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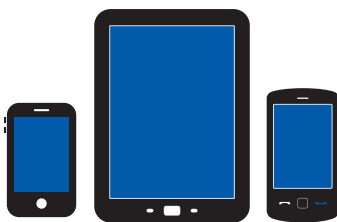
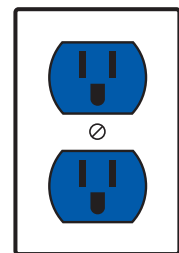
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For Robin—P.K.

For my family—M.O.

For Clair, Benjamin, and Max—M.M.

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Authorized adaptation from the United States edition, entitled International Economics: Theory & Policy, 11th Edition, ISBN 978-0-13-451957-9 by Paul R. Krugman, Maurice Obstfeld, and Marc J. Melitz, published by Pearson Education © 2018.

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ISBN 10: 1-292-21487-2

ISBN 13: 978-1-292-21487-0

British Library Cataloguing-in-Publication Data

A catalogue record for this book is available from the British Library

10 9 8 7 6 5 4 3 2 1

Typeset in Times NR MT Pro by SPi Global

Printed and bound by Vivar in Malaysia

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Preface

Years after the global financial crisis that broke out in 2007–2008, the world economy is still afflicted by tepid economic growth and, for many people, stagnating incomes. The United States has more or less returned to full employment, but it is growing more slowly than it did before the crisis. Nonetheless, it has been relatively fortunate. Europe's common currency project faces continuing strains and the European Union is itself under stress, given Britain's June 2016 vote to withdraw and a surge in anti-immigration sentiment. Japan continues to face deflation pressures and a sky-high level of public debt. Emerging markets, despite impressive income gains in many cases, remain vulnerable to the ebb and flow of global capital and the ups and downs of world commodity prices. Uncertainty weighs on investment globally, driven not least by worries about the future of the liberal international trade regime built up so painstakingly after World War II.

This eleventh edition therefore comes out at a time when we are more aware than ever before of how events in the global economy influence each country's economic fortunes, policies, and political debates. The world that emerged from World War II was one in which trade, financial, and even communication links between countries were limited. Nearly two decades into the 21st century, however, the picture is very different. Globalization has arrived, big time. International trade in goods and services has expanded steadily over the past six decades thanks to declines in shipping and communication costs, globally negotiated reductions in government trade barriers, the widespread outsourcing of production activities, and a greater awareness of foreign cultures and products. New and better communications technologies, notably the Internet, have revolutionized the way people in all countries obtain and exchange information. International trade in financial assets such as currencies, stocks, and bonds has expanded at a much faster pace even than international product trade. This process brings benefits for owners of wealth but also creates risks of contagious financial instability. Those risks were realized during the recent global financial crisis, which spread quickly across national borders and has played out at huge cost to the world economy. Of all the changes on the international scene in recent decades, however, perhaps the biggest one remains the emergence of China—a development that is already redefining the international balance of economic and political power in the coming century.

Imagine how astonished the generation that lived through the depressed 1930s as adults would have been to see the shape of today's world economy! Nonetheless, the economic concerns that drive international debate have not changed that much from those that dominated the 1930s, nor indeed since they were first analyzed by economists more than two centuries ago. What are the merits of free trade among nations compared with protectionism? What causes countries to run trade surpluses or deficits with their trading partners, and how are such imbalances resolved over time? What causes banking and currency crises in open economies, what causes financial contagion between economies, and how should governments handle international financial instability? How can governments avoid unemployment and inflation, what role do exchange rates play in their efforts, and how can countries best cooperate to achieve their economic goals? As always in international economics, the interplay of events and ideas has led to new modes of analysis. In turn, these analytical advances, however abstruse they may seem at first, ultimately do end up playing a major role in governmental policies, in international negotiations, and in people's everyday lives. Globalization has made

citizens of all countries much more aware than ever before of the worldwide economic forces that influence their fortunes, and globalization is here to stay. As we shall see, globalization can be an engine of prosperity, but like any powerful machine it can do damage if managed unwisely. The challenge for the global community is to get the most out of globalization while coping with the challenges that it raises for economic policy.

New to the Eleventh Edition

For this edition as for the last one, we are offering an Economics volume as well as Trade and Finance splits. The goal with these distinct volumes is to allow professors to use the book that best suits their needs based on the topics they cover in their International Economics course. In the Economics volume for a two-semester course, we follow the standard practice of dividing the book into two halves, devoted to trade and to monetary questions. Although the trade and monetary portions of international economics are often treated as unrelated subjects, even within one textbook, similar themes and methods recur in both subfields. We have made it a point to illuminate connections between the trade and monetary areas when they arise. At the same time, we have made sure that the book's two halves are completely self-contained. Thus, a one-semester course on trade theory can be based on Chapters 2 through 12, and a one-semester course on international monetary economics can be based on Chapters 13 through 22. For professors' and students' convenience, however, they can now opt to use either the Trade or the Finance volume, depending on the length and scope of their course.

We have thoroughly updated the content and extensively revised several chapters. These revisions respond both to users' suggestions and to some important developments on the theoretical and practical sides of international economics. The most far-reaching changes are the following:

- **Chapter 4, Specific Factors and Income Distribution** Import competition from developing countries—especially from China—is often singled out in both the press and by politicians as the main culprit for declines in manufacturing employment in the United States. A new Case Study documents the trend toward greater wage convergence in the European Union following its expansion to the East. Another Case Study outlines the immigration policies recently adopted or being considered by the United States and their potential economic impact.
- **Chapter 5, Resources and Trade: The Heckscher-Ohlin Model** Over the past half century, the compensation of capital owners relative to workers has increased in the United States. A new box reviews this evidence and explains why it is best explained by a process of technological change exhibiting capital-skill complementarity rather than by increased trade between the United States and newly industrializing economies.
- **Chapter 6, The Standard Trade Model** A new box discusses some recent evidence showing that the gains from trade have a pro-poor bias. A new Case Study discusses whether advanced economies are experiencing a deterioration in their terms of trade as their Third World trading partners grow.
- **Chapter 8, Firms in the Global Economy: Export Decisions, Outsourcing, and Multinational Enterprises** Increasingly, the goods we consume are produced in “Global Value Chains” that stretch around the world. A new box explains how this recent offshoring trend leads to very misleading statistics for bilateral trade deficits. Using the example of Apple's iPhone 7, the box describes how recorded imports of the iPhone from China (where it is assembled) actually represent imports from many

countries around the world (including the United States) that contribute key components used in the final assembly.

- **Chapter 10, The Political Economy of Trade Policy** Recent years have seen some significant setbacks to the march toward freer trade. The revised chapter reviews the failure of the Doha Round of trade negotiations to reach agreement, and the apparent failure of the Trans-Pacific Partnership. A new box discusses “Brexit,” Britain’s startling vote to leave the European Union.
- **Chapter 12, Controversies in Trade Policy** With the backlash against globalization achieving considerable political traction, a new section describes new research suggesting that rapid changes in international trade flows, such as the “China shock” after 2000, have larger adverse effects on workers than previously realized.
- **Chapter 14, Exchange Rates and the Foreign Exchange Market: An Asset Approach** China’s currency, the yuan renminbi, is playing an increasingly important role in world currency markets. But its government has moved only gradually to integrate the local foreign exchange market with global markets, thereby allowing a separate offshore market in yuan to develop outside mainland China’s borders. This chapter features a new box describing the offshore market and the relationship between the onshore and offshore exchange rates.
- **Chapter 17, Output and the Exchange Rate in the Short Run** The chapter includes a new box on the role of invoice currencies in exchange-rate pass-through.
- **Chapter 19, International Monetary Systems: An Historical Overview** The dangers of deflation are outlined in a new box.
- **Chapter 21, Optimum Currency Areas and the Euro** The chapter contains a new box on “Brexit”—the process through which Britain is likely to leave the European Union.
- **Chapter 22, Developing Countries: Growth, Crisis, and Reform** The chapter highlights the key role of commodities in developing-country growth, and the commodity “super cycle.”

In addition to these structural changes, we have updated the book in other ways to maintain current relevance. Thus, we discuss the impact of the Automobile Intra-Industry Trade within the Association of Southeast Asian Nations-4 (ASEAN-4), namely Indonesia, Malaysia, the Philippines, and Thailand between 1998–2002 (Chapter 8); we describe the origin of tariff-rate quotas and its practical application with oilseeds, noting that tariff quotas for these goods are more often applied than those for the traditionally protected products, like dairy or sugar (Chapter 9); we discuss the role of negative interest rates in unconventional monetary policy (Chapter 17); and we highlight the increasingly important role of emerging market economies in driving global growth (Chapter 22).

About the Book

The idea of writing this book came out of our experience in teaching international economics to undergraduates and business students since the late 1970s. We perceived two main challenges in teaching. The first was to communicate to students the exciting intellectual advances in this dynamic field. The second was to show how the development of international economic theory has traditionally been shaped by the need to understand the changing world economy and analyze actual problems in international economic policy.

We found that published textbooks did not adequately meet these challenges. Too often, international economics textbooks confront students with a bewildering array

of special models and assumptions from which basic lessons are difficult to extract. Because many of these special models are outmoded, students are left puzzled about the real-world relevance of the analysis. As a result, many textbooks often leave a gap between the somewhat antiquated material to be covered in class and the exciting issues that dominate current research and policy debates. That gap has widened dramatically as the importance of international economic problems—and enrollments in international economics courses—have grown.

This book is our attempt to provide an up-to-date and understandable analytical framework for illuminating current events and bringing the excitement of international economics into the classroom. In analyzing both the real and monetary sides of the subject, our approach has been to build up, step by step, a simple, unified framework for communicating the grand traditional insights as well as the newest findings and approaches. To help the student grasp and retain the underlying logic of international economics, we motivate the theoretical development at each stage by pertinent data and policy questions.

The Place of This Book in the Economics Curriculum

Students assimilate international economics most readily when it is presented as a method of analysis vitally linked to events in the world economy, rather than as a body of abstract theorems about abstract models. Our goal has therefore been to stress concepts and their application rather than theoretical formalism. Accordingly, the book does not presuppose an extensive background in economics. Students who have had a course in economic principles will find the book accessible, but students who have taken further courses in microeconomics or macroeconomics will find an abundant supply of new material. Specialized appendices and mathematical postscripts have been included to challenge the most advanced students.

Some Distinctive Features

This book covers the most important recent developments in international economics without shortchanging the enduring theoretical and historical insights that have traditionally formed the core of the subject. We have achieved this comprehensiveness by stressing how recent theories have evolved from earlier findings in response to an evolving world economy. Both the real trade portion of the book (Chapters 2 through 12) and the monetary portion (Chapters 13 through 22) are divided into a core of chapters focused on theory, followed by chapters applying the theory to major policy questions, past and current.

In Chapter 1, we describe in some detail how this book addresses the major themes of international economics. Here we emphasize several of the topics that previous authors failed to treat in a systematic way.

Increasing Returns and Market Structure

Even before discussing the role of comparative advantage in promoting international exchange and the associated welfare gains, we visit the forefront of theoretical and empirical research by setting out the gravity model of trade (Chapter 2). We return to the research frontier (in Chapters 7 and 8) by explaining how increasing returns and product differentiation affect trade and welfare. The models explored in this discussion capture significant aspects of reality, such as intraindustry trade and shifts in trade

patterns due to dynamic scale economies. The models show, too, that mutually beneficial trade need not be based on comparative advantage.

Firms in International Trade

Chapter 8 also summarizes exciting new research focused on the role of firms in international trade. The chapter emphasizes that different firms may fare differently in the face of globalization. The expansion of some and the contraction of others shift overall production toward more efficient producers within industrial sectors, raising overall productivity and thereby generating gains from trade. Those firms that expand in an environment of freer trade may have incentives to outsource some of their production activities abroad or take up multinational production, as we describe in the chapter.

Politics and Theory of Trade Policy

Starting in Chapter 4, we stress the effect of trade on income distribution as the key political factor behind restrictions on free trade. This emphasis makes it clear to students why the prescriptions of the standard welfare analysis of trade policy seldom prevail in practice. Chapter 12 explores the popular notion that governments should adopt activist trade policies aimed at encouraging sectors of the economy seen as crucial. The chapter includes a theoretical discussion of such trade policy based on simple ideas from game theory.

Asset Market Approach to Exchange Rate Determination

The modern foreign exchange market and the determination of exchange rates by national interest rates and expectations are at the center of our account of open-economy macroeconomics. The main ingredient of the macroeconomic model we develop is the interest parity relation, augmented later by risk premiums (Chapter 14). Among the topics we address using the model are exchange rate “overshooting”; inflation targeting; behavior of real exchange rates; balance-of-payments crises under fixed exchange rates; and the causes and effects of central bank intervention in the foreign exchange market (Chapters 15 through 18).

International Macroeconomic Policy Coordination

Our discussion of international monetary experience (Chapters 19 through 22) stresses the theme that different exchange rate systems have led to different policy coordination problems for their members. Just as the competitive gold scramble of the interwar years showed how beggar-thy-neighbor policies can be self-defeating, the current float challenges national policymakers to recognize their interdependence and formulate policies cooperatively.

The World Capital Market and Developing Countries

A broad discussion of the world capital market is given in Chapter 20 which takes up the welfare implications of international portfolio diversification as well as problems of prudential supervision of internationally active banks and other financial institutions. Chapter 22 is devoted to the long-term growth prospects and to the specific macroeconomic stabilization and liberalization problems of industrializing and newly industrialized countries. The chapter reviews emerging market crises and places in historical perspective the interactions among developing country borrowers, developed country lenders, and official financial institutions such as the International Monetary

Fund. Chapter 22 also reviews China's exchange-rate policies and recent research on the persistence of poverty in the developing world.

Learning Features

This book incorporates a number of special learning features that will maintain students' interest in the presentation and help them master its lessons.

Case Studies

Case studies that perform the threefold role of reinforcing material covered earlier, illustrating its applicability in the real world, and providing important historical information often accompany theoretical discussions.

Special Boxes

Less central topics that nonetheless offer particularly vivid illustrations of points made in the text are treated in boxes. Among these are the discussions on economic isolation and autarky using Francisco Franco Spain and the era of the "Spanish Miracle" (Chapter 3); the astonishing ability of disputes over banana trade to generate acrimony among countries far too cold to grow any of their own bananas (Chapter 10); the role of currency swap lines among central banks (Chapter 20); and the rapid accumulation of foreign exchange reserves by developing countries (Chapter 22).

Captioned Diagrams

More than 200 diagrams are accompanied by descriptive captions that reinforce the discussion in the text and help the student in reviewing the material.

Learning Goals

A list of essential concepts sets the stage for each chapter in the book. These learning goals help students assess their mastery of the material.

Summary and Key Terms

Each chapter closes with a summary recapitulating the major points. Key terms and phrases appear in boldface type when they are introduced in the chapter and are listed at the end of each chapter. To further aid student review of the material, key terms are italicized when they appear in the chapter summary.

Problems

Each chapter is followed by problems intended to test and solidify students' comprehension. The problems range from routine computational drills to "big picture" questions suitable for classroom discussion. In many problems we ask students to apply what they have learned to real-world data or policy questions.

Further Readings


For instructors who prefer to supplement the textbook with outside readings, and for students who wish to probe more deeply on their own, each chapter has an annotated bibliography that includes established classics as well as up-to-date examinations of recent issues.

Pearson MyLab Economics

Pearson MyLab Economics

Pearson MyLab Economics is the premier online assessment and tutorial system, pairing rich online content with innovative learning tools. Pearson MyLab Economics includes comprehensive homework, quiz, test, and tutorial options, allowing instructors to manage all assessment needs in one program. Key innovations in the Pearson MyLab Economics course for the eleventh edition of *International Economics: Theory & Policy* include the following:



- *Real-Time Data Analysis Exercises*, marked with , allow students and instructors to use the latest data from FRED, the online macroeconomic data bank from the Federal Reserve Bank of St. Louis. By completing the exercises, students become familiar with a key data source, learn how to locate data, and develop skills to interpret data.
- The Pearson *eText* gives students access to their textbook anytime, anywhere. In addition to note-taking, highlighting, and bookmarking, the Pearson eText offers interactive and sharing features. Students actively read and learn through auto-graded practice, real-time data-graphs, figure animations, author videos, and more.
- *Current News Exercises*—Every week, current microeconomic and macroeconomic news articles or videos, with accompanying exercises, are posted to Pearson MyLab Economics. Assignable and auto-graded, these multi-part exercises ask students to recognize and apply economic concepts to real-world events.

Students and Pearson MyLab Economics

This online homework and tutorial system puts students in control of their own learning through a suite of study and practice tools correlated with the online, interactive version of the textbook and learning aids such as animated figures. Within Pearson MyLab Economics's structured environment, students practice what they learn, test their understanding, and then pursue a study plan that Pearson MyLab Economics generates for them based on their performance.

Instructors and Pearson MyLab Economics

Pearson MyLab Economics provides flexible tools that allow instructors easily and effectively to customize online course materials to suit their needs. Instructors can create and assign tests, quizzes, or homework assignments. Pearson MyLab Economics saves time by automatically grading all questions and tracking results in an online gradebook. Pearson MyLab Economics can even grade assignments that require students to draw a graph.

After registering for Pearson MyLab Economics instructors have access to downloadable supplements such as an instructor's manual, PowerPoint lecture notes, and a test bank. The test bank can also be used within Pearson MyLab Economics, giving instructors ample material from which they can create assignments—or the Custom Exercise Builder makes it easy for instructors to create their own questions.

Weekly news articles, video, and RSS feeds help keep students updated on current events and make it easy for instructors to incorporate relevant news in lectures and homework.

For more information about Pearson MyLab Economics or to request an instructor access code, visit www.myeconlab.com.

Additional Supplementary Resources

A full range of additional supplementary materials to support teaching and learning accompanies this book.

- The Online Instructor’s Manual—updated by Hisham Foad of San Diego State University—includes chapter overviews and answers to the end-of-chapter problems.
- The Online Test Bank offers a rich array of multiple-choice and essay questions, including some mathematical and graphing problems, for each textbook chapter. It is available in Word, PDF, and TestGen formats. This Test Bank was carefully revised and updated by Van Pham of Salem State University.
- The Computerized Test Bank reproduces the Test Bank material in the TestGen software that is available for Windows and Macintosh. With TestGen, instructors can easily edit existing questions, add questions, generate tests, and print the tests in a variety of formats.
- The Online PowerPoint Presentation with Tables, Figures, & Lecture Notes was revised by Amy Glass of Texas A&M University. This resource contains all text figures and tables and can be used for in-class presentations.
- The Companion Web Site at www.pearsonglobaleditions.com/Krugman contains additional appendices. (See page 18 of the Contents for a detailed list of the Online Appendices.)

Instructors can download supplements from our secure Instructor’s Resource Center. Please visit www.pearsonglobaleditions.com/Krugman.

Acknowledgments

Our primary debt is to Ashley Bryan, the Pearson Portfolio Manager in charge of the project. We also are grateful to the Pearson Content Producer, Nancy Freihofer, the Pearson Managing Producer, Alison Kalil, and the Editorial Project Manager at SPi Global, Carla Thompson. Julie Kidd’s efforts as Project Manager with SPi Global were essential and efficient. We would also like to thank the digital product team at Pearson—Brian Surette, Noel Lotz, Courtney Kamauf, and Melissa Honig—for all their hard work on the Pearson MyLab Economics course for the eleventh edition. Last, we thank the other editors who helped make the first ten editions of this book as good as they were.

We also wish to acknowledge the sterling research assistance of Lydia Cox and Mauricio Ulate. We thank the following reviewers, past and present, for their recommendations and insights:

Jaleel Ahmad, *Concordia University*
 Lian An, *University of North Florida*
 Anthony Paul Andrews, *Governors State University*
 Myrvin Anthony, *University of Strathclyde, U.K.*
 Michael Arghyrou, *Cardiff University*
 Richard Ault, *Auburn University*
 Amitrajeet Batabyal, *Rochester Institute of Technology*

Tibor Besedes, *Georgia Tech*
 George H. Borts, *Brown University*
 Robert F. Brooker, *Gannon University*
 Francisco Carrada-Bravo, *W.P. Carey School of Business, ASU*
 Debajyoti Chakrabarty, *University of Sydney*
 Adhip Chaudhuri, *Georgetown University*
 Jay Pil Choi, *Michigan State University*
 Jaiho Chung, *National University of Singapore*

- Jonathan Conning, *Hunter College and The Graduate Center, The City University of New York*
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Patricia Higinio Schneider, *Mount Holyoke College*
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Margaret Simpson, *The College of William and Mary*
Enrico Spolaore, *Tufts University*
Robert Staiger, *University of Wisconsin-Madison*
Jeffrey Steagall, *University of North Florida*
Robert M. Stern, *University of Michigan*
Abdulhamid Sukar, *Cameron University*
Rebecca Taylor, *University of Portsmouth, U.K.*
Scott Taylor, *University of British Columbia*
Aileen Thompson, *Carleton University*
Sarah Tinkler, *Portland State University*
Arja H. Turunen-Red, *University of New Orleans*
Dick vander Wal, *Free University of Amsterdam*
Gerald Willmann, *University of Kiel*

Susan Wolcott, *State University of New York,
Binghamton*
Rossitza Wooster, *California State University,
Sacramento*

Bruce Wydick, *University of San Francisco*
Jiawen Yang, *The George Washington University*
Kevin H. Zhang, *Illinois State University*

Although we have not been able to make each and every suggested change, we found reviewers' observations invaluable in revising the book. Obviously, we bear sole responsibility for its remaining shortcomings.

*Paul R. Krugman
Maurice Obstfeld
Marc J. Melitz
January 2017*

Global Edition Acknowledgments

We want to thank the following people for their contributions:

Viktorija Cohen, *Vilnius University, Lithuania*
Florian Kaulich, *Vienna University of Economics and Business, Austria*
Archontis Pantsios, *Liverpool Hope University, the United Kingdom*
Gabriela Sterian, *Romanian-American University, Romania*
Patrick Terroir, *Sciences Po, France*

We would also like to thank the following people for reviewing the Global Edition and sharing their insightful comments and suggestions:

Valentin Cojanu, *The Bucharest Academy of Economic Studies, Romania*
Michael Graff, *KOF Swiss Economic Institute, Switzerland*
Kwan Wai KO, *The Chinese University of Hong Kong, Hong Kong*
Carsten Küchler, *Lucerne School of Business, Switzerland*
Mario Pezzino, *The University of Manchester, the United Kingdom*

INTRODUCTION

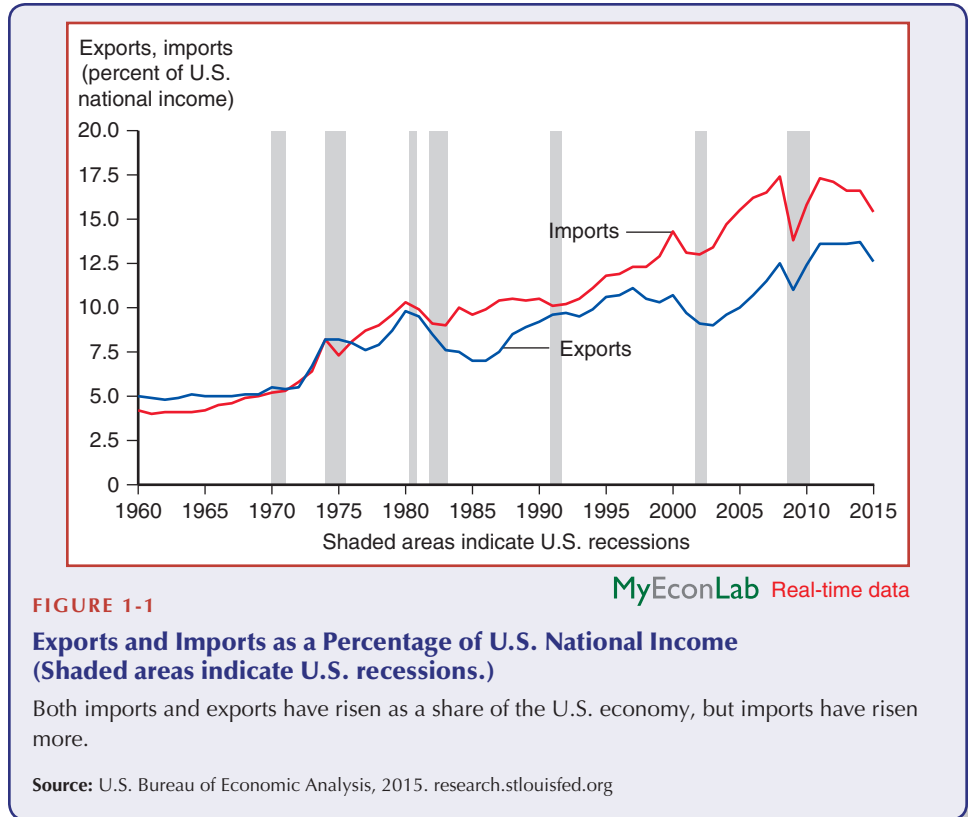
You could say that the study of international trade and finance is where the discipline of economics as we know it began. Historians of economic thought often describe the essay “Of the Balance of Trade” by the Scottish philosopher David Hume as the first real exposition of an economic model. Hume published his essay in 1758, almost 20 years before his friend Adam Smith published *The Wealth of Nations*. And the debates over British trade policy in the early 19th century did much to convert economics from a discursive, informal field to the model-oriented subject it has been ever since.

Yet the study of international economics has never been as important as it is now. In the early 21st century, nations are more closely linked than ever before through trade in goods and services, flows of money, and investment in each other’s economies. And the global economy created by these linkages is a turbulent place: Both policy makers and business leaders in every country, including the United States, must now pay attention to what are sometimes rapidly changing economic fortunes halfway around the world.

A look at some basic trade statistics gives us a sense of the unprecedented importance of international economic relations. Figure 1-1 shows the levels of U.S. exports and imports as shares of gross domestic product from 1960 to 2015. The most obvious feature of the figure is the long-term upward trend in both shares: International trade has roughly tripled in importance compared with the economy as a whole.

Almost as obvious is that, while both imports and exports have increased, imports have grown more, leading to a large excess of imports over exports. How is the United States able to pay for all those imported goods? The answer is that the money is supplied by large inflows of capital—money invested by foreigners willing to take a stake in the U.S. economy. Inflows of capital on that scale would once have been inconceivable; now they are taken for granted. And so the gap between imports and exports is an indicator of another aspect of growing international linkages—in this case the growing linkages between national capital markets.

Finally, notice that both imports and exports took a plunge in 2009. This decline reflected the global economic crisis that began in 2008 and is a reminder of the close links between world trade and the overall state of the world economy.



If international economic relations have become crucial to the United States, they are even more crucial to other nations. Figure 1-2 shows the average of imports and exports as a share of GDP for a sample of countries. The United States, by virtue of its size and the diversity of its resources, relies less on international trade than almost any other country.

This text introduces the main concepts and methods of international economics and illustrates them with applications drawn from the real world. Much of the text is devoted to old ideas that are still as valid as ever: The 19th-century trade theory of David Ricardo and even the 18th-century monetary analysis of David Hume remain highly relevant to the 21st-century world economy. At the same time, we have made a special effort to bring the analysis up to date. In particular, the economic crisis that began in 2007 threw up major new challenges for the global economy. Economists were able to apply existing analyses to some of these challenges, but they were also forced to rethink some important concepts. Furthermore, new approaches have emerged to old questions, such as the impacts of changes in monetary and fiscal policy. We have attempted to convey the key ideas that have emerged in recent research while stressing the continuing usefulness of old ideas.