



N. GREGORY MANKIW

PRINCIPLES OF **ECONOMICS**

NINTH EDITION



Principles of Economics: a Guided Tour

INTRODUCTION

- 1 Ten Principles of Economics ————— *The study of economics is guided by a few big ideas.*
- 2 Thinking Like an Economist ————— *Economists view the world as both scientists and policymakers.*
- 3 Interdependence and the Gains from Trade ——— *The theory of comparative advantage explains how people benefit from economic interdependence.*

HOW MARKETS WORK

- 4 The Market Forces of Supply and Demand ——— *How does the economy coordinate interdependent economic actors? Through the market forces of supply and demand.*
- 5 Elasticity and Its Application —————
- 6 Supply, Demand, and Government Policies ——— *The tools of supply and demand are put to work to examine the effects of various government policies.*

MARKETS AND WELFARE

- 7 Consumers, Producers, and the Efficiency of Markets ——— *Why is the equilibrium of supply and demand desirable for society as a whole? The concepts of consumer and producer surplus explain the efficiency of markets, the costs of taxation, and the benefits of international trade.*
- 8 Application: The Costs of Taxation —————
- 9 Application: International Trade —————

THE ECONOMICS OF THE PUBLIC SECTOR

- 10 Externalities ————— *Market outcomes are not always efficient, and governments can sometimes remedy market failure.*
- 11 Public Goods and Common Resources ———
- 12 The Design of the Tax System ————— *To fund programs, governments raise revenue through their tax systems, which are designed with an eye toward balancing efficiency and equity.*

FIRM BEHAVIOR AND THE ORGANIZATION OF INDUSTRY

- 13 The Costs of Production ————— *The theory of the firm sheds light on the decisions that lie behind supply in competitive markets.*
- 14 Firms in Competitive Markets —————
- 15 Monopoly ————— *Firms with market power can cause market outcomes to be inefficient.*
- 16 Monopolistic Competition —————
- 17 Oligopoly —————

THE ECONOMICS OF LABOR MARKETS

- 18 The Markets for the Factors of Production
- 19 Earnings and Discrimination
- 20 Income Inequality and Poverty

These chapters examine the special features of labor markets, in which most people earn most of their income.

TOPICS FOR FURTHER STUDY

- 21 The Theory of Consumer Choice
- 22 Frontiers of Microeconomics

Additional topics in microeconomics include household decision making, asymmetric information, political economy, and behavioral economics.

THE DATA OF MACROECONOMICS

- 23 Measuring a Nation's Income
- 24 Measuring the Cost of Living

The overall quantity of production and the overall price level are used to monitor developments in the economy as a whole.

THE REAL ECONOMY IN THE LONG RUN

- 25 Production and Growth
- 26 Saving, Investment, and the Financial System
- 27 The Basic Tools of Finance
- 28 Unemployment

These chapters describe the forces that in the long run determine key real variables, including GDP growth, saving, investment, real interest rates, and unemployment.

MONEY AND PRICES IN THE LONG RUN

- 29 The Monetary System
- 30 Money Growth and Inflation

The monetary system is crucial in determining the long-run behavior of the price level, the inflation rate, and other nominal variables.

THE MACROECONOMICS OF OPEN ECONOMIES

- 31 Open-Economy Macroeconomics: Basic Concepts
- 32 A Macroeconomic Theory of the Open Economy

A nation's economic interactions with other nations are described by its trade balance, net foreign investment, and exchange rate.

A long-run model of the open economy explains the determinants of the trade balance, the real exchange rate, and other real variables.

SHORT-RUN ECONOMIC FLUCTUATIONS


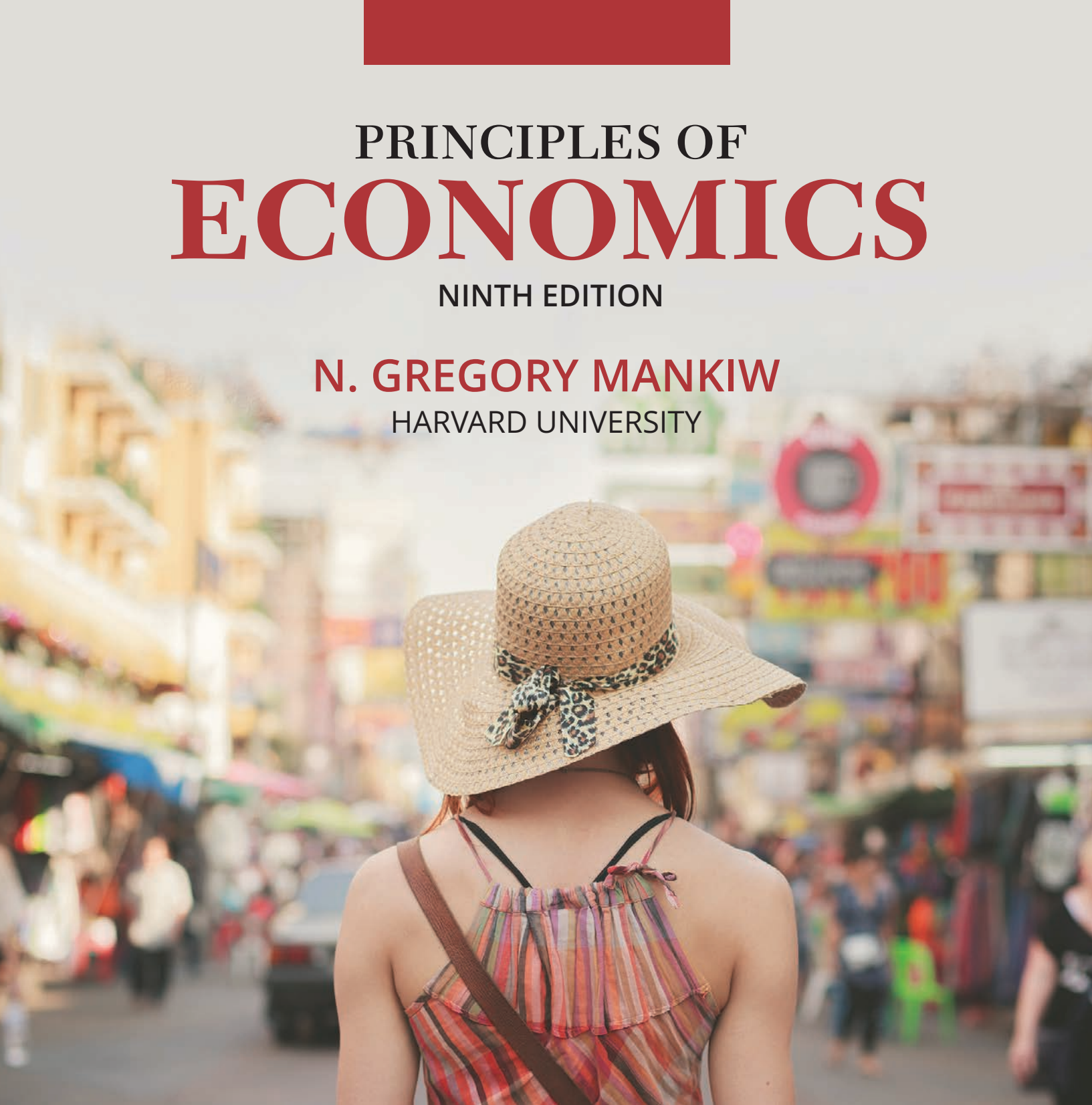
- 33 Aggregate Demand and Aggregate Supply
- 34 The Influence of Monetary and Fiscal Policy on Aggregate Demand
- 35 The Short-Run Trade-off between Inflation and Unemployment

The model of aggregate demand and aggregate supply explains short-run economic fluctuations, the short-run effects of monetary and fiscal policy, and the short-run linkage between real and nominal variables.

FINAL THOUGHTS

- 36 Six Debates over Macroeconomic Policy

A capstone chapter presents both sides of six major debates over economic policy.



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Australia • Brazil • Mexico • Singapore • United Kingdom • United States

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*To Catherine, Nicholas, and Peter,
my other contributions to the next generation*

About the Author



JORDI CABRÉ

N. Gregory Mankiw is the Robert M. Beren Professor of Economics at Harvard University. As a student, he studied economics at Princeton University and MIT. As a teacher, he has taught macroeconomics, microeconomics, statistics, and principles of economics. He even spent one summer long ago as a sailing instructor on Long Beach Island.

Professor Mankiw is a prolific writer and a regular participant in academic and policy debates. His work has been published in scholarly journals, such as the *American Economic Review*, *Journal of Political Economy*, and *Quarterly Journal of Economics*, and in more popular forums, such as the *New York Times* and *The Wall Street Journal*. He is also author of the best-selling intermediate-level textbook *Macroeconomics* (Worth Publishers).

In addition to his teaching, research, and writing, Professor Mankiw has been a research associate of the National Bureau of Economic Research, an adviser to the Congressional Budget Office and the Federal Reserve Banks of Boston and New York, a trustee of the Urban Institute, and a member of the ETS test development committee for the Advanced Placement exam in economics. From 2003 to 2005, he served as chairman of the President's Council of Economic Advisers.



Preface: To the Instructor

During my 20-year career as a student, the course that excited me most was the two-semester sequence on the principles of economics that I took during my freshman year in college. It is no exaggeration to say that it changed my life.

I had grown up in a family that often discussed politics over the dinner table. The pros and cons of various solutions to society's problems generated fervent debate. But in school, I had been drawn to the sciences. Whereas politics seemed vague, rambling, and subjective, science was analytic, systematic, and objective. While political debate continued without end, science made progress.

My freshman course on the principles of economics opened my eyes to a new way of thinking. Economics combines the virtues of politics and science. It is, truly, a social science. Its subject matter is society—how people choose to lead their lives and how they interact with one another—but it approaches the subject with the dispassion of a science. By bringing the methods of science to the questions of politics, economics tries to make progress on the challenges that all societies face.

I was drawn to write this book in the hope that I could convey some of the excitement about economics that I felt as a student in my first economics course. Economics is a subject in which a little knowledge goes a long way. (The same cannot be said, for instance, of the study of physics or the Chinese language.) Economists have a unique way of viewing the world, much of which can be taught in one or two semesters. My goal in this book is to transmit this way of thinking to the widest possible audience and to convince readers that it illuminates much about the world around them.

I believe that everyone should study the fundamental ideas that economics has to offer. One purpose of general education is to inform people about the world and thereby make them better citizens. The study of economics, as much as any discipline, serves this goal. Writing an economics textbook is, therefore, a great honor and a great responsibility. It is one way that economists can help promote better government and a more prosperous future. As the great economist Paul Samuelson put it, "I don't care who writes a nation's laws, or crafts its advanced treaties, if I can write its economics textbooks."

What's New in the Ninth Edition?

Economics is fundamentally about understanding the world in which we live. Most chapters of this book include Case Studies illustrating how the principles of economics can be applied. In addition, In the News boxes offer excerpts from newspapers, magazines, and online news sources showing how economic ideas shed light on current issues facing society. After students finish their first course

in economics, they should think about news stories from a new perspective and with greater insight. To keep the study of economics fresh and relevant for each new cohort of students, I update each edition of this text to keep pace with the ever-changing world.

The new applications in this ninth edition are too numerous to list in their entirety, but here is a sample of the topics covered (and the chapters in which they appear):

- Technology companies are increasingly using economists to better run their businesses. (Chapter 2)
- The hit Broadway show *Hamilton* has brought renewed attention to the issue of ticket reselling. (Chapter 7)
- President Trump has taken a new and controversial approach to international trade. (Chapter 9)
- A carbon tax and dividend plan has become a focal policy in the debate about global climate change. (Chapter 10)
- Social media share many features, along with many of the problems, associated with common resources. (Chapter 11)
- The Supreme Court hears a case about international price discrimination. (Chapter 15)
- Amazon looks like it might be the next target for antitrust regulators. (Chapter 17)
- The winners and losers from immigration have become a major issue in the political debate. (Chapter 18)
- Research on tax data shows by how much the super-rich have gotten even richer. (Chapter 20)
- Some economists suggest that, despite little change in the official poverty rate, we are winning the war on poverty. (Chapter 20)
- The theory of economic growth can help explain why so many of the world's poorest nations are in sub-Saharan Africa. (Chapter 25)
- Economist Martin Feldstein explains why the United States is so prosperous. (Chapter 25)
- Cryptocurrencies may be the money of the future, or they may be a passing fad. (Chapter 29)
- Living during a hyperinflation, such as the recent situation in Venezuela, is a surreal experience. (Chapter 30)
- Recent discussion of trade deficits has included a lot of misinformation. (Chapter 32)
- The Federal Reserve has started to reassess what it means to target an inflation rate of 2 percent. (Chapter 36)

In addition to updating the book, I have refined its coverage and pedagogy with input from many users of the previous edition. There are numerous changes, large and small, aimed at making the book clearer and more student-friendly.

All the changes that I made, and the many others that I considered, were evaluated in light of the benefits of brevity. Like most things that we study in economics, a student's time is a scarce resource. I always keep in mind a dictum from the great novelist Robertson Davies: "One of the most important things about writing is to boil it down and not bore the hell out of everybody."