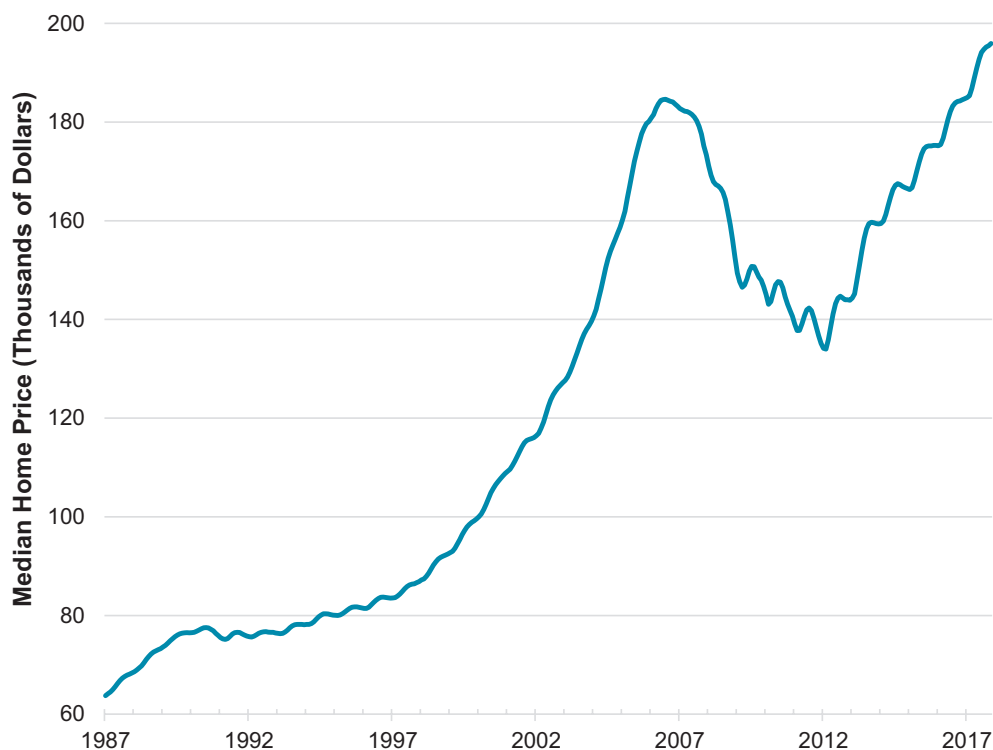
Source: Yahoo Finance, <https://finance.yahoo.com/quote/%5EGSPC?p=^GSPC>

6. MEDIAN HOME PRICES

What it is: The “median” price of home sales is the price at which half of homes sell for more than this price, and half sell for less. The graph below shows median home prices in the United States over the period 1987 to mid-2018. The prices have not been adjusted for inflation.

The results: The median price of houses in the United States increased by a factor of three between 1987 and 2007. Then the housing bubble burst, and home prices fell by about one-third. Since then home prices have recovered to their previous levels. Our discussion of markets, beginning in Chapter 3 and covering most of the chapters in this book, will help you understand how markets operate.

Figure 0.6 Median Home Prices, 1987–2018



Source: Federal Reserve Bank of St. Louis, Case-Shiller U.S. National Home Price Index.

7. MEDIAN WORKER EARNINGS VERSUS CORPORATE PROFITS

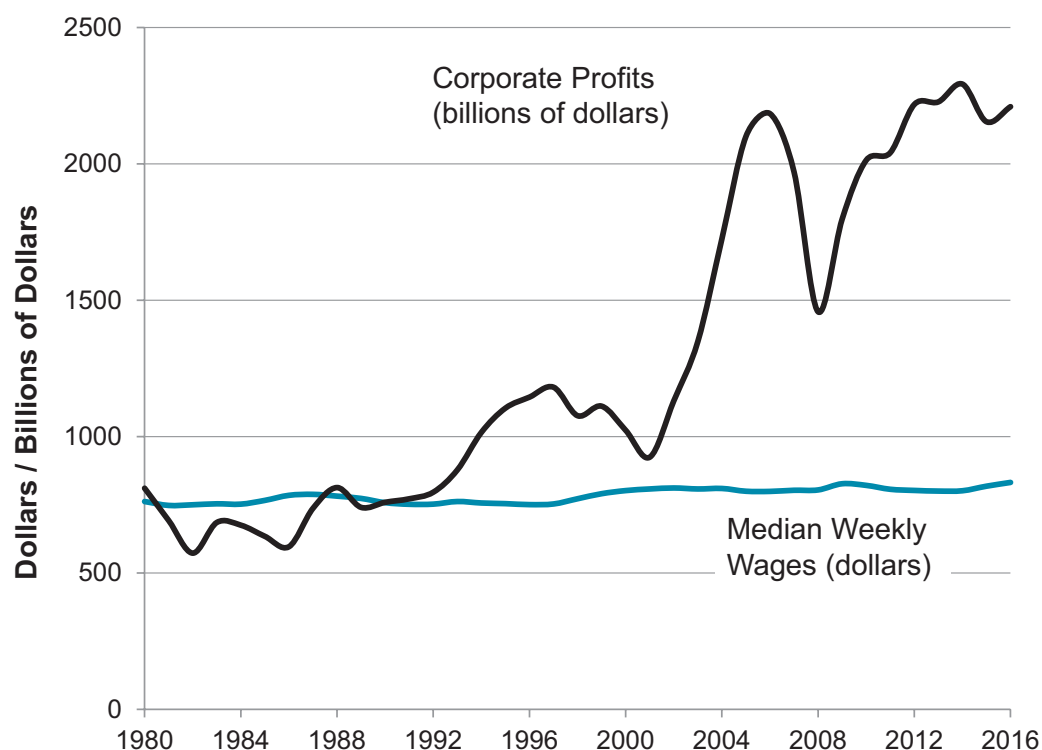
What it is: The graph below shows the change in two variables over the period 1980 to 2016 in the United States:

1. Total corporate profits, measured in billions of dollars
2. Median weekly earnings for American workers, measured in dollars

The data for both variables have been adjusted for inflation. Note that the vertical axis is measured in dollars for median worker earnings and billions of dollars for corporate profits.

The results: Corporate profits have fluctuated based on the health of the overall economy, but we see that profits have reached record highs recently. Corporate profits in 2016 were about three times their level in 1980. Meanwhile, the median wages of U.S. workers have essentially not changed at all since 1980. We will discuss wages in more detail in Chapters 10 and 23, including the reasons why wages have not risen in proportion to corporate profits.

Figure 0.7 Median Worker Earnings vs. Corporate Profits, 1980–2016



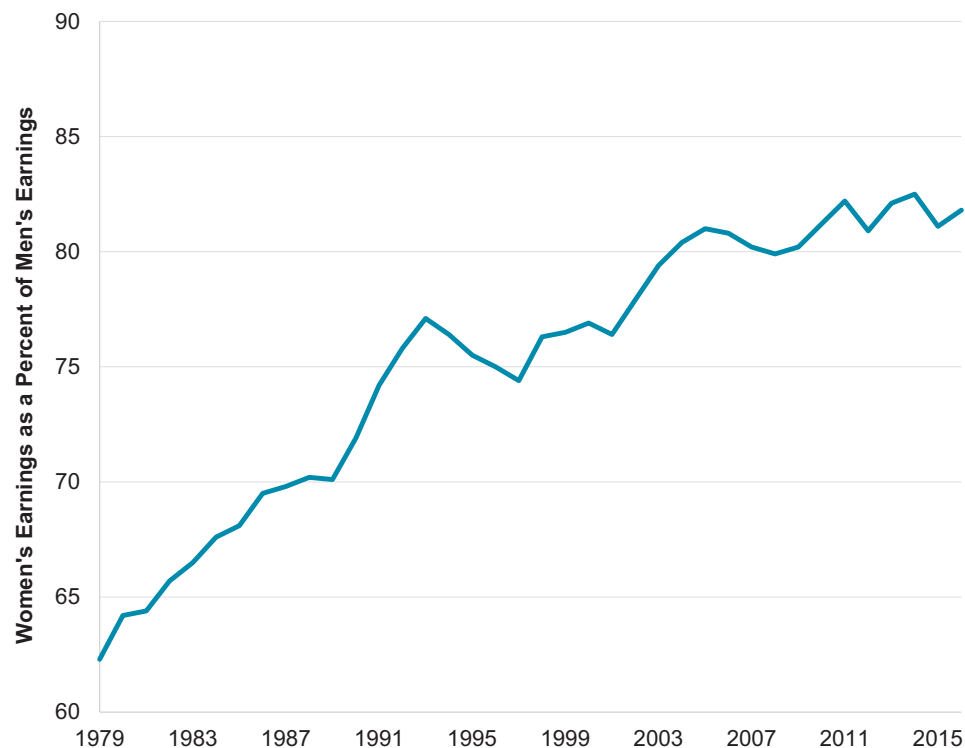
Sources: Federal Reserve Bank of St. Louis, National Income: Corporate Profits before Tax; U.S. Bureau of Labor Statistics, Weekly and Hourly Earnings Data from the Current Population Survey.

8. GENDER-BASED EARNINGS INEQUALITY

What it is: The “gender wage gap” is the difference in median earnings between men and women who work full time. The graph below shows women’s median earnings in the United States as a percentage of men’s median earnings, over the period 1979 to 2016.

The results: In 1979 women working full time in the United States only earned 62 percent of what men earned. During the 1970s and 1980s, the gender wage gap closed considerably. By the early 2000s, women working full time earned about 80 percent of what men earned. Since then, the wage gap has remained relatively constant. In 2016, women earned 82 percent of what men earned. Is this clear evidence of gender discrimination? We’ll discuss this topic in more detail in Chapter 10.

Figure 0.8 Gender-Based Earnings Inequality, 1979–2016



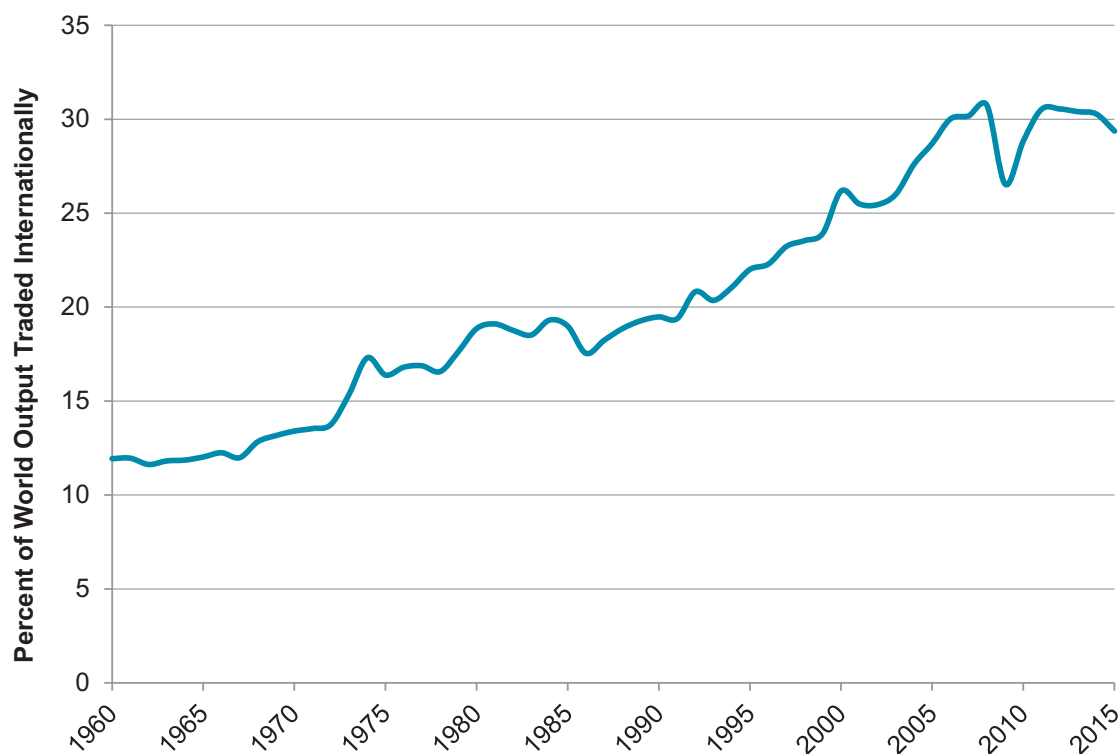
Source: U.S. Bureau of Labor Statistics. 2017. “Highlights of Women’s Earnings in 2016.” Report 1069.

9. GLOBAL INTERNATIONAL TRADE

What it is: The graph below shows the percentage of world economic production (called “gross world product”) that is traded across international borders over the period 1960 to 2015. This is one way to get a quick, partial snapshot of the degree of “globalization.”

The results: At least as measured by international trade, the world has clearly become more globalized in recent decades. About 12 percent of all goods and services produced in the world were traded in 1960. Currently about 30 percent of world production is traded internationally. We can see that the global financial crisis of 2007–2009 temporarily reduced international trade, but that it has since recovered to previous levels. We will discuss the topic of international trade further in Chapters 7 and 29.

Figure 0.9 Global International Trade, 1960–2015



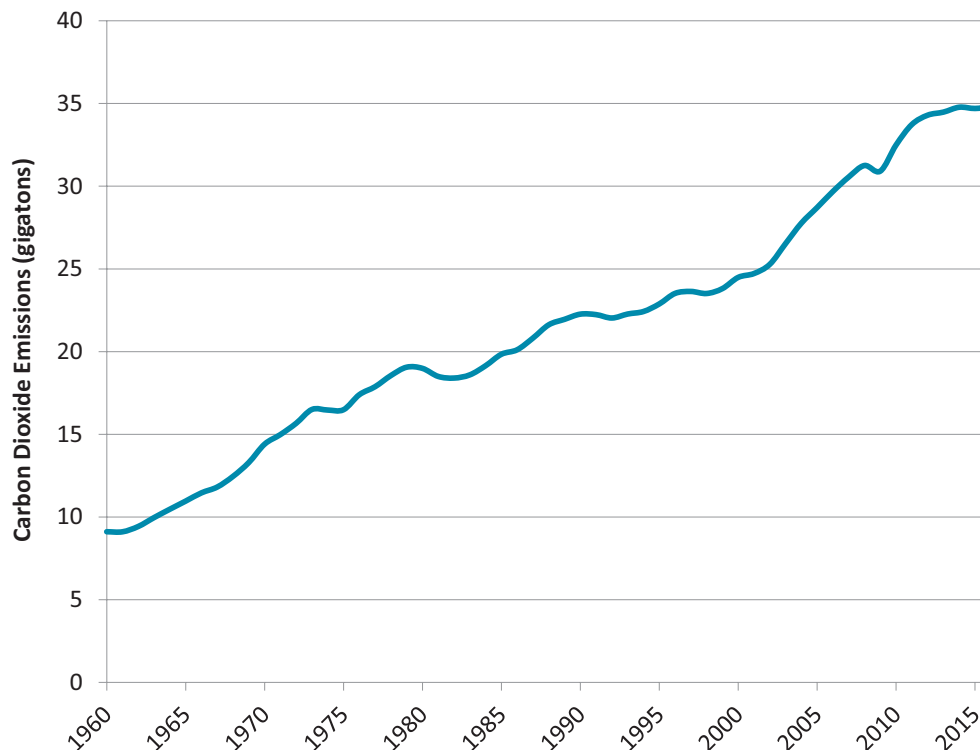
Source: World Bank, World Development Indicators database.

10. GLOBAL CARBON DIOXIDE EMISSIONS

What it is: The vast majority of scientists believe that human activities are impacting the global climate. Carbon dioxide emissions, which result when oil, coal, and natural gas are burned, have been identified as the primary cause of global climate change. The graph below shows global carbon dioxide emissions from 1960 to 2016, measured in gigatons (a gigaton is a billion metric tons).

The results: We see that global carbon dioxide emissions increased from about 10 gigatons in 1960 to about 35 gigatons recently. While most projections indicate that global carbon dioxide emissions will continue to increase in the future, scientists note that emissions will need to decrease substantially in the next few decades to avoid significant negative consequences to the global ecosystem and to human societies. We will discuss global climate change in more detail in Chapters 14 and 33.

Figure 0.10 Global Carbon Dioxide Emissions, 1960–2016



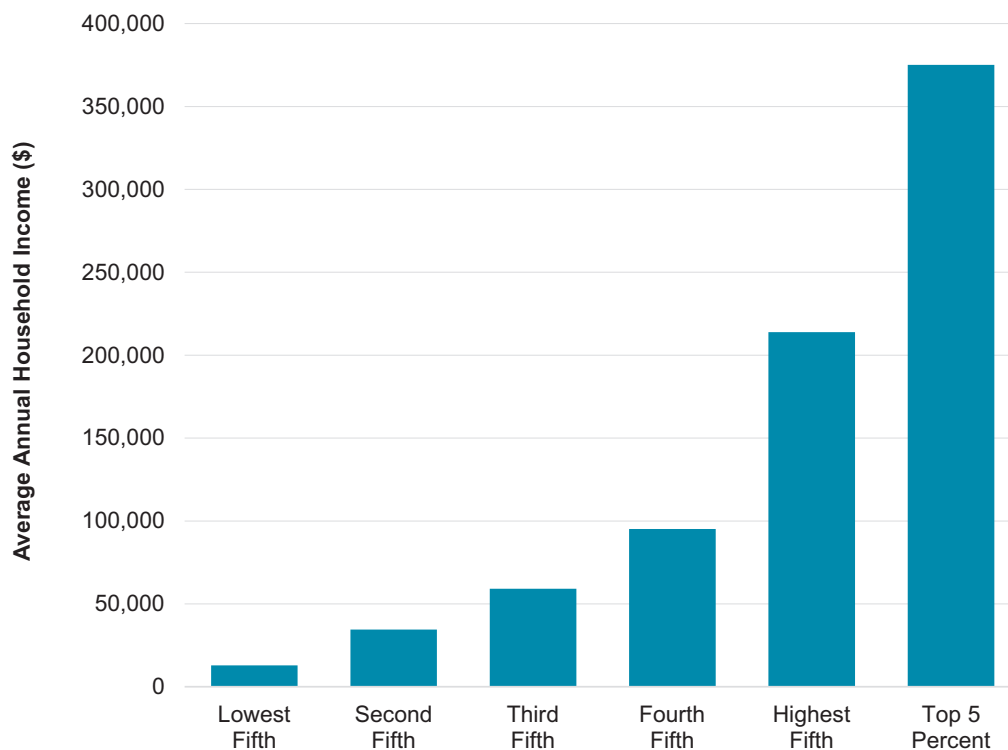
Source: Global Carbon Project. Global Carbon Atlas. <http://www.globalcarbonatlas.org/en/content/welcome-carbon-atlas>.

11. INCOME INEQUALITY

What it is: The graph below shows the average household income for different income groups in the United States, based on 2016 data. Each group represents one-fifth of American households, except for the last group which includes only the top 5 percent.

The results: For American households with income in the bottom fifth, average income in 2016 was only about \$13,000. For those in the middle fifth, household income averaged nearly \$60,000. Those in the top fifth had an average household income of about \$210,000. Average household income was over \$375,000 for the top 5 percent. Note that these are average values, so some households in each group made less than these income values, while some made more. We will discuss income inequality, including its causes, in more detail in Chapters 11 and 30.

Figure 0.11 **Income Inequality, 2016**



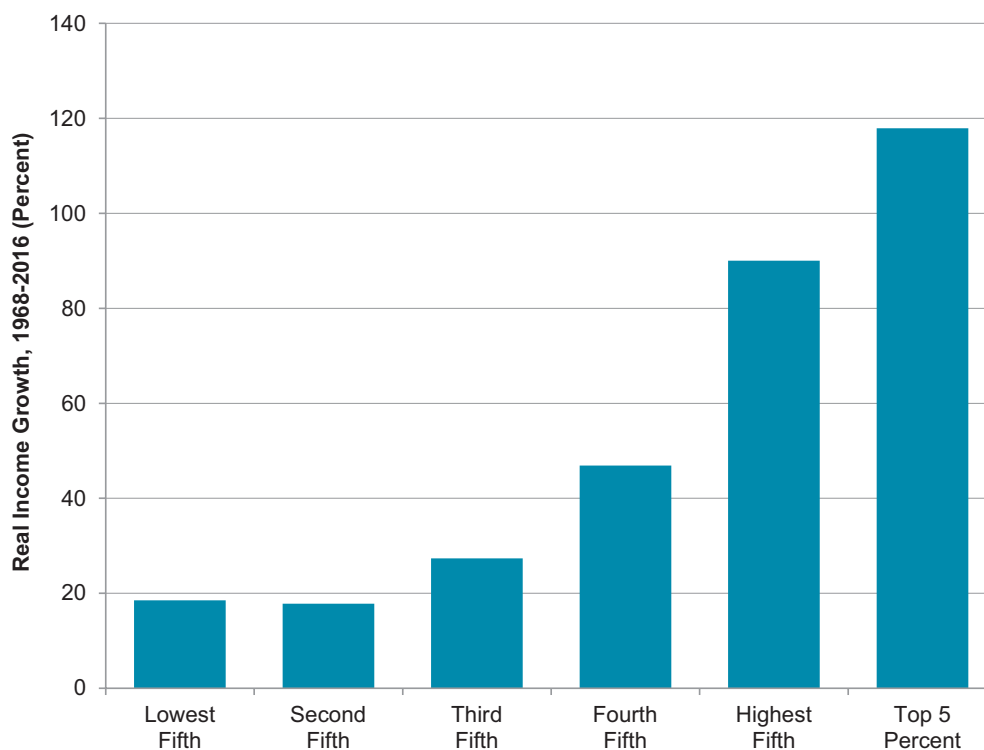
Source: U.S. Census Bureau. 2017. "Historical Income Tables: Households," Table H-3.

12. UNEQUAL INCOME GROWTH

What it is: The graph below shows the growth in household income for different income groups in the United States, over the period 1968–2016. Similar to the previous graph, each group represents one-fifth of American households, except for the last group which includes only the top 5 percent. The data have been adjusted for inflation.

The results: You’ve probably heard the saying that “The poor get poorer and the rich get richer.” That’s close, but not quite true. We see that those at the bottom of the income distribution did see small income gains in recent decades. Those in the middle did a little better. But the largest gains, by far, were obtained by those at the top, particularly those in the top 5 percent. The graph tells us that income inequality has increased considerably in recent decades. We will discuss trends in income inequality in more detail in Chapters 11 and 30.

Figure 0.12 Unequal Income Growth, 1968–2016



Source: U.S. Census Bureau. 2017. “Historical Income Tables: Households,” Table H-3.

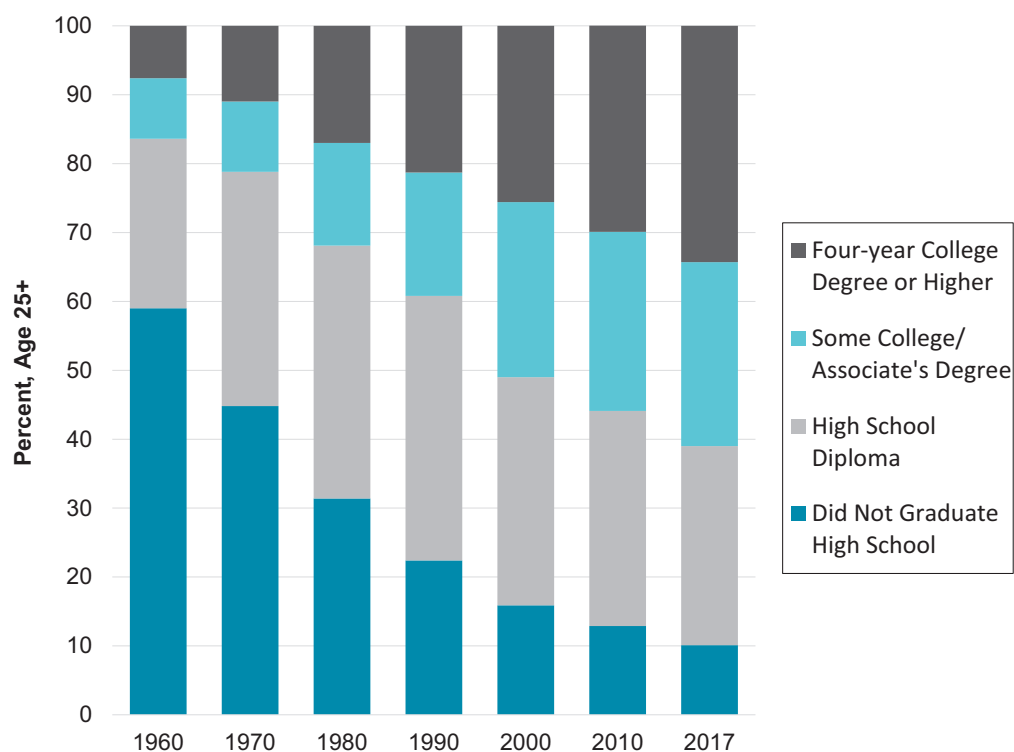
Note: We use 1968 as the starting year in this analysis because it is the year in which income inequality in the United States started to increase, as we will discuss in Chapter 11.

13. EDUCATIONAL ATTAINMENT

What it is: Education is an important type of “human capital”—a term economists use to describe the knowledge and skills people possess that allows them to engage in production activities. The graph below shows the maximum educational attainment for Americans age 25 and over in 1960, 1970, 1980, 1990, 2000, 2010, and 2017. Each column adds up to 100 percent, but the percent falling into each education category varies with changes in educational attainment.

The results: In 1960, about 58 percent of Americans age 25 and over had not graduated high school, and less than 10 percent had a college degree or higher. We see that educational attainment has increased each decade, but still only about 34 percent of adult Americans have a college degree or higher. We will discuss the relationship between education and wages in Chapter 10 and education as a form of human capital in Chapter 15.

Figure 0.13 **Educational Attainment**



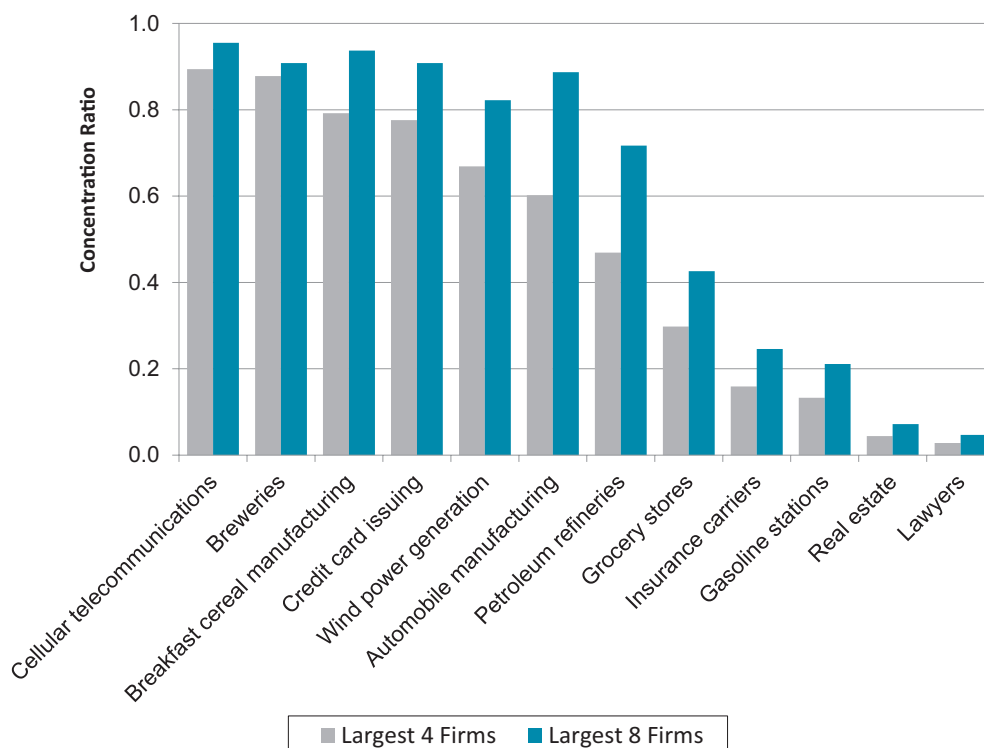
Sources: U.S. Census Bureau, Educational Attainment, CPS Historical Time Series Tables, Table A-1; U.S. Census Bureau, Educational Attainment in the United States: 2017, Table 1.

14. INDUSTRIAL CONCENTRATION RATIOS

What it is: An industrial concentration ratio measures the percentage of all sales in a particular industry that are received by the largest firms in that industry. The figure below shows four-firm and eight-firm concentration ratios—the percentage of all sales received by the largest four and eight firms in each industry. Industrial concentration ratios provide information about the degree of market power held by large firms in a particular industry.

The results: Some industries in the United States are dominated by a few firms, while other industries are more competitive. Examples of industries with a few dominant firms include cell phone services, cereals, and credit cards. Examples of industries where market power is not so concentrated include insurance, gas stations, and lawyers. We will discuss market power in more detail in Chapter 18.

Figure 0.14 Industrial Concentration Ratios, 2012



Source: U.S. Census Bureau, 2012 Economic Census.

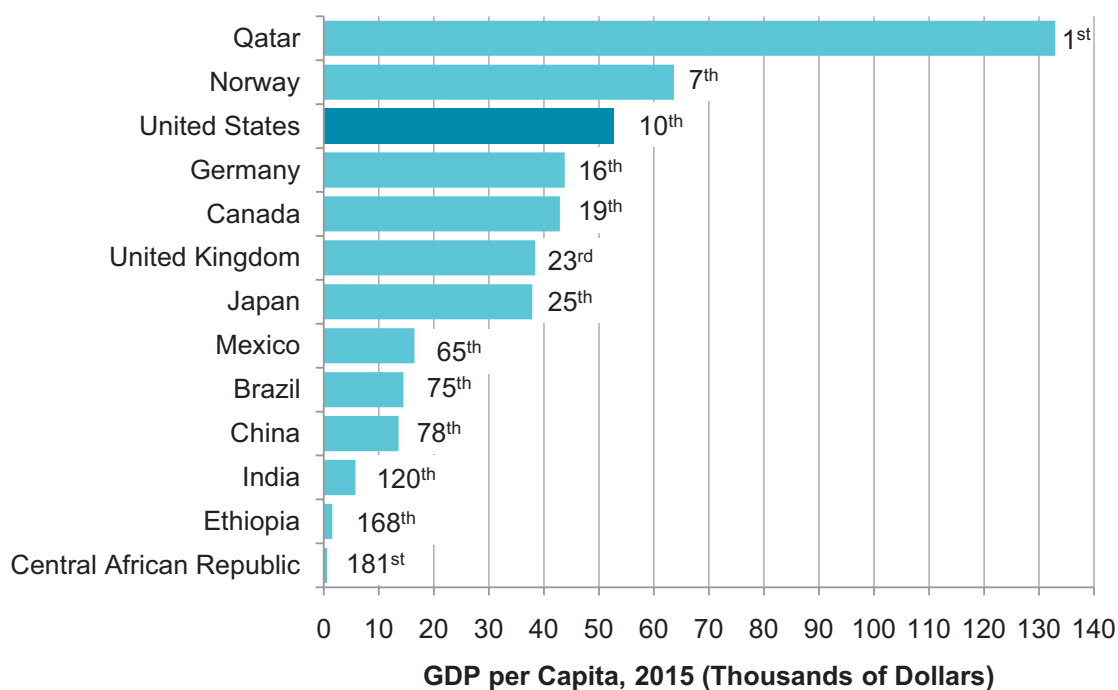
Note: Manufacturing concentration ratios based on value-added. All other concentration ratios based on revenues.

15. GDP PER CAPITA

What it is: Media stories of economic performance frequently refer to GDP. A country's GDP per capita measures economic production per person per year, which gives us an idea of the average material living standards in the country. While GDP is perhaps the most commonly used macroeconomic metric, it does not necessarily measure well-being. We discuss how GDP is calculated in Chapter 20 and about the limitations of, and alternatives to, GDP in Chapter 21.

The results: The United States ranks tenth, with a GDP per capita of around \$52,000. Qatar has the world's highest GDP per capita at around \$133,000, with the country's economy driven by its oil and gas sectors. The Central African Republic has the lowest GDP per capita, at only \$580.

Figure 0.15 GDP per Capita, 2015 (Thousands of Dollars)



Source: World Bank, World Development Indicators database.

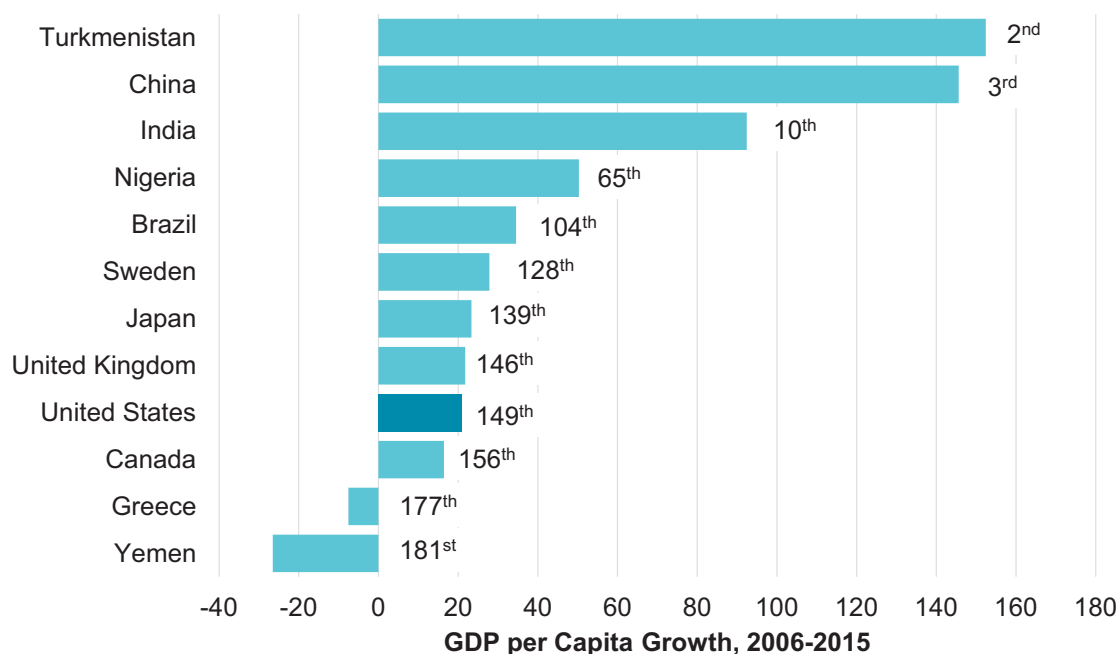
Note: Data are adjusted for purchasing power differences across countries (e.g., a dollar in India buys more than a dollar in the United States).

16. RECENT GROWTH RATE OF GDP PER CAPITA

What it is: In macroeconomics, we seek to explain not only why some countries have a higher GDP per capita but also what conditions lead to strong GDP growth rates. In this graph we compare the growth in GDP per capita, after adjusting for inflation, across countries over the ten-year period 2006–2015. We discuss measuring GDP growth rates in Chapter 20 and theories of GDP growth in Chapter 32.

The results: GDP per capita grew rapidly from 2006 to 2015 in some countries, slowly in others, and even declined in several countries. The highest growth in GDP per capita (excluding some tiny countries with exceptional circumstances) occurred in Turkmenistan, primarily from oil and gas development, with high growth also in China, Myanmar, Ethiopia, and India. The fastest growth among developed countries took place in Ireland as it recovered from a severe recession in 2007–2008. Countries with declines in GDP per capita include Yemen, Central African Republic, United Arab Emirates, Kuwait, Greece, Brunei, and the Bahamas.

Figure 0.16 Growth in GDP per Capita, 2006–2015 (Percent)



Source: World Bank, World Development Indicators database.

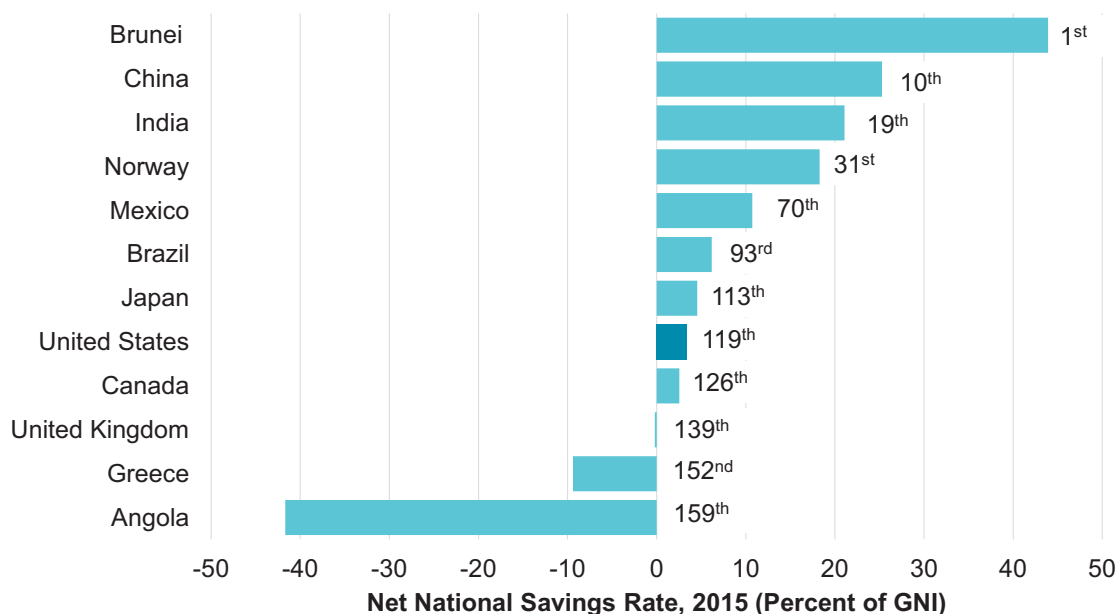
Note: Data are adjusted for purchasing power differences.

17. NET NATIONAL SAVINGS

What it is: How much a country saves and invests is widely considered an important factor in explaining differences in GDP growth rates. Here we present data on net national savings rates, which equal total national savings minus the depreciation of productive capital such as factories and machinery. A negative net national savings rate implies that a country's productive capacity is declining. We discuss saving, investment, and growth in detail in Chapter 32.

The results: In 2015, Brunei—another country with oil and gas as major sources of national income—had the highest net national saving rate. Other countries with high savings rates include Singapore, Qatar, Philippines, and China. Twenty-one countries (among those with data) had a negative net savings rate in 2015, including the United Kingdom, Portugal, and Greece.

Figure 0.17 **Net National Savings Rate, 2015 (Percent of GNI)**



Source: World Bank, World Development Indicators database.

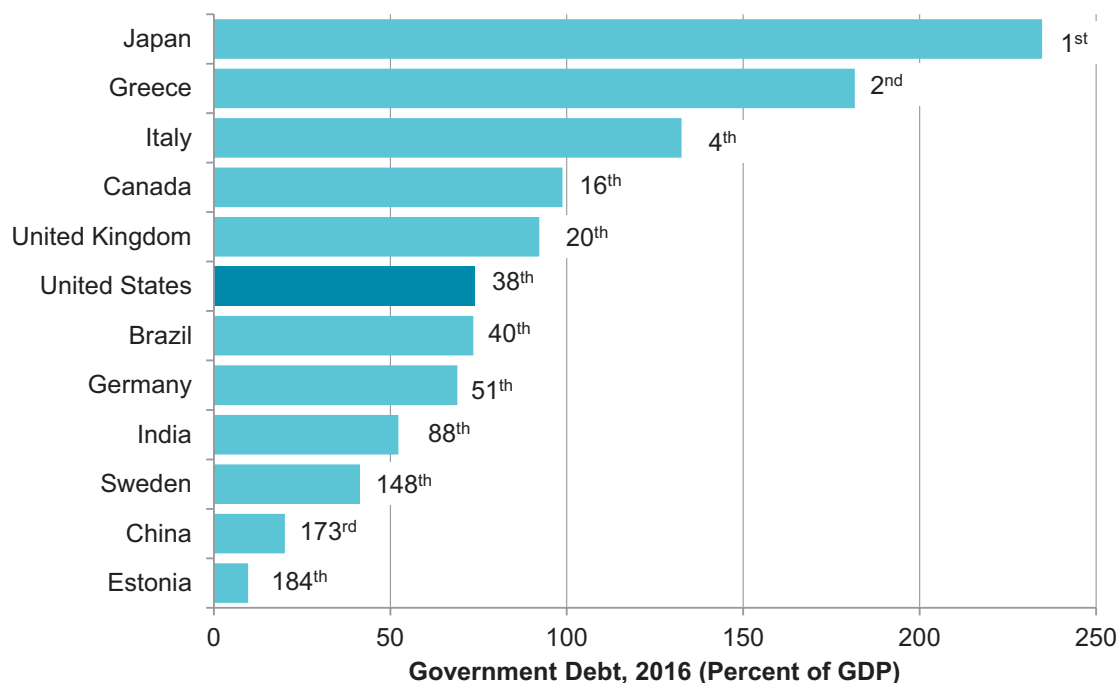
Note: GNI is gross national income, a measure similar to gross domestic product, but including income from residents abroad and excluding income earned by foreigners within the country. GNI is also sometimes referred to as Gross National Product (GNP).

18. GOVERNMENT DEBT

What it is: The level of government debt has been a focus of media stories in recent years. What matters is not so much the size of debt in dollars but government debt relative to a country's GDP. This variable portrays the amount of debt owed by the governments of different countries, including debts owed to domestic and foreign entities. What level of debt should be considered a problem? This is a topic we discuss in more detail in Chapter 31.

The results: In 2016, Japan had the highest government debt in the world, measured as a percentage of GDP, followed by Greece and Lebanon. The United States had the thirty-eighth-highest debt, but many other developed countries had higher debt, including Singapore, Canada, France, and the United Kingdom. Some developing countries, such as Liberia and Tajikistan, have relatively low government debt.

Figure 0.18 **Government Debt (Percent of GDP)**



Source: United States Central Intelligence Agency, *CIA World Factbook*.

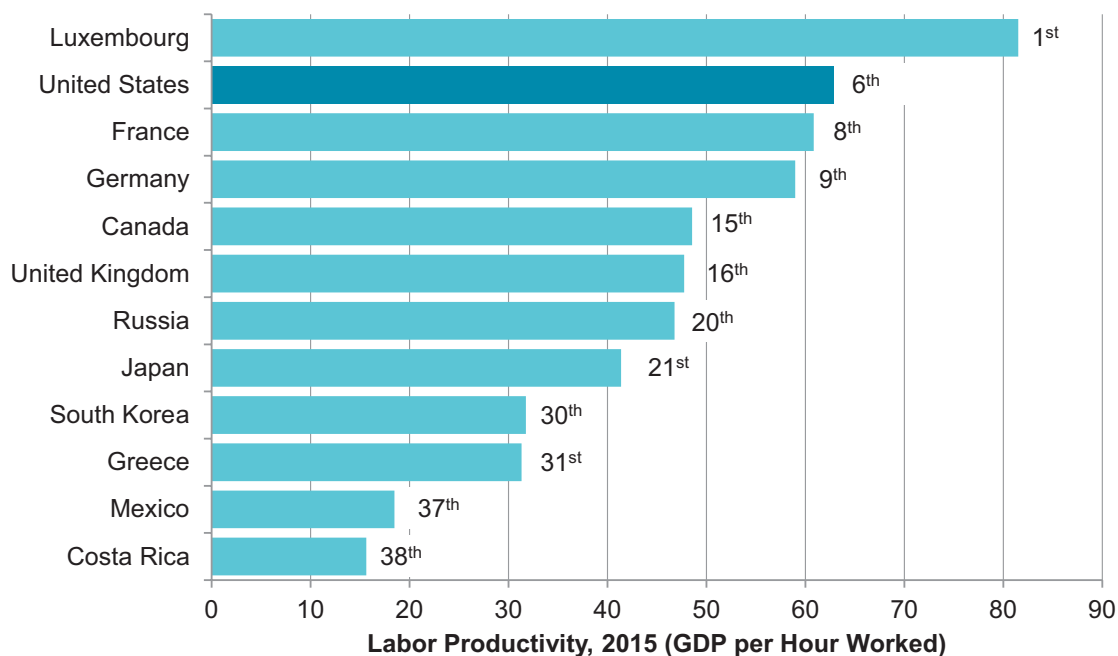
Note: Data are mostly 2016 estimates.

19. LABOR PRODUCTIVITY

What it is: One measure of the economic efficiency of a country is labor productivity. This is calculated by dividing a country's GDP by an estimate of the total number of hours worked. Thus, labor productivity tells us how many dollars of GDP are generated for each hour worked. We present more about labor productivity in Chapters 22 and 23.

The results: Data on labor productivity are available for only 38 countries. Luxembourg has the highest labor productivity in the world. The United States ranks sixth, behind Norway, Ireland, Belgium, and Denmark. Productivity is slightly lower in France and Germany. Less developed countries have lower labor productivity. We see that productivity in Mexico is only about one-third of the U.S. level.

Figure 0.19 Labor Productivity, 2015 (GDP per Hour Worked)



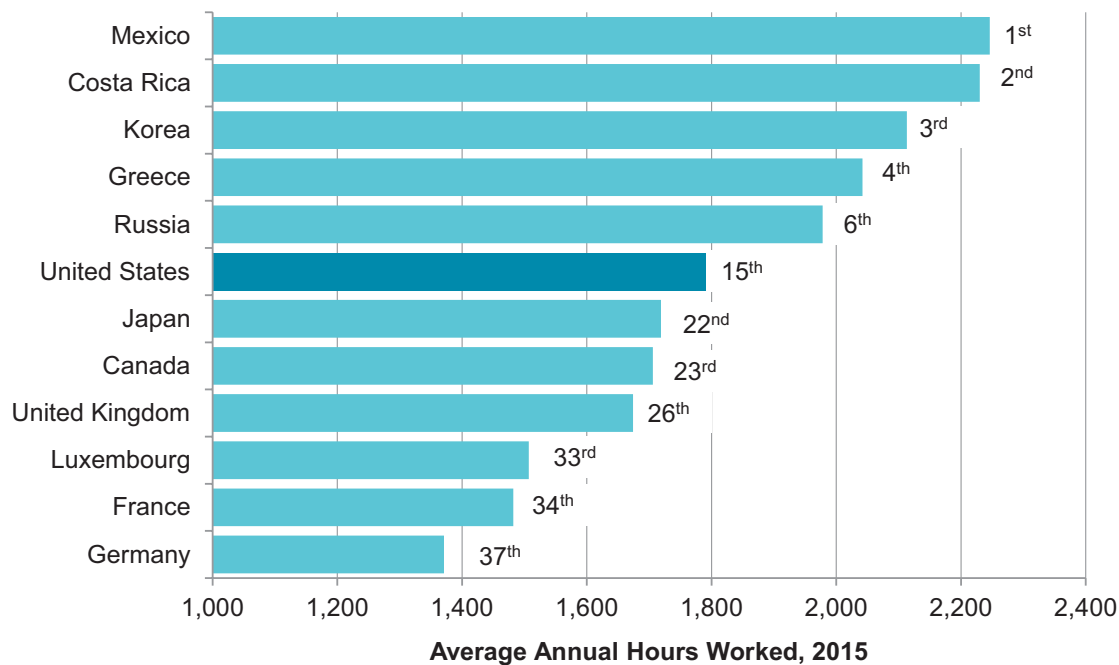
Source: Organisation for Economic Co-operation and Development, OECD online statistical database.

20. AVERAGE ANNUAL HOURS WORKED

What it is: Even if two countries have the same labor productivity, their GDP will differ if the number of hours worked are different. This graph shows the average number of hours worked each year per employee. Note that this includes only hours actually worked; vacations, holidays, and sick days are excluded. Thus, the average annual hours worked in a country may be high if work expectations are more stringent and time off is limited. Work hours may also be high if workers choose to work long hours and there are very few part-time workers. We discuss work hours further in Chapters 10 and 23.

The results: Data on hours worked are available for only 37 countries. The average annual hours worked per employee are lowest in Germany. Other countries with relatively low annual work hours are the Netherlands, Norway, Denmark, and France. One reason for the relatively low work hours in these countries is federal laws that mandate minimum vacation times and paid holidays. In the United States, where such laws do not exist, average work hours are higher. Work hours tend to be highest among countries with lower levels of GDP per capita. In 2015, Mexico had the highest average annual hours worked, followed by Costa Rica and South Korea.

Figure 0.20 **Average Annual Hours Worked, 2015**



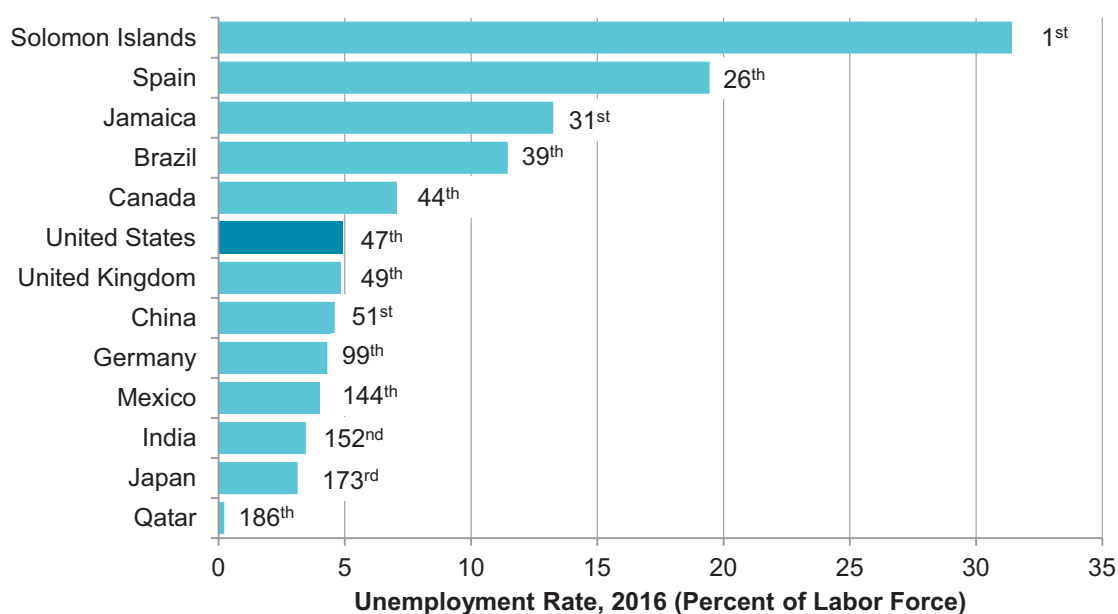
Source: Organisation for Economic Co-operation and Development. OECD online statistical database.

21. UNEMPLOYMENT RATE (PERCENT OF LABOR FORCE)

What it is: The unemployment rate in a country is an important macroeconomic metric. Not only does having a job provide a source of income, but it also provides a sense of identity and contributes to overall well-being. Estimating the unemployment rate is somewhat complex, and the method used to measure unemployment rate may differ across countries. In Chapter 23 we discuss issues involved in estimating the unemployment rate including defining what it means to be in the workforce.

The results: Unemployment rates vary tremendously across countries and they also fluctuate a lot over time. In 2016, Qatar had the lowest official unemployment rate at 0.2 percent, and Solomon Islands—a small nation located in the south Pacific Ocean—had the highest unemployment rate at about 31 percent. While many poor countries, such as Mozambique, Swaziland, and Lesotho, have very high unemployment rates (20 percent or more), other poor countries such as Cuba and Bhutan have rather low unemployment rates, at around 3 percent. The unemployment rate in the United States, usually in the range of 4–6 percent, rose considerably in the 2007–2009 recession, and has since declined slowly to return to the 4–6 percent range in late 2015.

Figure 0.21 Unemployment Rate, 2016 (Percent of Labor Force)



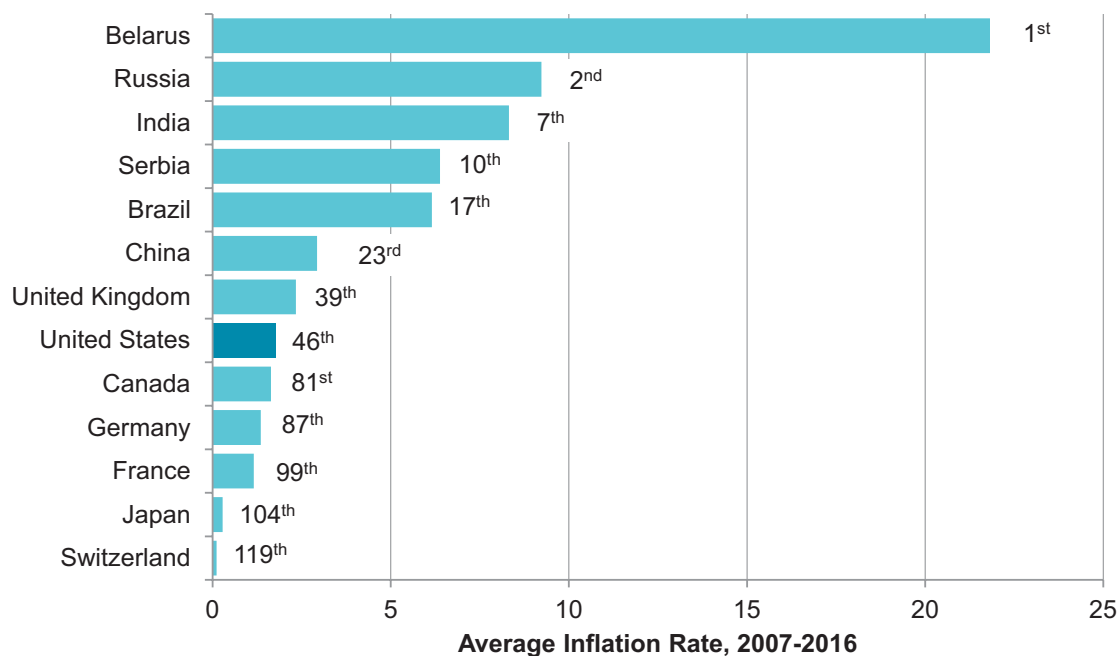
Source: World Bank, World Development Indicators database.

22. INFLATION

What it is: The rate of inflation summarizes how average prices change in a country in one year. For example, an inflation rate of 5 percent means that average prices increased by 5 percent that year. In Chapter 20 we discuss how to adjust data from different years for inflation, and we focus on macroeconomic theories of inflation in Chapters 27 and 28.

The results: Over the period 2007–2016, Switzerland and Japan had the lowest inflation rates in the world, with prices actually declining slightly during some years and hardly increasing overall. However, this is not necessarily a good thing, as we see later in the book. A low and stable—but not negative—inflation rate is generally considered an important macroeconomic policy goal. Most developed countries have generally been successful in controlling inflation in recent years. High and fluctuating inflation rates in a country are a sign of macroeconomic instability. With average inflation rates of over 20 percent between 2007 and 2016, Belarus had the highest inflation rate over this period. Extremely high inflation rates of over 800 percent in Venezuela and over 24,000 percent in Zimbabwe have been observed in recent years.

Figure 0.22 **Average Annual Inflation Rate, 2007–2016**



Source: World Bank, World Development Indicators database.

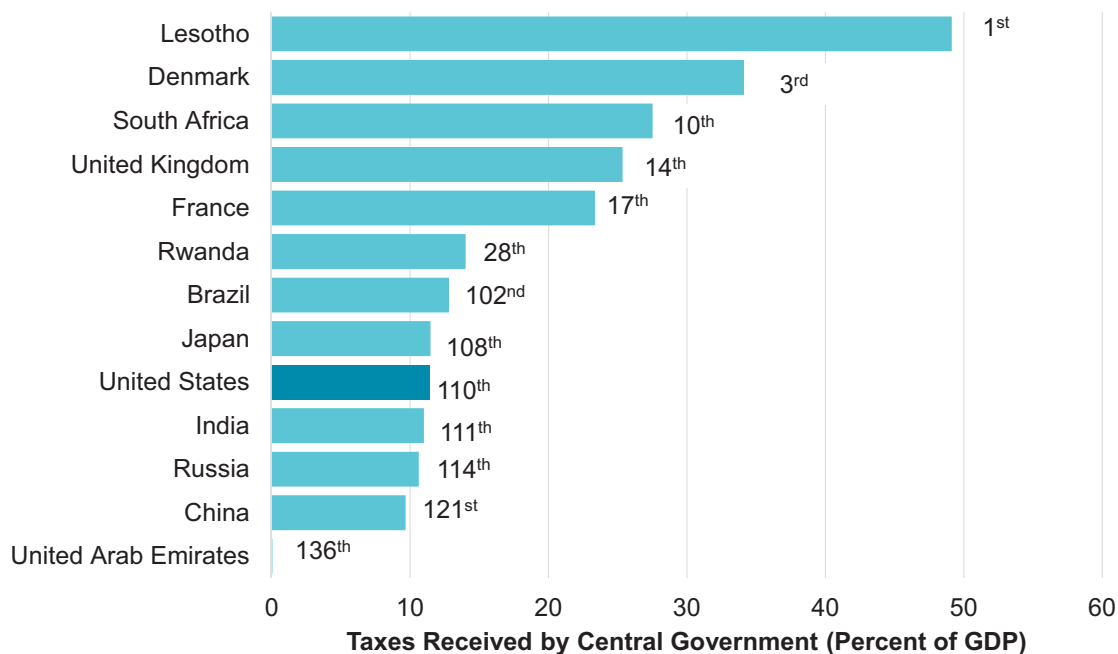
Note: The average inflation rate is calculated as the average of the inflation rate for each year from 2007 to 2016.

23. TAXES RECEIVED BY CENTRAL GOVERNMENT (PERCENT OF GDP)

What it is: Tax policies are among the most significant ways a government can influence the well-being of the citizens, as we discuss in Chapters 12 and 25. Taxes received by the central government, expressed as a percentage of GDP, include those collected at the federal level. Note that some countries also collect significant amount of taxes at the local level.

The results: Overall tax revenues vary significantly across countries. While Western European countries tend to have relatively high taxes, some other countries with surprisingly high taxes (more than 25 percent of GDP) include Jamaica, South Africa, and Botswana. The United States has one of the lowest overall tax rates in the world—by far the lowest of any major industrialized country. The countries with the lowest tax revenues (less than 10 percent of GDP) tend to be relatively poor countries in Africa and Asia.

Figure 0.23 Taxes Received by Central Government (Percent of GDP)



Source: World Bank, World Development Indicators database.

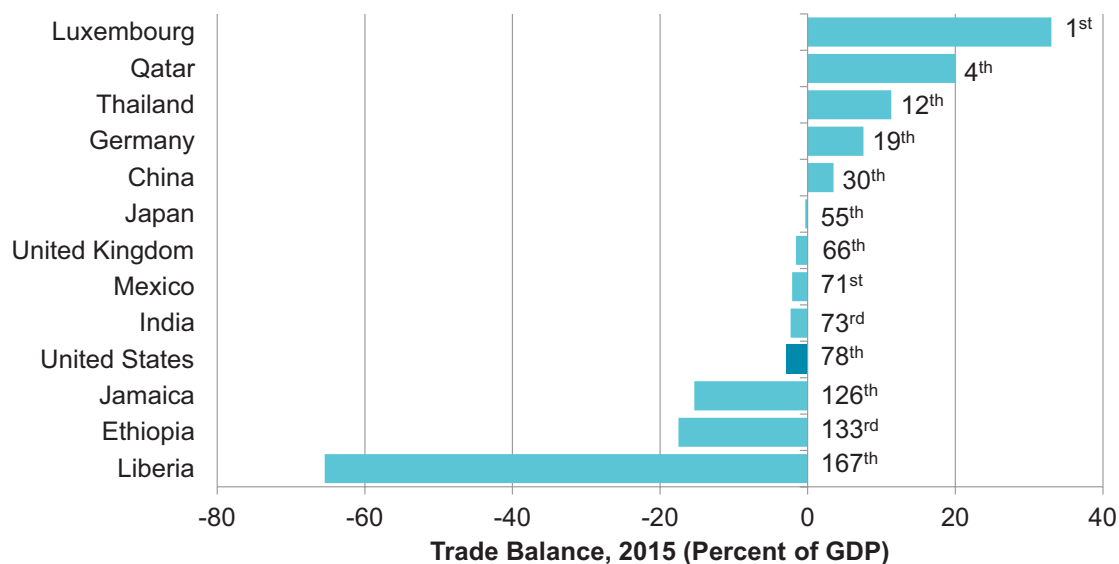
Note: Data are mostly 2015 estimates.

24. TRADE BALANCE (PERCENT OF GDP)

What it is: The trade deficit of the United States is often considered a cause for concern in media stories. A trade deficit means that a country imports more than it exports. Economists refer to a country's trade balance as the dollar value of its exports minus its imports, normally expressed as a percentage of GDP. Thus, a negative trade balance indicates a trade deficit. A positive trade balance indicates a trade surplus. We discuss trade balances, and other trade issues, in more detail in Chapters 7 and 29.

The results: Of the 168 countries with available data, 50 have a positive trade balance (exports exceed imports) and 118 have a negative trade balance. Those countries with the largest trade surpluses tend to be smaller countries (such as Luxembourg and Singapore) or oil-producing countries (such as Qatar and the United Arab Emirates). The U.S. trade deficit is about 3 percent of GDP, with other countries, such as Canada, Ecuador, and Turkey, in a similar range. The countries with the largest trade deficits tend to be poorer countries, although some poor countries do have trade surpluses.

Figure 0.24 Trade Balance, 2015 (Percent of GDP)



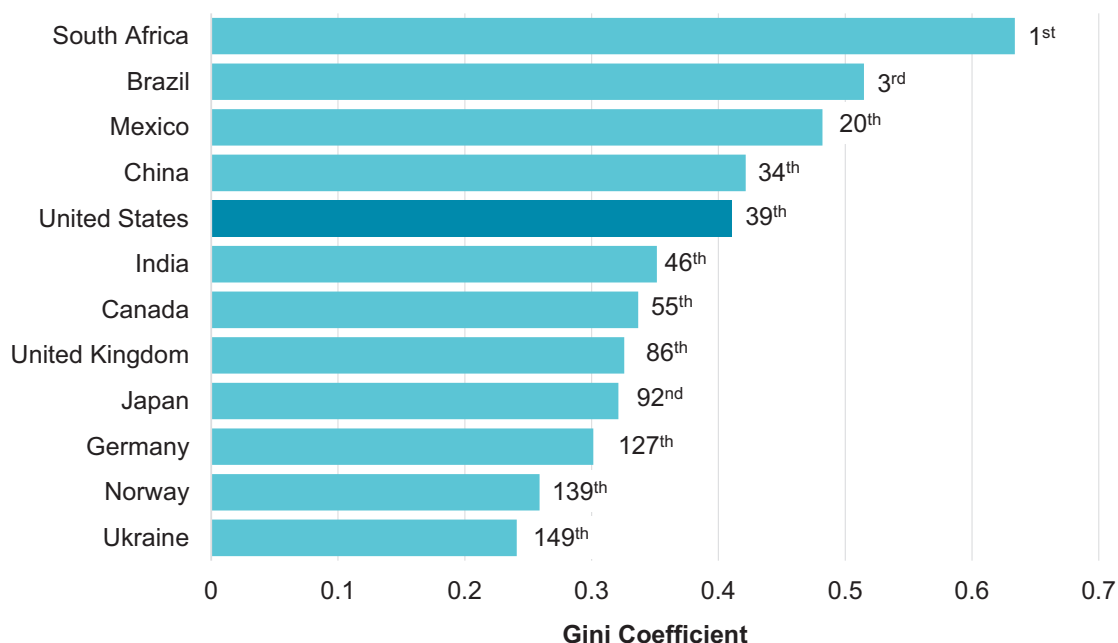
Source: World Bank, World Development Indicators database, and authors' calculations.

25. INCOME INEQUALITY (GINI COEFFICIENT)

What it is: A Gini coefficient is a measure of economic inequality in a country. It is most commonly calculated according to the distribution of income, but it can also be calculated according to wealth distribution or other variables. It can range from 0 (everyone in the country has the same exact income) to 1 (one person receives all the income in a country). We learn more about Gini coefficients and economic inequality in Chapters 11, 30, and 32.

The results: Scandinavian countries such as Sweden, Norway, and Finland tend to be the most equal countries in the world, by income (with the lowest Gini coefficients). Several African countries, including Botswana, Lesotho, Namibia, and South Africa, are the most unequal countries in the world. In general, countries with high GDP per capita have lower inequality than those with low GDP per capita (compare figures 0.15 and 0.25). However, this is not always true. The United States, for example, is among the most economically unequal of the developed countries.

Figure 0.25 **Income Inequality (Gini Coefficient - Most Equal to Least Equal)**



Source: World Bank, World Development Indicators database.

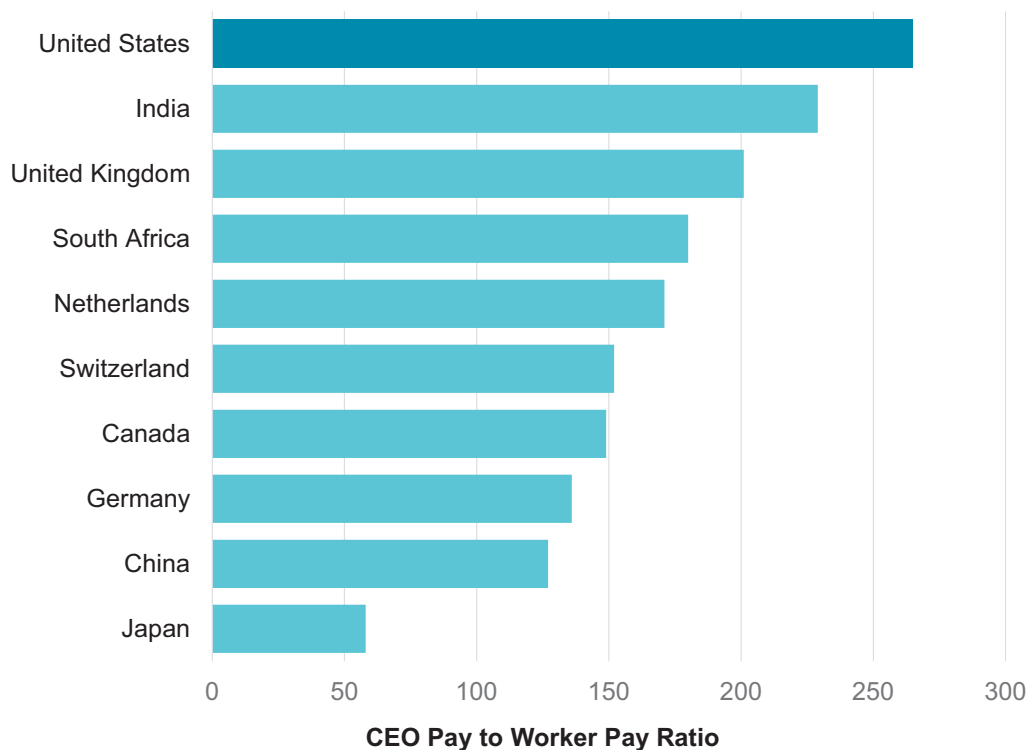
Note: Data for the most recent year available, between 2008 and 2014.

26. CEO PAY VERSUS WORKER PAY

What it is: In addition to comparing corporate profits to worker pay, we can look at the pay difference between CEOs (chief executive officers) and workers. The graph below shows the ratio of average CEO compensation to the average pay of “rank-and-file” workers, in several countries. The ratios are based on data from 2016 and 2017.

The results: In the United States, average CEO pay is over 250 times higher than average worker pay. In other countries, CEOs still make significantly more than rank-and-file workers, but pay differences are not as pronounced. For example, in Canada CEOs make, on average, 150 times more than workers, while in Japan CEOs make about 60 times worker pay.

Figure 0.26 CEO Pay to Worker Pay Ratio



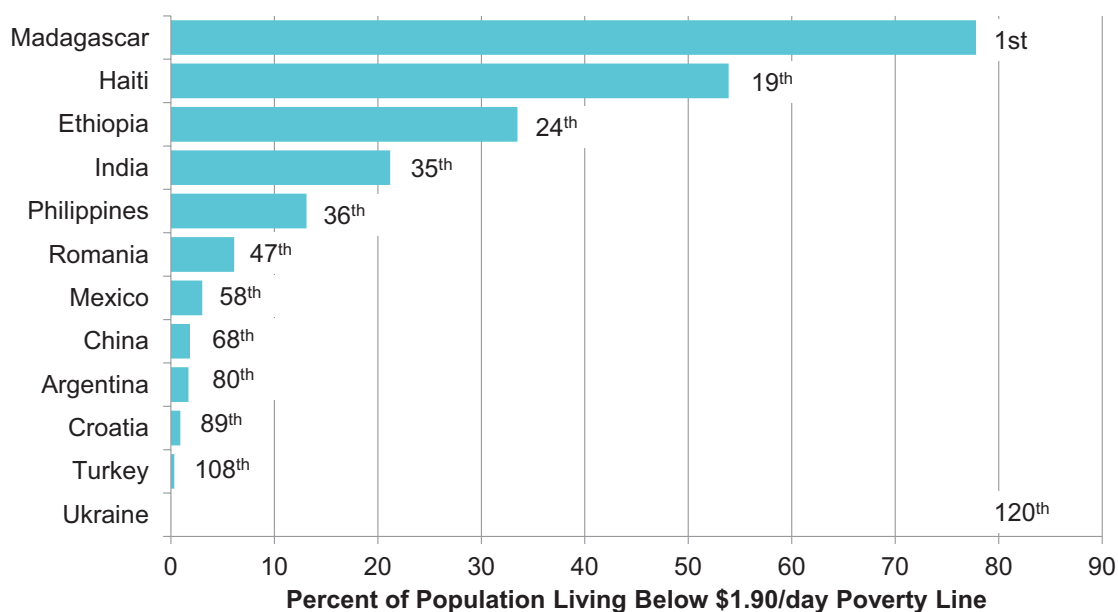
Source: Bloomberg, “Executive Pay,” January 2018. <https://www.bloomberg.com/quicktake/executive-pay>.

27. ABSOLUTE POVERTY

What it is: The \$1.90-per-day poverty line has been defined by the United Nations as a measure of absolute poverty. One of the Sustainable Development Goals set by the United Nations is to eradicate absolute poverty worldwide. Formerly, under the Millennium Development Goals, the UN had aimed at halving the number of people in the world living in absolute poverty between 1990 and 2015. This goal has already been met, mainly due to progress in China and India. We discuss poverty and economic development in Chapter 32.

The results: Note that this is one of the two graphs in this chapter that does not include the United States or any other developed countries (few people in developed countries live below the \$1.90-a-day poverty line, though homelessness and food insecurity continue to plague many cities in the U.S.). A majority of people do live below that poverty line in 17 countries, including Rwanda, Nigeria, Mozambique, and Haiti. A small portion of the population lives in absolute poverty in some upper middle-income countries such as Argentina, Costa Rica, Thailand, and Turkey.

Figure 0.27 **Percent of Population Living Below \$1.90/day Poverty Line**



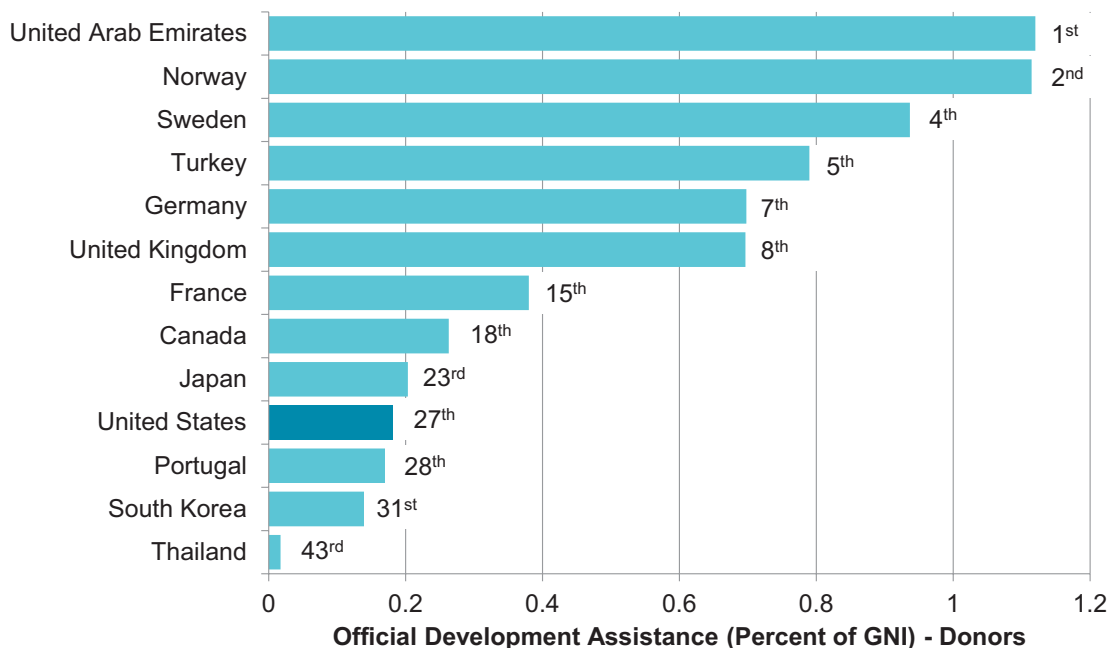
Source: World Bank, World Development Indicators database. Data are for the most recent year available, between 2010 and 2014.

28. FOREIGN AID (DONORS)

What it is: In 1970, the “economically advanced” countries agreed to a United Nations resolution on foreign aid to developing countries. The resolution set a target for official development assistance (ODA) of 0.7 percent of gross national income (GNI). ODA is defined as government flows to promote economic development and welfare in developing countries. The 0.7 percent target has been reaffirmed at subsequent international meetings. We discuss the role of foreign aid in promoting economic development in Chapter 32.

The results: In 2016 only six countries met the 0.7 percent target: the United Arab Emirates, Norway, Luxembourg, Sweden, Turkey, and Denmark. Both U.A.E and Turkey began giving aid recently, mostly to Muslim-majority countries in the Middle-East and sub-Saharan Africa. Though U.A.E. ranks the highest among aid givers, it has received criticism for the lack of transparency on how the aid is being used. ODA from the United States was 0.18 percent of GNI. Israel and Russia had the lowest ODA percentage, at 0.08 percent. A common criticism of foreign aid is that it is given to gain political and economic influence. This criticism, often leveled at countries like the U.S. and China, has also been directed to new aid donors like Turkey. Note that ODA does not include private charity donations or nongovernmental organizations, only official aid given by governments and support given to refugees who come to the donor countries.

Figure 0.28 **Official Development Assistance, 2016 (Percent of GNI)**



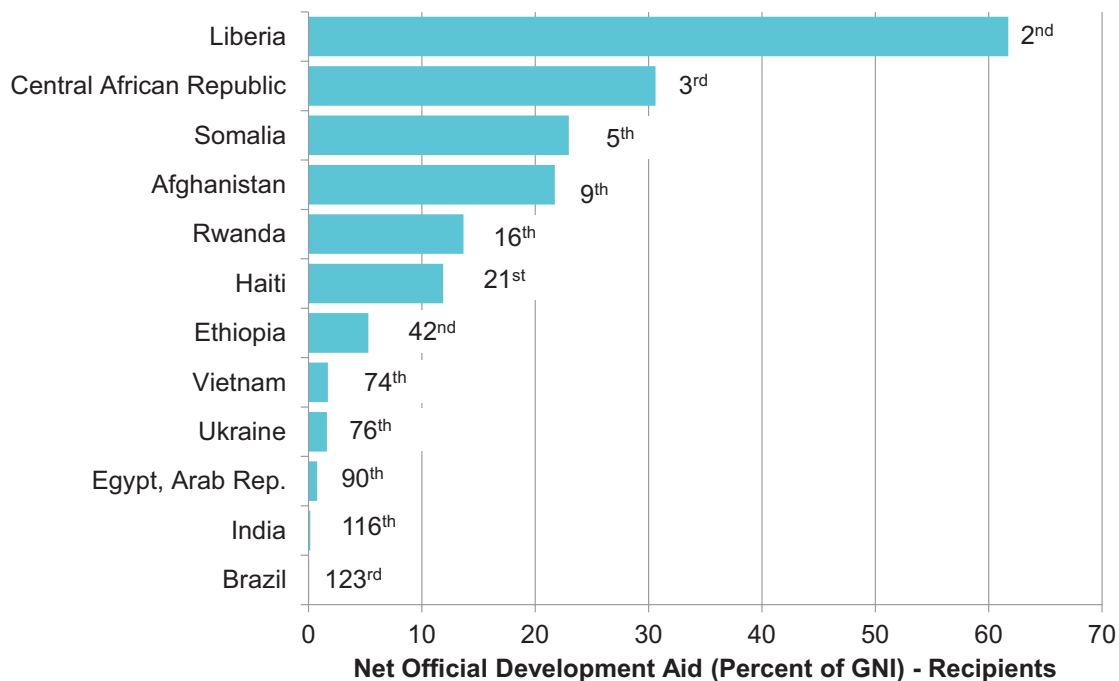
Source: Organisation for Economic Co-operation and Development, Official Development Assistance–2016 Update.

29. FOREIGN AID (RECIPIENTS)

What it is: ODA received by a country includes bilateral aid from another country as well as multilateral aid from international organizations. Net ODA as a percentage of GNI shows the size of aid received by a country relative to the country's gross national income. It is an indicator of how dependent a country is on foreign aid. Foreign aid may be an important source of revenue for funding development programs and for providing relief from natural disasters or conflicts in developing countries.

The results: This is one of the graphs in this chapter that does not include any developed country, as developed countries do not usually receive aid. Countries in sub-Saharan Africa including Central African Republic, Somalia, and Rwanda are highly dependent on foreign aid. A significant amount of foreign aid is directed towards conflict-affected countries such as Afghanistan and Syria. Some middle-income countries such as Brazil and Vietnam also receive small amounts of foreign aid.

Figure 0.29 **Official Development Assistance Received, 2015 (Percent of GNI)**



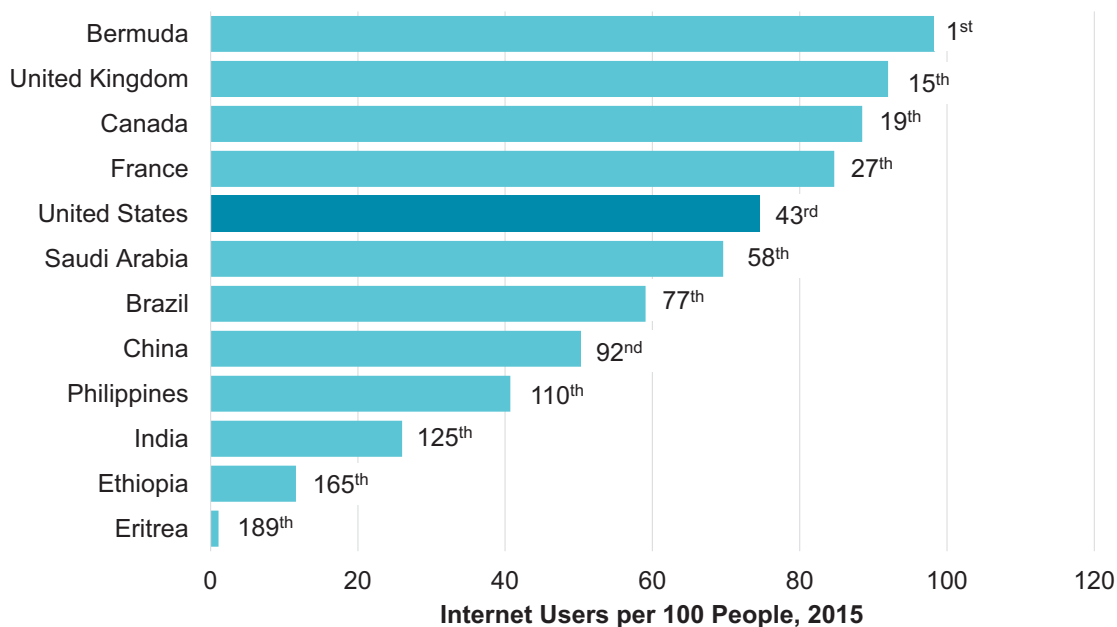
Source: World Bank, World Development Indicators database.

30. INTERNET USERS

What it is: The percentage of people who have access to the Internet provides an indication of a country's level of technological development. As we discuss in Chapter 32, technology has long been recognized as one of the drivers of economic growth.

The results: Access to the Internet may not be as widespread as you think. While near-universal access occurs in a few countries, such as Iceland, Norway, and Denmark, in most developed countries access rates are about 70–85 percent. Middle-income countries generally have access rates around 30–50 percent. Twenty countries, most of them poor African countries, have access rates of less than 10 percent.

Figure 0.30 Internet Users per 100 People, 2015



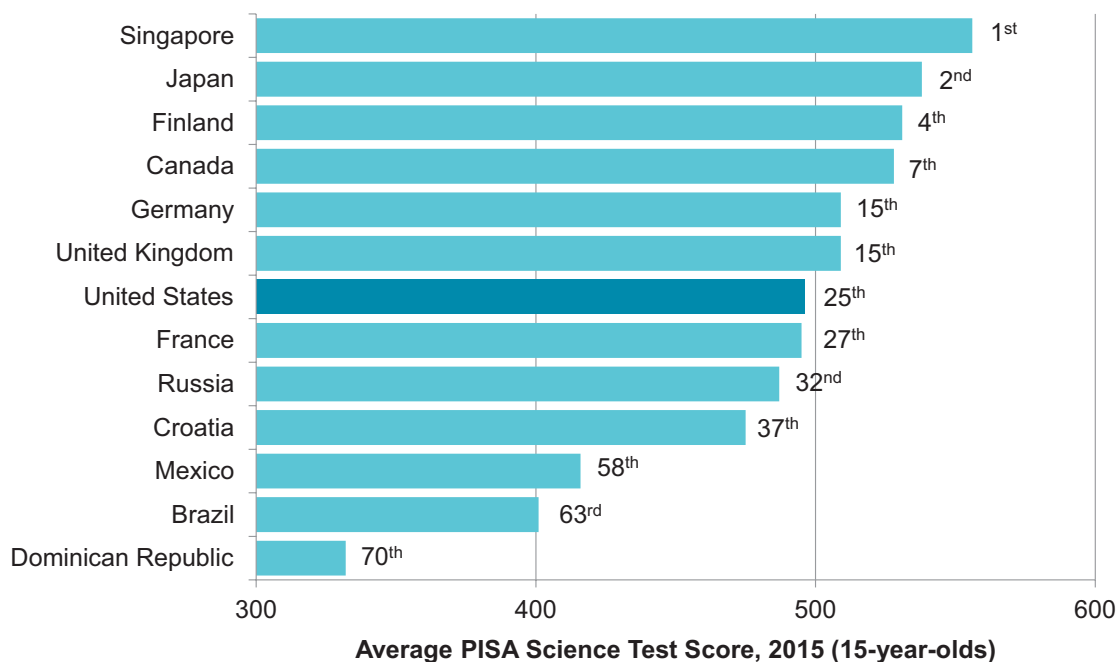
Source: World Bank, World Development Indicators database.

31. EDUCATIONAL PERFORMANCE

What it is: To compare the educational performance of students in different countries we present data from the Programme for International Student Assessment (PISA), which administers standardized math, science, and reading tests to 15-year-olds in over 60 countries every three years. The graph below provides results from the science test. The country rankings were relatively similar for the math and reading tests, with some variations (e.g., the United States ranked 21st on the reading test and 35th on the math test).

The results: Students in Asian countries tended to achieve the highest test scores, including China, Singapore, Japan, and South Korea. Among European countries, students received high scores in Finland, the Netherlands, and Germany. The scores from the United States were average for developed countries. For less developed countries, scores tended to be lower.

Figure 0.31 **Average PISA Science Test Score, 2015 (15-year-olds)**



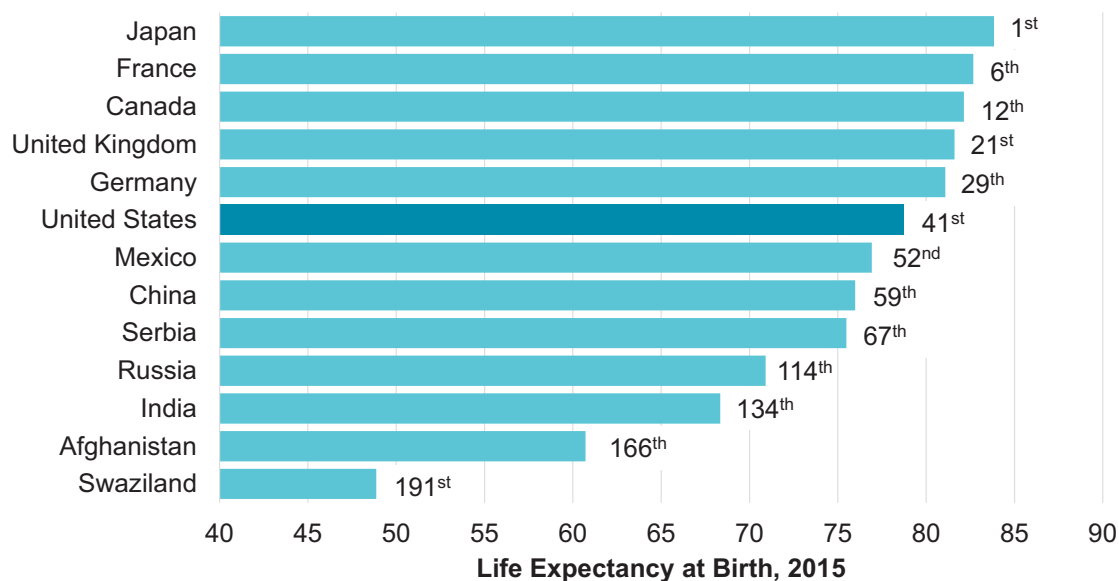
Source: Organisation for Economic Co-operation and Development, Programme for International Student Assessment, PISA 2015 Key Findings.

32. LIFE EXPECTANCY

What it is: Average life expectancy at birth is a common measure of health outcomes in a country. We discuss health as one component of well-being indices in Chapter 21 and as a topic of economic development in Chapter 32.

The results: Life expectancy at birth now exceeds 80 years in over 30 countries, including Japan, France, Spain, and Greece. In 2010, only 20 countries had life expectancy at birth that exceeded 80 years. For a developed country, the United States has a comparatively low life expectancy, even lower than some middle-income countries such as Costa Rica and Cuba. Life expectancy is the lowest, below 55 years, in several African countries, including Sierra Leone, Lesotho, and Swaziland.

Figure 0.32 **Life Expectancy at Birth, 2017**



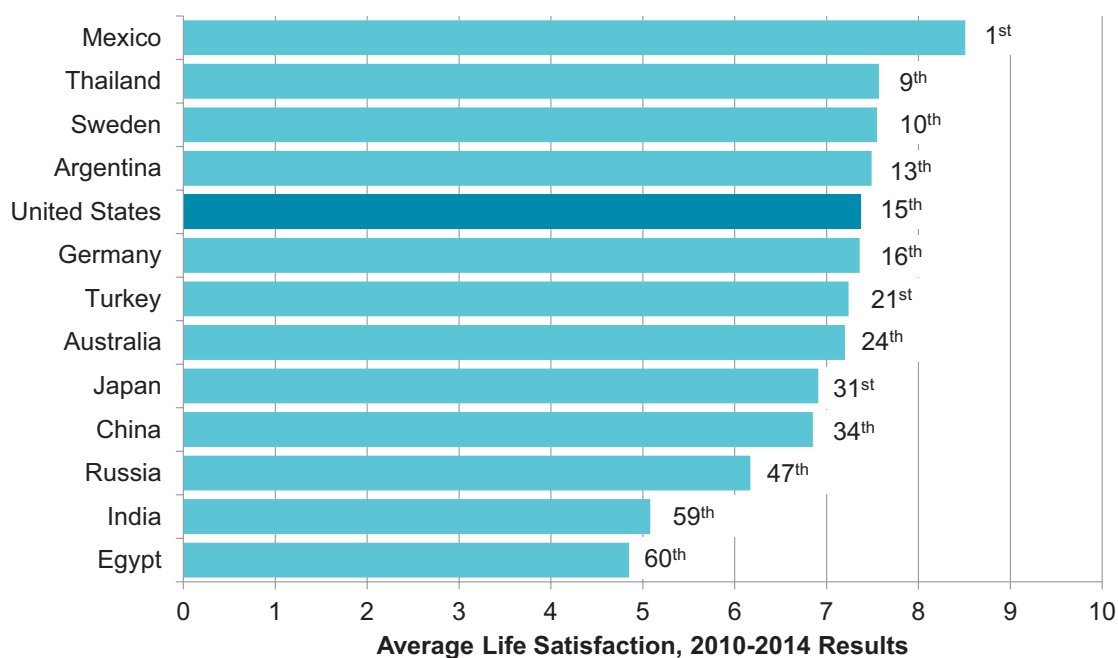
Source: World Bank, World Development Indicators database.

33. SUBJECTIVE WELL-BEING

What it is: Researchers are increasingly using surveys to measure well-being or happiness directly. The most common approach is to ask people to rate their overall satisfaction with their lives, on a scale from 1 (dissatisfied) to 10 (satisfied). The responses are referred to as “subjective well-being.” We discuss subjective well-being in more detail in Chapter 21.

The results: According to the most recent data, which cover 60 countries, Mexico has the highest level of average subjective well-being. Other relatively happy countries include Colombia, Qatar, Ecuador, and Uzbekistan. Happiness levels in the United States are about average for a developed country. Happiness levels are relatively low in countries that have recently experienced conflicts, such as Egypt or Iraq, in the poorest countries, such as Zimbabwe, as well as in Eastern European countries, such as Georgia and Estonia.

Figure 0.33 **Average Life Satisfaction, 2010–2014 Results (1 = Dissatisfied, 10 = Satisfied)**



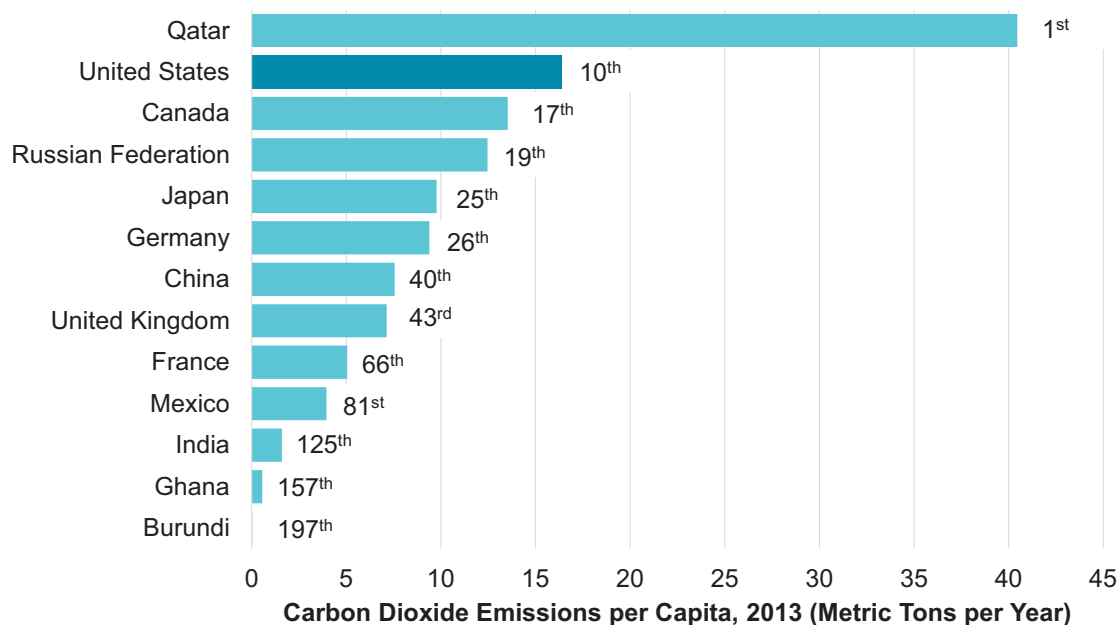
Source: World Values Survey, online database.

34. CARBON DIOXIDE EMISSIONS PER CAPITA

What it is: Carbon dioxide (CO₂) is the most important gas responsible for global climate change. CO₂ is emitted whenever fossil fuels are burned. Scientific analysis indicates that the accumulation of CO₂ in the atmosphere is raising global temperatures, leading to serious negative impacts on human societies and ecosystems. CO₂ per capita gives us an idea of how much the average person in a country is affecting the environment. We learn more about CO₂ and climate change in Chapters 14 and 33.

The results: The countries with the highest CO₂ emissions per capita are several oil-producing countries, including Qatar (the highest, at 41 tons per person), Kuwait, and Bahrain. The United States has the tenth-highest emissions per capita, around 17 tons per person. Emissions per person in European countries such as the United Kingdom and Germany are about half of U.S. levels. While China is the world's largest emitter of CO₂ overall, on a per-capita basis its emissions are less than half of those in the United States. CO₂ emissions per capita are negligible in the world's poorest countries.

Figure 0.34 **Carbon Dioxide Emissions per Capita, 2013 (Metric Tons per Year)**



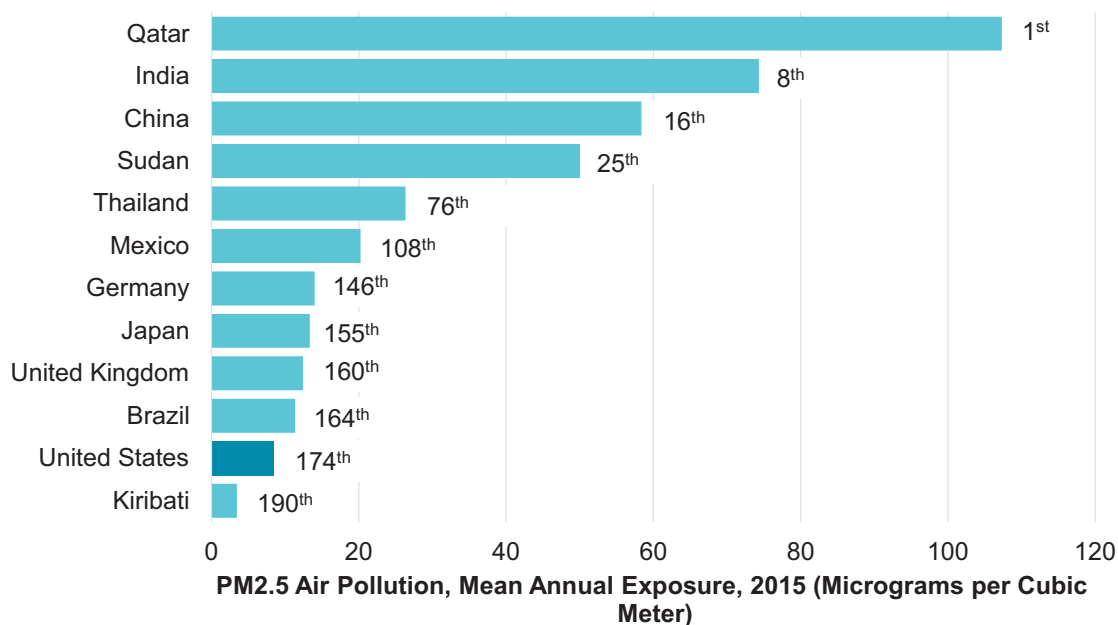
Source: World Bank, World Development Indicators database.

35. LOCAL AIR QUALITY

What it is: While CO₂ emissions contribute to climate change, breathing air with elevated levels of CO₂ does not cause any adverse health effects. Local air pollutants, on the other hand, can cause numerous health effects, including asthma, lung cancer, and heart problems. One of the most important local air pollutants is particulate matter, which is emitted from power plants, industrial factories, motor vehicles, and other sources. Particulate matter pollution can be reduced through effective environmental regulations and technology. We discuss pollution further in Chapters 13, 21, and 33.

The results: A country with high CO₂ emissions does not necessarily have poor local air quality. The United States is a prime example—CO₂ emissions are high, but local air quality is relatively good due to environmental laws and modern technologies. Other developed countries have as good, or better, local air quality. Developing countries can have good or poor local air quality, depending on their level of development, regulations, and technologies. Oil producing countries such as Qatar and Saudi Arabia as well as poor countries in South Asia and Africa have very poor quality air. China is almost as well known for its poor air quality as it is for its high GDP growth rate.

Figure 0.35 **Average National Particulate Matter Concentration, 2015 (Micrograms per Cubic Meter)**



Source: World Bank, World Development Indicators database.

Note: Data are for particulate matter smaller than 2.5 micrometers, referred to as PM2.5. For reference, the European Union pollution standard for average PM2.5 is 25 micrograms/cubic meter ($\mu\text{g}/\text{m}^3$); California has a stricter standard of 12 $\mu\text{g}/\text{m}^3$.

1

Economic Activity in Context

There are many reasons to take an introductory economics course, beyond just satisfying a course requirement. Studying economics can help you understand a variety of issues that are likely to be important in your life, such as taxes, the job market, the environment, and health care. More broadly, economics can provide insights into how we all make decisions—as consumers, as employees or business owners, and as citizens.

The overall goal of this book is to help you understand how the economy works—and, to some degree, to encourage you to think about what a “better” economy might be, and how it could be achieved. Of course, different people will have different ideas about what they want in an economy. Questions that will elicit a wide variety of answers include the following:

- Should a “good” economy produce as much as possible?
- How important is inequality of income, or of wealth?
- Should a goal of the economy be to sell goods to consumers at the lowest possible cost?
- Should production and consumption be limited when we perceive that these activities are degrading the environment?
- Would a good economy ensure that there is a job available for everyone who wants one?
- How should pay and other job characteristics be determined?
- What about work that is now normally done without pay, such as taking care of homes and families, or volunteer work—should this be considered an economic issue?
- If there are tradeoffs among achievement of various outcomes—such as good jobs, cheap consumer goods, and environmental protection—how should the economy operate to set and implement priorities?
- When you have decided on the priorities for a good economy, are these only relevant for the present, or should the future also be taken into account?

These are all difficult questions, and one of the objectives of an introductory economics course is to provide some new ways of thinking about them. The study of economics can help us to achieve our goals as individuals, and to create a society in which we are satisfied to live. Sometimes these goals conflict with each other. You surely want to get good grades, but you also want to have spare time to spend with your friends and family. As a society, we may want better health care, but we also want a clean environment *and* national security. Economics has much to teach us about how we negotiate the tradeoffs among the many things that matter to us. Some of these things are measured in dollars, but as we will soon see, economics is about much more than money.

Whatever your reasons for taking an economics course, we hope that by the end of it you will discover many ways that you can use economics to understand the world around you, define your personal and professional goals, and work toward a better future.

1. OUR STARTING POINT

We will define **economics** as the study of how people manage their resources to meet their needs and enhance their well-being. These “resources” include natural resources such as forests, productive soils, water, and air, as well as human-made productive resources such as factories, trucks, computers, and

economics: the study of how people manage their resources to meet their needs and enhance their well-being

well-being: a term used broadly to describe a good quality of life

microeconomics: the subfield of economics that focuses on activities and interactions of individuals, households, businesses, and other groups at the subnational level

macroeconomics: the subfield of economics that focuses on how economic activities at all levels create a national (and global) economic environment

roads. Our resources also include our knowledge and skills, financial resources, and even the social relationships that improve the quality of our lives. Economists refer to these as different types of capital (as discussed in Section 3 below).

Our “needs” obviously include our basic requirements for food, shelter, and physical security. Beyond those, different people may have different views about what constitutes a “need.” Some people may think that having their own car is a “need,” while others may see it as a luxury. This textbook—and economics in general—will not tell you who is correct in such debates. Decisions about what economic goals should be pursued, and how to choose among competing goals, are up to you, and others, to make for yourselves. But some knowledge of economics may help you to understand both how to make good decisions, and how such decisions by individuals affect society as a whole.

Finally, we use the term **well-being** to refer broadly to a good quality of life. Beyond meeting our “needs,” virtually everyone desires such things as a decent income, sufficient leisure time, good friends, and freedom to express one’s opinions. All of these are parts of what economics is about. But again, people clearly differ regarding the best ways to improve well-being. Some people may place a high emphasis on obtaining a larger income, while others focus more on family and friends, improving environmental quality, or ensuring access to good education or health care. We will discuss the topic of subjective differences in more detail below.

Often for convenience, the study of economics is divided into two subfields: microeconomics and macroeconomics. **Microeconomics** is the subfield that focuses on activities that occur within and among the major economic actors and organizations in a society, such as individuals, households and communities, governments and nonprofit organizations, and for-profit businesses. **Macroeconomics**, the other main subfield of economics, adopts an overview, focusing on understanding national and international trends and fluctuations in economic activity taken as a whole.

The dividing line between micro- and macroeconomics is not always sharp. The first half of this book focuses mainly on microeconomics, while the second half presents macroeconomics, using many of the concepts developed in the first half as well as new concepts and analyses. In this introductory chapter we will discuss some overarching issues that concern the whole field of economics.

Discussion Questions

1. What current issues are you most interested in? How do you think economics might help you understand these issues?
2. In what ways do you think economics might help to provide solutions to social problems and improve overall well-being? Are there ways in which the workings of the economic system may *create* social problems or make them worse? How would you hope to use economic understanding to help resolve problems at an individual or social level?

2. THE GOALS OF AN ECONOMY

positive questions: questions about how things are

normative questions: questions about how things should be

Social scientists often make a distinction between two kinds of questions. **Positive questions** concern issues of fact, or “what is.” **Normative questions** have to do with goals and values, or “what should be.” For example, “How many people live below the poverty line in our country?” is a positive question, requiring descriptive facts as an answer. “How much effort should be given to poverty reduction?” is a normative question, requiring us to think about our values and goals. In our study of economics, we often find that positive and normative questions are inevitably intertwined. For example, both of the questions just posed require that we start with a definition of poverty. To achieve this, we need to combine facts about income and wealth with a normative assessment of where to draw the poverty line. Life rarely offers us a neat distinction between “what is” and “what ought to be.” More often, we have to deal with a combination of the two.

Positive statements often carry normative implications. Consider the statement: “The total share of federal taxes paid by the top 1 percent of households, by income, rose from 13 percent in 1981 to over 25 percent in 2013.”¹

This is a positive, factual statement, based on reliable data from the U.S. government. But it also implies that taxes on the top 1 percent have increased rather dramatically. But is this implication true? As we discover in more detail in Chapter 12, a comprehensive analysis reveals that the main reason that the share of federal taxes paid by the richest 1 percent has risen so much is that this group is now

receiving a much larger share of all income. So we need to be careful about coming to normative conclusions based on incomplete or misleading positive statements.

Although much of this textbook is concerned with positive issues, our definition of the objective of economics as enhancing well-being means that we cannot avoid discussion of normative issues. People disagree about what it means to “enhance well-being.” Our priorities among different economic goals are all significantly affected by our beliefs and values. For example, we can rely upon positive economic analysis to estimate the extent to which various government policies will reduce poverty rates. But decisions about the appropriate role of the government in reducing poverty necessitate a normative debate. Some people think that poverty reduction should be an important goal of government policy, while others advocate for limited government involvement. Thus it is helpful for us to think further about different goals, and how we can set priorities in achieving them.

2.1 INTERMEDIATE AND FINAL GOALS

intermediate

goal: a goal that is desirable because its achievement will bring you closer to your final goal(s)

final goal: a goal that requires no further justification; it is an end in itself

A useful way to look at different goals is to rank them in a kind of hierarchy. Some are **intermediate goals**—that is, they are not ends in themselves but are important because they are expected to serve as the means to further ends. Goals that are sought for their own sake, rather than because they lead to something else, are called **final goals**. For example, you might strive to achieve high grades as an intermediate goal, toward the final goal of getting a good job. Of course, we might also think of the goal of “getting a good job” as itself being intermediate to other final goals, such as obtaining income status or overall satisfaction with life.

2.2 TRADITIONAL ECONOMIC GOALS

Many people think that economics is mostly about money and wealth. Although it is true that many economists spend their lives studying these topics, in this book we take the position that these are intermediate, as opposed to final, goals. We first consider the goals that economics has traditionally emphasized and then go on to consider how those relate to our final goals.

One of the goals that many people associate with economics is that of increasing income and/or wealth. At a national level, the most common metric used to measure “economic progress” is a country’s **gross domestic product (GDP)** per capita. A country’s GDP measures the market value of all final goods and services produced within the nation’s borders over a specific time period, normally one year. While few economists would assert that the accumulation of wealth is a final goal, wealth is often considered a nearly universal intermediate goal because it can be used to pursue so many final goals. For example, a country with higher GDP per capita is usually better able to provide its citizens with quality health care, food security, employment opportunities, national defense, and a cleaner environment. Similarly, an individual might seek a well-paying job as an intermediate goal leading to such final goals as financial security, comfort, status, or an early retirement.

Of course, many people across the world lack sufficient financial resources to meet their basic needs. About 10 percent of the world’s population live in absolute poverty, defined as an income below \$1.90 per person per day by the World Bank.² For the global poor, higher incomes are clearly necessary as a means toward improved well-being. But at the same time, economic advances in much of the world allow many people to focus on goals other than acquiring more wealth. Moreover, we are coming to recognize that the continual expansion of human economies in a finite material world has costs as well as benefits. Looking at the complex fallout of our achievements—including environmental degradation, increased inequality, and other social ills—it seems that the exclusive promotion of material wealth can actually work *against* many of the final goals that we most desire to achieve.

A second traditional goal in economics is **efficiency**. An efficient process is one that uses the *minimum value of resources* to achieve a desired result. Or to put it another way, efficiency is achieved when the *maximum value of output* is produced from a given set of inputs. Given this focus, many economists have seen their role as advising policymakers on how to make the economy as efficient as possible.

One appealing aspect of the goal of efficiency is that apparently everyone can agree on it. Who would argue for using more resources than necessary, or having less of something good when more is possible at the same cost? Because it seems so obvious that efficiency is a good thing, aiming for it is often thought of as a purely technical and scientific exercise, one based on positive analysis. This is not actually the case, however, because setting efficiency as a goal for the economy as a whole involves a

gross domestic product (GDP):

the market value of all final goods and services produced within a country’s borders over a specific time period, normally one year.

efficiency: the

use of resources, or inputs, such that they yield the highest possible value of output or the production of a given output using the lowest possible value of inputs

very important normative judgment: a standard of *value* must be adopted before the definition of efficiency can be applied.

Money is the standard of value that has traditionally been used in economics. Specifically, the commonest economic definition of value has been that of *market* value—that is, price. Using this standard, an economist would say that resources are being used most efficiently when the market value of the resulting outputs is maximized. “More is always better,” it is assumed, where the “more” is composed of things that people are willing to pay for.

But this viewpoint implicitly accepts the current distribution of wealth and income. Because a person’s *willingness* to pay for something is obviously influenced by his or her *ability* to pay, in general those with the most money will disproportionately determine what an economically “efficient” allocation of resources is. For example, if the aggregate willingness to pay of high-income households for luxury cars exceeds the willingness to pay of lower-income households for basic health care, then the efficient allocation would tilt towards production of luxury cars over provision of basic health care.

Setting efficiency as a goal also assumes that nothing has value unless humans are willing to pay for it. In other words, nothing has intrinsic value and should exist for its own sake regardless of whether people place monetary value on it. But perhaps certain things should have intrinsic value, such as the rights of nonhuman species to exist, or goals like freedom or fairness. Thus thinking of efficiency only in terms of market value can lead to neglect of other, perhaps more urgent, needs and goals (see Box 1.1).

Box 1.1 GOALS BEYOND EFFICIENCY

The point that efficiency defined in terms of market value is rarely the only important goal is vividly illustrated in a story from a now-eminent economist.

Right after he finished graduate school, this young man’s first job was to advise the government of a rice-growing country where it should put its research efforts. He was told that two modern techniques for rice milling had been developed elsewhere, and was asked to calculate which of these two technologies should be selected. The young economist analyzed the requirements for producing a ton of rice under each of the two competing technologies, including labor, machinery, fuel, and raw materials. He calculated the monetary costs for these inputs, and, finding that Technology A could produce a ton of rice at slightly less cost than Technology B, he recommended that the government invest in the more “efficient” Technology A.

Returning a few years later, the economist was horrified to discover what had happened when the country implemented his suggestion. It turned out that the traditions of that country included

strict norms for the division of labor: specifically, what work women were allowed to do and what was defined as men’s work. Technology B would have been neutral in this regard, maintaining the same ratio of “male jobs” to “female jobs” as had existed before. Technology A, however, eliminated most of the women’s work opportunities. In a society where women’s earnings were a major contributor to food and education for children, the result was a perceptible decline in children’s nutrition levels and school attendance.

Charged with determining which technology was best, the young economist had not asked, “Best for what?” Instead, he made an implicit assumption that the only final goal was maximizing output and that the only intermediate goal he had to worry about was efficiency in resource use. He has subsequently told several generations of economics students, “Nobody told me to look beyond efficiency, defined in terms of market costs—but I’ll never neglect the family and employment effects again, even when my employer doesn’t ask about them.”

2.3 COMPONENTS OF WELL-BEING

We have defined economics in terms of enhancing well-being, but what exactly do we mean by this? We have mentioned that well-being is about a good quality of life, recognizing that this concept has many normative components. But we suggest that some components of well-being are common to all people, even to all living things. At a basic biological level, evolution has instilled in all creatures a preference for survival, along with an aversion to pain, hunger, thirst, and other sensations that signal a threat to survival.

In addition to the continuation of life, we all seek things that we feel make life worth living. Here we cannot avoid some normative judgments, as people may disagree about what constitutes well-being. But we can identify some general goals that are widely accepted as desirable.

In Table 1.1, we present one possible list of the final goals of economic activity, summarizing the careful reflection of a number of thinkers but not attempting to represent a final consensus. The first five goals on the list are primarily individual concerns while the last five are more related to social concerns. Some of the goals involve making life possible, some involve making life worthwhile, and yet others

Table 1.1 A Potential List of Final Goals

-
1. **Satisfaction of basic physical needs**, including nutrition and care adequate for survival as well as a comfortable living environment.
 2. **Security**: assurance that one's basic needs will continue to be met throughout all stages of life, as well as security against aggression or unjust persecution.
 3. **Happiness**: adequate opportunity to experience feelings of contentment, pleasure, enjoyment and peace of mind.
 4. **Ability to realize one's potential**, including one's physical, intellectual, social, aesthetic and spiritual potential.
 5. **A sense of meaning**: a purpose to one's life.
 6. **Fairness**: fair and equal treatment by others and within social institutions.
 7. **Freedom**: the ability to make personal decisions while not infringing on the freedom of others.
 8. **Participation**: opportunity to participate in the processes in which decisions are made that affect one's society.
 9. **Good social relations**: having satisfying and trustful relations with friends, family, fellow citizens, and business associates, as well as peaceful relations among larger groups (such as nations).
 10. **Ecological balance**: protecting natural resources and where necessary, restoring them to a healthy state.
-

involve both types of goals. As we have noted, opinions about goals may differ, you may believe that some of the goals on this list are less important than others or could even be omitted, or you may believe that other important goals should be added.

We should also note that some goals may be defined differently depending on cultural factors, such as what constitutes fairness or freedom. In any case, it is clear that any reasonable discussion of final goals must go beyond simple notions of wealth or efficiency. Well-being is a fundamentally multi-dimensional concept—one that cannot be measured simply in monetary terms such as GDP. In recent years, many economists have been developing new metrics that go beyond GDP, attempting to measure well-being in quantitative terms. We will discuss such metrics in Chapter 21.

2.4 ECONOMICS AND WELL-BEING

Economic activity is not, of course, the only ingredient that goes into creating well-being. Economics cannot make you fall in love, for example, or prevent you from being in a car accident. But economic factors can help to determine whether your job leaves you with the time and energy to date, whether your car has advanced safety features, and whether you have access to affordable medical treatment. A well-functioning economy is one that operates to increase the well-being of all its members.

In Table 1.1, we have suggested a plausible list of final goals to be taken into account in guiding economic activity. Note that these goals can interact in a number of ways. Some economic activities directed toward one goal *enhance* the achievement of other goals. For example, working as a conservation biologist may simultaneously provide a sense of meaning in one's life, promote ecological balance, and bring in income that permits the satisfaction of basic needs. But at other times the pursuit of certain goals may work against the achievement of other goals, either because of conflicts among goals or because of unintended consequences. We now consider these potential problems.

Conflicts Among Goals

If the goal of immediate enjoyment is given too much emphasis, economic activity can actually decrease health and long-term happiness. A supermarket checkout counter offers a good example. Appealing displays of unhealthy snack foods may offer short-term satisfaction, but the temptation of immediate gratification may lead us, even if we are fully informed about the consequences, to make decisions that are unhealthy in the long term.

In addition to tradeoffs between immediate and longer-term impacts, we often also face conflicts among our goals. For example, a current public health debate concerns whether people with contagious, antibiotic-resistant tuberculosis or other dangerous illnesses such as bird flu should be *required* to accept hospital services—in locked wards, if necessary. In this case, we see that the social goal of a physically healthy population and the goal of freedom seem to demand opposite approaches. Likewise, an employer may need to decide between trying to pressure workers to produce the largest possible quantity of some product and wanting to help employees realize their intellectual and social potential on the job.

Unintended Consequences: An Introduction to Externalities

economic actor (economic agent): an individual or organization involved in the economic activities of resource management or the production, distribution, or consumption of goods and services

negative externalities: harmful side effects, or unintended consequences, of economic activity that affect those who are not directly involved in the activity

An **economic actor**, or **economic agent**, is an individual or organization engaged in one or more of four economic activities (explained in detail below)—resource management, and the production, distribution, or consumption of goods and services. Economic actors attempting to achieve one goal may produce unintended side effects. These side effects may be harmful, such as the air pollution generated by the production and use of automobiles. Harmful consequences of an economic activity that affect those who are not directly involved in the activity are called **negative externalities**. In the case of a negative externality like air pollution, neither the firm emitting the pollution nor the consumers buying its products is likely to take the externality into account. But as economists, we need to consider the impacts of the externality on the broader well-being of society. We discuss negative externalities, particularly in relation to environmental issues, in more detail in Chapter 13.

Some of the unintended consequences of economic activity increase well-being. **Positive externalities** are the beneficial effects of an economic activity that accrue to those who are not directly involved in the activity. A college education is an example of an economic activity that generates positive externalities. Although education can be viewed as an economic transaction between the educational institution and the student, society as a whole benefits because college-educated people are likely to be more productive, and this greater productivity is likely to increase incomes and well-being in general.³

Discussion Questions

positive externalities: beneficial side effects, or unintended consequences, of economic activity that accrue to those who are not among the economic actors directly involved in the activity

1. You have evidently made a decision to dedicate some of your personal resources in time and money to studying college economics. Which of the goals listed in Table 1.1 was most important to you (and perhaps to your family or community, if they were involved) in making this decision? Did any of the other goals figure in this decision? If you were to write up a list of your own final goals, would it differ from Table 1.1?
2. How can economic systems deal with the problems caused when some goals conflict with others? For example, what if a goal of increased consumption causes greater environmental damage, with some people enjoying more goods but others suffering from the effects of pollution?

3. THE ISSUES THAT DEFINE ECONOMICS

In discussing goals, we have addressed the question of what economics is *for*—what its purpose is. Now we summarize what economics is *about*: what activities it covers, and which questions it addresses.

3.1 THE FOUR ESSENTIAL ECONOMIC ACTIVITIES

We think of an activity as “economic” when it involves one or more of four essential tasks that allow us to meet our needs and enhance our well-being. The four essential economic activities are resource management, and the production, distribution, and consumption of goods and services.

Resource Management

resource management: preserving or improving the resources that contribute to the enhancement of well-being, including natural, manufactured, human, and social resources

Resource management means tending to, preserving, or improving the resources that contribute to the enhancement of well-being. These stocks of resources, which are valued for their potential economic contributions, are referred to as **capital stocks** or “capital assets.”

We can identify five types of capital that contribute to an economy’s productivity. **Natural capital** refers to physical assets provided by nature, such as land that is suitable for agriculture or other human uses, fresh water sources, healthy ocean ecologies, a resilient and diverse stock of wild animals and plants, and stocks of minerals and fossil fuels that are still in the ground. **Manufactured capital** means physical assets that are generated by applying human productive activities to natural capital. These include such things as buildings, machinery, stocks of refined oil, transportation infrastructure, and inventories of produced goods that are waiting to be sold or to be used in further production. **Human capital** refers to individual people’s capacity for productive work, particularly the knowledge and skills each can personally bring to his or her work. **Social capital** means the existing institutions and the stock of trust, mutual understanding, shared values, and socially held knowledge that facilitates the social coordination of economic activity.

capital stock: any resource that is valued for its potential economic contributions

natural capital:

physical assets
provided by nature

manufactured

capital: all physical
assets that have been
produced by humans
using natural capital

human capital:

people's capacity
for engaging in
productive activities
and their individual
knowledge and skills

social capital:

the institutions and the
stock of trust, mutual
understanding, shared
values, and socially
held knowledge that
facilitates the social
coordination of
economic activity

investment:

an
activity intended to
increase the quantity
or quality of a
resource over time

Production**financial capital:**

funds of purchasing
power available to
purchase goods and
services or facilitate
economic activity

production:

the
conversion of
resources into goods
and services

inputs: resources that
go into production

Distribution**outputs:**

the
goods and services
that result from
production

waste products:

outputs that are
not used either for
consumption or in a
further production
process

distribution:

the
sharing of products
and resources among
people

Consumption**exchange:**

the
trading of one thing
for another

Lastly, there is a fifth sort of resource, **financial capital**, which is a fund of purchasing power available to economic actors. While financial capital is not part of any physical production activity, it indirectly contributes to production by making it possible for people to produce goods and services in advance of getting paid for them. It also facilitates the activities of distribution and consumption. An example of financial capital would be a bank checking account, filled with funds that have been either saved up by the economic agent who owns it or loaned to the agent by a bank.

Notice that economists' description of "capital" is different from what you might hear in everyday use, where people sometimes take "capital" to mean *only* financial capital. We hear this in everyday references to "capital markets," "undercapitalized businesses," "venture capital," and so on. Economists take a broader view, including all five types of capital stocks.

Capital stocks may increase or decrease as a consequence of natural forces, as in the case of a natural forest; or they may be deliberately managed by humans in order to provide needed inputs for the production of goods and services. When people work to increase the quantity or quality of resources in order to make benefits possible in the future, this is what economists mean by **investment**. Advances in technology also expand or improve the stocks of capital, including manufactured, human, and social capital, thereby increasing the productivity of economic activity.

One way to understand resource management is that it is about making sure that investments are sufficient to provide an economy with a good asset base for future years and future generations. Forestry projects that plant trees for future use are one common example of resource management, but there are many others. Child care and education prepare people for future economic activity as well as directly improve well-being. Other examples of resource management include figuring out what would be a good site for a new solar or wind power facility, maintaining or improving transportation infrastructure (subways, roads, etc.), repairing machinery in a factory or expanding the knowledge, skills, and morale of the employees.

Production is the conversion of resources into usable products, which may be either goods or services. Goods are tangible objects, such as bread and books; services are intangibles, such as TV broadcasting, teaching, and haircuts. Popular bands performing music, recording companies producing digital music for sale, local governments building roads, and individuals cooking meals at home are all engaged in the economic activity of production.

The economic activity of production converts some resources, which we call **inputs**, into new goods and services, which we refer to as **outputs**. This conversion is a flow that takes place over a period of time (See Box 1.2). Some goods, such as machines and computers, are produced to assist in the production of other goods and services. The way in which production occurs depends on available technologies. Production processes can also lead to undesirable outputs, such as pollution and **waste products**. We consider only *useful* outputs to be economic goods and services.

Distribution is the sharing of products and resources among people. In contemporary economies, distribution activities take two main forms: **exchange** and **transfer**. When you hand over money in exchange for goods and services, you are engaging in exchange. People are generally much better off if they specialize in the production of a limited range of goods and services and meet most of their needs through exchange than if they try to produce everything that they need themselves. Distribution also takes place through one-way transfers, in which something is given with nothing specific expected in return. Social Security payments are an example of a transfer payment, and transfers can also take place among individuals. Parents are engaged in transfer when they provide their children with goods and services. Gifts and inheritances are also transfers. Local school boards, for example, distribute education services to students in their districts, tuition-free (although public education is, of course, supported by tax revenues). These sorts of nonmonetary transfers are called **in-kind transfers**.

Consumption is the process by which goods and services are put to final use by people. In some cases, such as eating a meal or burning gasoline in a car, goods are literally "consumed" in the sense that they are used up and are no longer available for other uses. In other cases, such as enjoying art in a museum, the experience may be "consumed" without excluding others or using up material resources.

Box 1.2 STOCKS VERSUS FLOWS

When noneconomists use the term “stock,” they usually mean ownership shares in enterprises that are traded on the “stock market.” To an economist, however, the concept of a **stock** refers to something as it is measured at a particular point in time. For example, the amount of water in a bathtub can be measured at one particular instant, and that quantity would be considered a stock. The balance in your checking account at the beginning of the month is a stock value. The number of computers in an office at ten o’clock on Tuesday morning is a stock, as is the number of trees in a forest at two o’clock on Saturday afternoon.

stock: the quantity of something at a particular point in time

In contrast to stocks, **flows** are measured over a period of time. For example, the water that goes into a bathtub from a faucet is a flow; its quantity can be measured per minute or per hour. The deposits and withdrawals you make to your checking account are flows; your bank statement will tell you what the various flows were during a month. The number of computers purchased by an office over the course of this month or this year is a flow. So is the number of computers sold or junked over a period of time. As trees grow or are cut down or felled by lightning, these flows add to or subtract from forest resources.

Flows can either add to stocks or decrease them. Figure 1.1 is a generalized **stock-flow diagram**, which shows how flows change the level of a stock over time, either by adding to it or taking away from it.

flow: something whose quantity is measured over a period of time

stock-flow diagram: a diagram that shows how a stock changes over time, as flows add to it or subtract from it

Figure 1.2 gives an alternative representation of the relation of stocks and flows, this time showing a stock at only one point in

time. Like water flowing through the tap (additions) and the drain (subtractions) of a bathtub, flows raise or lower the level of the water in the tub (stock).

Figure 1.1 The General Stock-Flow Diagram

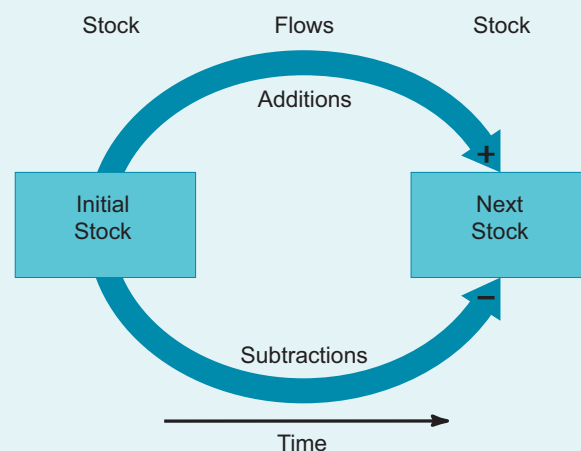
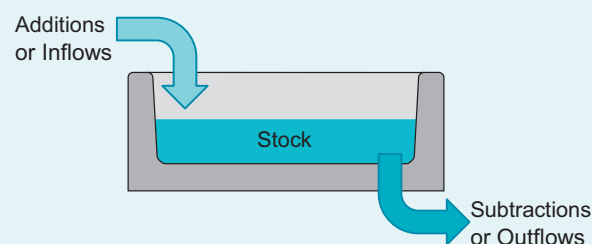


Figure 1.2 “Bathtub”-Style Diagram



transfer: the giving of something, with nothing specific expected in return

in-kind transfers: transfers of goods or services

consumption: the final use of a good or service

saving: refraining from consumption in the current period

In macroeconomics, the activity of consumption is frequently contrasted with the resource management activity of *investment*. The two activities, production and investment, are linked by the activity of **saving**, or refraining from consumption today in order to gain benefits in the future.

Many real-world economic undertakings involve more than one of the four economic activities. A steelmaking firm, for example, engages in production of steel while distributing the revenues from sales among its employees, managers, and stockholders. A family that grows crops for domestic use is engaged in both production and consumption.

Resource management in particular often overlaps with production, consumption, and distribution. For example, the production of paper using recycled materials can be classified as both production, because a good is being produced, and resource management, because the impact on natural resources is minimized.

A final point on the relationship between resource management and the other economic activities is that sometimes resource management means *not* engaging in production, consumption, or distribution. For example, people who make voluntary decisions to minimize their unnecessary consumption are managing resources to reduce their ecological impacts. Although this may look like *inactivity*, including resource management as an economic activity implies that minimizing some kinds of production or consumption can contribute to well-being. Throughout this textbook you will find many examples and analyses of the four basic economic activities listed above. The first half of the book, dealing with microeconomics, will contain the largest portion of the material on production and consumption.