



INTERNATIONAL
Economics

Sixteenth Edition

THOMAS A. PUGEL

Mc
Graw
Hill
Education

International Economics

Sixteenth Edition

The McGraw-Hill Series in Economics

ESSENTIALS OF ECONOMICS

Brue, McConnell, and Flynn
Essentials of Economics
Third Edition

Mandel
Economics: The Basics
Second Edition

Schiller
Essentials of Economics
Ninth Edition

PRINCIPLES OF ECONOMICS

Colander
Economics, Microeconomics, and Macroeconomics
Ninth Edition

Frank and Bernanke
Principles of Economics, Principles of Microeconomics, and Principles of Macroeconomics
Fifth Edition

Frank and Bernanke
Brief Editions: Principles of Economics, Principles of Microeconomics, and Principles of Macroeconomics
Second Edition

Karlan and Morduch
Economics, Microeconomics, and Macroeconomics
First Edition

McConnell, Brue, and Flynn
Economics, Microeconomics, and Macroeconomics
Twentieth Edition

McConnell, Brue, and Flynn
Brief Editions: Economics, Microeconomics, and Macroeconomics
Second Edition

Miller
Principles of Microeconomics
First Edition

Samuelson and Nordhaus
Economics, Microeconomics, and Macroeconomics
Nineteenth Edition

Schiller
The Economy Today, The Micro Economy Today, and The Macro Economy Today
Thirteenth Edition

Slavin
Economics, Microeconomics, and Macroeconomics
Eleventh Edition

ECONOMICS OF SOCIAL ISSUES

Guell
Issues in Economics Today
Seventh Edition

Sharp, Register, and Grimes
Economics of Social Issues
Twentieth Edition

ECONOMETRICS

Gujarati and Porter
Basic Econometrics
Fifth Edition

Gujarati and Porter
Essentials of Econometrics
Fourth Edition

Hilmer and Hilmer
Practical Econometrics
First Edition

MANAGERIAL ECONOMICS

Baye and Prince
Managerial Economics and Business Strategy
Eighth Edition

Brickley, Smith, and Zimmerman
Managerial Economics and Organizational Architecture
Sixth Edition

Thomas and Maurice
Managerial Economics
Eleventh Edition

INTERMEDIATE ECONOMICS

Bernheim and Whinston
Microeconomics
Second Edition

Dornbusch, Fischer, and Startz
Macroeconomics
Twelfth Edition

Frank
Microeconomics and Behavior
Ninth Edition

ADVANCED ECONOMICS

Romer
Advanced Macroeconomics
Fourth Edition

MONEY AND BANKING

Cecchetti and Schoenholtz
Money, Banking, and Financial Markets
Fourth Edition

URBAN ECONOMICS

O'Sullivan
Urban Economics
Eighth Edition

LABOR ECONOMICS

Borjas
Labor Economics
Seventh Edition

McConnell, Brue, and Macpherson
Contemporary Labor Economics
Tenth Edition

PUBLIC FINANCE

Rosen and Gayer
Public Finance
Tenth Edition

Seidman
Public Finance
First Edition

ENVIRONMENTAL ECONOMICS

Field and Field
Environmental Economics: An Introduction
Sixth Edition

INTERNATIONAL ECONOMICS

Appleyard and Field
International Economics
Eighth Edition

King and King
International Economics, Globalization, and Policy: A Reader
Fifth Edition

Pugel
International Economics
Sixteenth Edition

International Economics

Sixteenth Edition

Thomas A. Pugel

New York University





INTERNATIONAL ECONOMICS: SIXTEENTH EDITION

Published by McGraw-Hill Education, 2 Penn Plaza, New York, NY 10121. Copyright © 2016 by McGraw-Hill Education. All rights reserved. Printed in the United States of America. Previous editions © 2012, 2009, and 2007. No part of this publication may be reproduced or distributed in any form or by any means, or stored in a database or retrieval system, without the prior written consent of McGraw-Hill Education, including, but not limited to, in any network or other electronic storage or transmission, or broadcast for distance learning.

Some ancillaries, including electronic and print components, may not be available to customers outside the United States.

This book is printed on acid-free paper.

1 2 3 4 5 6 7 8 9 0 DOC/DOC 1 0 9 8 7 6 5

ISBN 978-0-07-802177-0

MHID 0-07-802177-4

Senior Vice President, Products & Markets: *Kurt L. Strand*

Vice President, General Manager, Products & Markets: *Marty Lange*

Vice President, Content Design & Delivery: *Kimberly Meriwether David*

Managing Director: *James Heine*

Lead Product Developer: *Michele Janicek*

Senior Product Developer: *Christina Kouvelis*

Director of Marketing: *Lynn Breithaupt*

Director, Content Design & Delivery: *Linda Avenarius*

Senior Content Project Manager: *Lisa Bruflo*

Buyer: *Laura M. Fuller*

Cover Image: *Design Pics/Ryan Briscall*

Compositor: *Laserwords Private Limited*

Printer: *R. R. Donnelley*

All credits appearing on page or at the end of the book are considered to be an extension of the copyright page.

Library of Congress Cataloging-in-Publication Data

Pugel, Thomas A.

International economics/Thomas A. Pugel.—Sixteenth edition.

pages cm

ISBN 978-0-07-802177-0 (alk. paper)

1. Commercial policy. 2. Foreign exchange. I. Title.

HF1411.L536 2016

337—dc23

2014040055

The Internet addresses listed in the text were accurate at the time of publication. The inclusion of a website does not indicate an endorsement by the authors or McGraw-Hill Education, and McGraw-Hill Education does not guarantee the accuracy of the information presented at these sites.

In memory of my parents, Adele and Edmund, and my parents-in-law, Vivian and Freeman, with my deepest appreciation and gratitude for all that they did to benefit the generations that follow.

About the Author



Thomas A. Pugel

Thomas A. Pugel is Professor of Economics and Global Business at the Stern School of Business, New York University, and a Fellow of the Teaching Excellence Program at the Stern School. His research and publications focus on international industrial competition and government policies toward international trade and industry. Professor Pugel has been Visiting Professor at Aoyama Gakuin University in Japan and a member of the U.S. faculty at the National Center for Industrial Science and Technology Management Development in China. He received the university-wide Distinguished Teaching Award at New York University in 1991, and twice he was voted Professor of the Year

by the graduate students at the Stern School of Business. He studied economics as an undergraduate at Michigan State University and earned a PhD in economics from Harvard University.

Preface

International economics combines the excitement of world events and the incisiveness of economic analysis. We are now deeply into the second great wave of globalization, in which product, capital, and labor markets are becoming more integrated across countries. This second wave, which began in about 1950 and picked up steam in the 1980s, has now lasted longer than the first, which began in about 1870 and ended with World War I (or perhaps with the onset of the Great Depression in 1930).

As indicators of the current process of globalization, we see that international trade, foreign direct investment, cross-border lending, and international portfolio investments have been growing faster than world production. Information, data, and rumors now spread around the world instantly through the Internet and other global electronic media.

As the world becomes more integrated, countries become more interdependent. Increasingly, events and policy changes in one country affect many other countries. Also increasingly, companies make decisions about production and product development based on global markets.

My goal in writing and revising this book is to provide the best blend of events and analysis, so that the reader builds the abilities to understand global economic developments and to evaluate proposals for changes in economic policies. The book is informed by current events and by the latest in applied international research. My job is to synthesize all of this to facilitate learning. The book

Combines rigorous economic analysis with attention to the issues of economic policy that are alive and important today.

Is written to be concise and readable.

Uses economic terminology when it enhances the analysis but avoids jargon for jargon's sake.

I follow these principles when I teach international economics to undergraduates and master's degree students. I believe that the book benefits as I bring into it what I learn from the classroom.

THE SCHEME OF THE BOOK

The examples presented in Chapter 1 show that international economics is exciting and sometimes controversial because there are both differences between countries and interconnections among countries. Still, international economics is like other economics in that we will be examining the fundamental challenge of scarcity of resources—how we can best use our scarce resources to create the most value and the most benefits. We will be able to draw on many standard tools and concepts of economics, such as supply and demand analysis, and extend their use to the international arena.

We begin our in-depth exploration of international economics with international trade theory and policy. In Chapters 2–7 we look at why countries trade goods and services. In Chapters 8–15 we examine what government policies toward trade would bring benefits and to whom. This first half of the book might be called international microeconomics.

Our basic theory of trade, presented in Chapter 2, says that trade usually results from the interaction of competitive demand and supply. It shows how the gains that trade brings to some people and the losses it brings to others can sum to overall global and national gains from trade. Chapter 3 launches an exploration of what lies behind the demand and supply curves and discovers the concept of comparative advantage. Chapter 4 shows that countries have different comparative advantages for the fundamental reason that people, and therefore countries, differ from each other in the productive resources they own. Chapter 5 looks at the strong impacts of trade on people who own those productive resources—the human labor and skills, the capital, the land, and other resources. Some ways of making a living are definitely helped by trade, while others are hurt. Chapter 6 examines how actual trade may reflect forces calling for theories that go beyond our basic ideas of demand and supply and of comparative advantage. Chapter 7 explores some key links between trade and economic growth.

Chapters 8–15 use the theories of the previous chapters to analyze a broad range of government policy issues. Chapters 8–10 set out on a journey to map the border between good trade barriers and bad ones. This journey turns out to be intellectually challenging, calling for careful reasoning. Chapter 11 explores how firms and governments sometimes push for more trade rather than less, promoting exports more than a competitive marketplace would. Chapter 12 switches to the economics of trade blocs like the European Union and the North American Free Trade Area. Chapter 13 faces the intense debate over how environmental concerns should affect trade policy. Chapter 14 looks at how trade creates challenges and opportunities for developing countries. Chapter 15 examines the economics of emigration and immigration and the roles of global companies in the transfer of resources, including technology, between countries.

The focus of the second half of the book shifts to international finance and macroeconomics. In Chapters 16–21 we enter the world of different moneys, the exchange rates between these moneys, and international investors and speculators. Chapters 22–25 survey the effects of a national government's choice of exchange-rate policy on the country's macroeconomic performance, especially unemployment and inflation.

Chapter 16 presents the balance of payments, a way to keep track of all the economic transactions between a country and the rest of the world. In Chapter 17 we explore the basics of exchange rates between currencies and the functioning and enormous size of the foreign exchange market. Chapter 18 provides a tour of the returns to and risks of foreign financial investments. Exchange rates are prices, and in Chapter 19 we look behind basic supply and demand in the foreign exchange market, in search of fundamental economic determinants of exchange-rate values. Chapter 20 examines government policies toward the foreign-exchange market, first using description and analysis, and then presenting the history of exchange-rate regimes, starting with the gold standard and finishing with the current mash-up of different national policies. Well-behaved international lending and borrowing can create global gains, but Chapter 21 also examines financial crises that can arise from some kinds of foreign borrowing and that can spread across countries, a clear downside of globalization.

Chapter 22 begins our explication of international macroeconomics by developing a framework for analyzing a national economy that is linked to the rest of the world through international trade and international financial investing. We use this framework in the next two chapters to explore the macroeconomic performance of a country that maintains a fixed exchange-rate value for its currency (Chapter 23) and of a country that allows a floating, market-driven exchange-rate value for its currency (Chapter 24). Chapter 25 uses what we have learned throughout the second half of the book to examine the benefits and costs of alternatives for a country's exchange-rate policy. While rather extreme versions of fixed exchange rates serve some countries well, the general trend is toward more flexible exchange rates.

In a few places the book's scheme (international trade first, international finance second) creates some momentary inconvenience, as when we look at the exchange-rate link between cutting imports and reducing exports in Chapter 5 before we have discussed exchange rates in depth. Mostly the organization serves us well. The understanding we gain about earlier topics provides us with building blocks that allow us to explore broader issues later in the book.

CURRENT EVENTS AND NEW EXAMPLES

It is a challenge and a pleasure for me to incorporate the events and policy changes that continue to transform the global economy, and to find the new examples that show the effects of globalization (both its upside and its downside). Here are some of the current and recent events and issues that are included in this edition to provide new examples that show the practical use of our international economic analysis:

- The euro crisis that began in Greece in 2010 spread to several other countries in the euro area and during 2011–2012 seemed to threaten the continued existence of the euro itself. Still, in the face of continued weak economic performance in the euro area, Latvia adopted the euro at the beginning of 2014, bringing the number of countries in the euro area to 18.
- Beginning in 2007 the United States rapidly expanded its production of natural gas using horizontal drilling and hydraulic fracturing. A large number of U.S. firms sought approval to export natural gas, but a U.S. law prohibits export unless it is in the national interest. The U.S. government has been slow to act; as of mid-2014, only one U.S. facility had received full approval to export.
- Immigration continues to be a hot issue. In 2014 Swiss voters approved limitations on immigration into the country. Prime Minister Cameron pledged to greatly reduce immigration into Britain by 2015. In 2013 the U.S. government again failed to pass a revision of its immigration laws.
- Chinese government holdings of foreign exchange reserve assets reached \$4 trillion in mid-2014, the result of continued official intervention to prevent the exchange-rate value of China's currency from rising too quickly.
- Pressure from the growth of the countries' exports led to rapidly rising wages for workers in China and in India.
- After nearly two decades of negotiations, Russia joined the World Trade Organization (WTO) in 2012.

- In 2013 the members of the WTO reached a new multilateral agreement on trade facilitation, but in 2014 its implementation was held up by a single country, India.
- In response to rapidly growing imports, American steel producers sent a large number of new complaints to the U.S. government, alleging dumping by foreign producers and seeking hefty new antidumping duties.
- The WTO ruled that European governments had violated WTO rules by offering massive subsidies to Airbus and that the U.S. government had violated WTO rules by offering massive subsidies to Boeing. But, then, the situation seemed to reach a stalemate.
- After approval from the U.S. Congress, the United States implemented free-trade agreements with Colombia, South Korea, and Panama.
- In 2012, Venezuela became a member of MERCOSUR, the South American regional trade area.
- Croatia joined the European Union in 2013 as its 28th member country.
- The first phase of the Kyoto Protocol was completed in 2012. For a number of reasons, the effects were minor, and global warming continues as a major global environmental challenge.
- Led by increases in international financial investments and computer-driven trading, the size of the foreign exchange market continued to grow, with trading of one currency for another reaching \$5 trillion *per day* in 2013. Foreign exchange trading has more than tripled since 2004.
- The market-driven exchange-rate value of the Japanese yen increased during the week after a tsunami caused the nuclear disaster at Fukushima in 2011, prompting a large official intervention in the foreign exchange market.
- Starting in 2008, the International Monetary Fund (IMF) rapidly expanded its lending to countries in crisis, with loans outstanding reaching \$125 billion in mid-2014. Most of these IMF loans are to advanced countries—Iceland, Greece, Ireland, and Portugal—a sharp contrast to the lending to developing countries that had been predominant since 1980.
- The United States pursued a third round of quantitative easing during 2012–2014 as a continuation of unconventional monetary policy for an economy stuck in a liquidity trap. In this third round, the Fed bought about \$1.5 trillion of Treasury securities and mortgage-backed securities, but this round seemed to have less effect on the exchange-rate value of the U.S. dollar than did previous rounds.

IMPROVING THE BOOK: TOPICS

In this edition I introduce and extend a number of improvements to the pedagogical structure and topical coverage of the book.

- The euro crisis that began in 2010 and intensified in 2011 and 2012 has had profound effects on the member countries of the euro area—the countries that have replaced their national currencies with the euro in a monetary union.

This edition interweaves the causes and impacts of the euro crisis across its chapters. The overview of the euro crisis in Chapter 1 shows that it began in different ways, as a fiscal crisis in Greece and as a burst housing-price bubble in Ireland that led to a banking crisis. Portugal then had a debt-driven crisis, and contagion spread the crisis pressures to Spain and Italy. The European Central Bank needed to play a key role, and a new program announced in July 2012 and adopted in September was the turning point in addressing the worst of the crisis. I then present discussions of important aspects of the crisis in a series of new shaded *Euro Crisis* boxes, which join the other six series of boxes: *Global Crisis*, *Focus on China*, *Global Governance*, *Focus on Labor*, *Case Studies*, and *Extensions*. For the *Euro Crisis* series, the new box in Chapter 16 shows how attention to current account balances and net international investment positions of the countries at the center of the crisis would have given signals of rising risk. Chapter 18 has a combination of a *Global Crisis* and *Euro Crisis* box, which shows how a key parity relationship among interest rates and exchange rates weakened under crisis conditions. The new box in Chapter 21 explains how the euro crisis was actually three interrelated crises that reinforced each other—sovereign debt or fiscal crisis, banking crisis, and macroeconomic crisis. While the sovereign debt and banking crises have calmed, the macroeconomic performance of the euro area remained very weak and Greece was in depression. The concluding section of Chapter 25 examines the benefits and costs of European monetary union, with special attention to fiscal policy. The euro area lacks area-wide taxation and government spending. National fiscal policies have a double edge, as both the principal remaining tool for national governments to address their macroeconomic performance problems and a potential source of instability that can threaten the entire union.

- The global financial and economic crisis that began in 2007 is the most important global trauma of the past 70 years, and it was a major contributor to the onset of the euro crisis. A new section of the text of Chapter 21 describes the global crisis, including the start of the crisis as the result of losses on sub-prime mortgages in the United States and on assets backed by these mortgages, and the terrible worsening of the crisis in 2008 with the failure of Lehman Brothers. This discussion of the global crisis also shows how the analysis of the series of financial crises that hit developing countries during 1982–2002 helps us to understand the causes and spread of the global crisis. The *Global Crisis* series of boxes examines other aspects of the crisis, including the collapse of international trade (Chapter 2), the avoidance of new protectionism (Chapter 9), the use of quantitative easing as nontraditional monetary policy once short-term interest rates are essentially zero (Chapter 24), and the increased use of currency swaps among central banks (Chapter 24).
- China continues its rise as a force in the global economy. The presentation of China's global role, including the series of boxes *Focus on China*, continues to be a strength of the text. Chapters 1 and 20 discuss the development of China's controversial policies toward the exchange-rate value of its currency. In the box in Chapter 9, the presentation of China's rising involvement in the dispute settlement

process at the World Trade Organization, both as a respondent (alleged violator) and as a complainant, has been updated and rewritten. Among other recent cases, the WTO ruled in 2014 that China's restrictions on exports of rare earths were a violation of its WTO commitments.

- A major strength of the book remains in-depth analysis of a range of trade and trade-policy issues. The discussion of monopolistic competition and intra-industry trade in Chapter 6 has been expanded to incorporate the conclusions from research based on differences across firms in their cost levels. Opening to international trade favors the survival and expansion of lower-cost firms. This discussion also includes an estimate of the global gains from greater product variety. The section on trade embargoes in Chapter 12 has been revised, with a current case, Iran, being used as the example of the effects of international sanctions on the target country. Estimates of national factor endowments presented in Chapter 5 are completely updated and include better data on physical capital stocks and more countries in total. Data on national intra-industry trade shares in Chapter 6 include new estimates for 2012.
- Chapter 13 on trade and the environment continues as a unique and powerful treatment of issues of interest to many students. The discussion of global warming has been revised to incorporate data and projections from recent studies. The discussion of the Kyoto Protocol has been updated to include the outcomes from the first phase that ended in 2012 and the continued increase in global greenhouse gas emissions.
- The box on the fiscal effects of immigration in Chapter 15 has been substantially rewritten to incorporate the results of a recent Organization for Economic Cooperation and Development study of the effects of immigrants on government revenues and expenditures.
- In Chapter 18 a new section of text explains the definitions and uses of real exchange rates and effective exchange rates. The four ways to measure the exchange-rate value of a currency had previously been a box in the chapter, but the increasing importance of these concepts motivated the shift to a text section.
- Chapter 21 has been substantially revised. It incorporates the global financial and economic crisis into the text of the chapter and has a new box on the euro crisis. Some other aspects of the chapter have been streamlined. The short subsections on the Brazilian mini-crisis of 1999 and the Turkish crisis of 2001 have been removed, as has one of the two boxes on the International Monetary Fund.
- I used the latest available sources to update the wide range of data and information presented in the figures and text of the book. Among other updates, the book offers the latest information on international trade in specific products for the United States, China, and Japan; national average tariff rates; dumping and subsidy cases; levels and growth rates of national incomes per capita; trends in the relative prices of primary products; patterns of foreign direct investments broadly and by major home country; rates of immigration into the United States, Canada, and the European Union; the U.S. balance of payments and the U.S. international

investment position; the sizes of foreign exchange trading and foreign exchange futures, swaps, and options; levels and trends for nominal exchange rates; effective exchange-rate values for the U.S. dollar; evidence about relative purchasing power parity; the exchange-rate policies chosen by national governments; the flows of international financing to and the outstanding foreign debt of developing countries; and gold prices.

NEW QUESTIONS AND PROBLEMS

In this edition I provide additional opportunities for students to engage with the book's contents by adding new questions that students can use to build their facility in using the concepts and analysis of international economics.

- Forty-eight new questions and problems have been added, two new questions and problems to each of the chapters that have end-of-chapter materials. These new questions and problems are targeted to cover chapter topics that were previously underrepresented.
- A discussion question has been added at the end of each Case Study box, a total of 24 new questions that focus on the issues raised in the case studies.

FORMAT AND STYLE

I have been careful to retain the goals of clarity and honesty that have made *International Economics* an extraordinary success in classrooms and courses around the world. There are plenty of quick road signs at the start of and within chapters. The summaries at the ends of the chapters offer an integration of what has been discussed. Students get the signs, "Here's where we are going; here's where we have just been." I use bullet-point and numbered lists to add to the visual appeal of the text and to emphasize sets of determinants or effects. I strive to keep paragraphs to reasonable lengths, and I have found ways to break up some long paragraphs to make the text easier to read.

I am candid about ranking some tools or facts ahead of others. The undeniable power of some of the economist's tools is applied repeatedly to events and issues without apology. Theories and concepts that fail to improve on common sense are not oversold.

The format of the book is fine-tuned for better learning. Students need to master the language of international economics. Most exam-worthy **terms** appear in boldface in the text, with their definitions usually contiguous. The material at the end of each chapter includes a listing of these *Key Terms*, and an online *Glossary* has definitions of each term. Words and phrases that deserve *special emphasis* are in italics.

Each chapter (except for the short introductory chapter) has at least 12 questions and problems. The answers to all odd-numbered questions and problems are included in the material at the end of the book. As a reminder, these odd-numbered questions are marked with a ♦.

Box

Shaded boxes appear in different font with a different right-edge format and two columns per page, in contrast to the style of the main text. The boxes are labeled by type and provide discussions of the euro crisis that began in 2010,

the global financial and economic crisis that began in 2007, the roles of the WTO and the IMF in global governance, China's international trade and investment, labor issues, case studies, and extensions of the concepts presented in the text.

SUPPLEMENTS

The following ancillaries are available for quick download and convenient access via the Instructor Resource material available through McGraw-Hill Connect®.

- **PowerPoint Presentations:** Revised by Farhad Saboori of Albright College, the PowerPoint slides now include a brief, detailed review of the important ideas covered in each chapter, accompanied by relevant tables and figures featured within the text. You can edit, print, or rearrange the slides to fit the needs of your course.
- **Test Bank:** Updated by Robert Allen of Columbia Southern University, the test bank offers well over 1,500 questions categorized by level of difficulty, AACSB learning categories, Bloom's taxonomy, and topic.
- **Computerized Test Bank:** McGraw-Hill's EZ Test is a flexible and easy-to-use electronic testing program that allows you to create tests from book-specific items. It accommodates a wide range of question types, and you can add your own questions. Multiple versions of the test can be created, and any test can be exported for use with course management systems. EZ Test Online gives you a place to administer your EZ Test-created exams and quizzes online. Additionally, you can access the test bank through McGraw-Hill Connect.
- **Instructor's Manual:** Written by the author, the instructor's manual contains chapter overviews, teaching tips, and suggested answers to the discussion questions featured among the case studies as well as the end-of-chapter questions and problems. To increase flexibility, the Tips section in each chapter often provides the author's thoughts and suggestions for customizing the coverage of certain sections and chapters.

DIGITAL SOLUTIONS

McGraw-Hill Connect® Economics



connect[®]
|ECONOMICS

Less Managing. More Teaching. Greater Learning. McGraw-Hill's *Connect*[®] *Economics* is an online assessment solution that connects students with the tools and resources they'll need to achieve success.

McGraw-Hill's *Connect Economics* Features

Connect Economics allows faculty to create and deliver exams easily with selectable test bank items. Instructors can also build their own questions into the system for homework or practice. Other features include:

Instructor Library The *Connect Economics* Instructor Library is your repository for additional resources to improve student engagement in and out of class. You can select and use any asset that enhances your lecture. The *Connect Economics* Instructor Library includes all of the instructor supplements for this text.

Student Resources Any supplemental resources that align with the text for student use will be available through *Connect*.

Student Progress Tracking *Connect Economics* keeps instructors informed about how each student, section, and class is performing, allowing for more productive use of lecture and office hours. The progress-tracking function enables you to

- View scored work immediately and track individual or group performance with assignment and grade reports.
- Access an instant view of student or class performance relative to learning objectives.
- Collect data and generate reports required by many accreditation organizations, such as AACSB.


Diagnostic and Adaptive Learning of Concepts: LearnSmart and SmartBook offer the first and only adaptive reading experience designed to change the way students read and learn.



LEARNSMART® Students want to make the best use of their study time.

The LearnSmart adaptive self-study technology within *Connect Economics* provides students with a seamless combination of practice, assessment, and remediation for every concept in the textbook. LearnSmart's intelligent software adapts to every student's response and automatically delivers concepts that advance students' understanding while reducing time devoted to the concepts already mastered. The result for every student is the fastest path to mastery of the chapter concepts. LearnSmart

- Applies an intelligent concept engine to identify the relationships between concepts and to serve new concepts to each student only when he or she is ready.
- Adapts automatically to each student, so students spend less time on the topics they understand and practice more those they have yet to master.
- Provides continual reinforcement and remediation but gives only as much guidance as students need.
- Integrates diagnostics as part of the learning experience.
- Enables you to assess which concepts students have efficiently learned on their own, thus freeing class time for more applications and discussion.


 **SMARTBOOK**® Smartbook is an extension of LearnSmart—an adaptive eBook that helps students focus their study time more effectively. As students read, Smartbook assesses comprehension and dynamically highlights where they need to study more.

For more information about *Connect*, go to connect.mheducation.com, or contact your local McGraw-Hill sales representative.


McGraw-Hill's Customer Experience Group

We understand that getting the most from your new technology can be challenging. That's why our services don't stop after you purchase our products. You can e-mail our Product Specialists 24 hours a day to get product-training online. Or you can search our knowledge bank of Frequently Asked Questions on our support website. For Customer Support, call 800-331-5094, or visit www.mhhe.com/support.

Create

 **create**™ McGraw-Hill Create™ is a self-service website that allows you to create customized course materials using McGraw-Hill's comprehensive, cross-disciplinary content and digital products. You can even access third-party content such as readings, articles, cases, videos, and more. Arrange the content you've selected to match the scope and sequence of your course. Personalize your book with a cover design and choose the best format for your students—eBook, color print, or black-and-white print. And, when you are done, you'll receive a PDF review copy in just minutes!

CourseSmart

 **VitalSource** CourseSmart® Go paperless with eTextbooks from CourseSmart and move light-years beyond traditional print textbooks. Read online or offline anytime, anywhere. Access your eTextbook on multiple devices with or without an Internet connection. CourseSmart eBooks include convenient, built-in tools that let you search topics quickly, add notes and highlights, copy/paste passages, and print any page.

Acknowledgments

I offer my deepest thanks to the many people whose advice helped me to improve *International Economics* in its sixteenth edition. My first thanks are to Peter H. Lindert, my co author on several previous editions. I learned much from him about the art of writing for the community of students who want to deepen their knowledge and understanding of the global economy.

I love teaching international economics, and I am grateful to my students for the many suggestions and insights that I have received from them. I thank my friends and colleagues from other colleges and universities who took the time to e-mail me with corrections and ideas for changes. I especially thank my faculty colleagues at the NYU Stern School for information and suggestions. I am indebted to Natalia Tamirisa of the International Monetary Fund for providing the data used in Figure 13.6, Carbon Tax to Stabilize Atmospheric Carbon Dioxide; to Richard M. Levich of the NYU Stern School of Business for providing data used in the box “Covered Interest Parity Breaks Down” in Chapter 18; and to Ravi Balakrishnan and Volodymyr Tulin of the International Monetary Fund for the data used in Figure 18.3, Uncovered Interest Differentials: The United States against Germany and Japan, 1991–2005. I also thank my brother, Michael Pugel, who shared with me his knowledge of technology issues from his perspective as a patent attorney and electrical engineer.

I express my gratitude to the reviewers whose detailed and thoughtful comments and critiques provided guidance as I wrote the sixteenth edition:

Adhip Chaudhuri, Georgetown University; Baizhu Chen, University of Southern California; Tran Dung, Wright State University; Wei Ge, Bucknell University; Pedro Gete, Georgetown University; Kirk Gifford, Brigham Young University; Nam Pham, George Washington University; Courtney Powell-Thomas, Virginia Tech University; Farhad Saboori, Albright College; George Sarraf, University of California–Irvine; Paul Wachtel, New York University; Lou Zaera, Fashion Institute of Technology.

I remain grateful to the reviewers whose suggestions for improvements to the previous editions continued to redound to my benefit as I prepared the sixteenth:

Vera Adamchik, University of Houston–Victoria; Gregory W. Arbum, The University of Findlay; Manoj Atolia, Florida State University; Mina Balamoune, University of North Florida; Michael P. Barry, Mount St. Mary’s University; Trisha Bezmen, Old Dominion University; Frank Biggs, Principia College; Philip J. Bryson, Brigham Young University; Philip E. Burian, Colorado Technical University at Sioux Falls; James Butkiewicz, University of Delaware; Debasish Chakraborty, Central Michigan University; Roberto Chang, Rutgers University; Shah Dabirian, California State University Long Beach; Jamshid Damooei, California Lutheran University; Manjira Datta, Arizona State University; Dennis Debrecht, Carroll College; Carol Decker, Tennessee Wesleyan College; John R. Dominguez, University of Wisconsin–Whitewater; Eric Drabkin, Hawaii Pacific University; Robert Driskill, Vanderbilt University; Patrick M. Emerson, Oregon State University; Carole Endres, Wright State University; Nicolas Ernesto Magud, University of Oregon; Hisham Foad, San Diego State University; Yoshi Fukasawa, Midwestern State University; John Gilbert, Utah State University; Chris Gingrich, Eastern Mennonite University;

Amy Glass, Texas A&M University; Omer Gokcekus, Seton Hall University; William Hallagan, Washington State University; Tom Head, George Fox University; Barbara Heroy John, University of Dayton; Farid Islam, Woodbury School of Business; Brian Jacobsen, Wisconsin Lutheran College; Geoffrey Jehle, Vassar College and Columbia University; Jack Julian, Indiana University of Pennsylvania; Ghassan Karam, Pace University; Vani V. Kotcherlakota, University of Nebraska at Kearney; Quan Le, Seattle University; Kristina Lybecker, The Colorado College; John Marangos, Colorado State University; John Mukum Mbaku, Weber State University; John McLaren, University of Virginia; Michael A. McPherson, University of North Texas; Matthew McPherson, Gonzaga University; Norman C. Miller, Miami University; Karla Morgan, Whitworth College; Stefan Norrbin, Florida State University; Joseph Nowakowski, Muskingum College; Rose Marie Payan, California Polytechnic University; Harvey Poniachek, Rutgers University; Dan Powroznik, Chesapeake College; Ed Price, Oklahoma State University; Kamal Saggi, Southern Methodist University; Jawad Salimi, West Virginia University–Morgantown; Andreas Savvides, Oklahoma State University; Philip Sprunger, Lycoming College; John Stiver, University of Connecticut; William J. Streeter, Olin Business School–Washington University in St. Louis; Kay E. Strong, Bowling Green State University–Firelands; Kishor Thanawala, Villanova University; Victoria Umanskaya, University of California–Riverside; Doug Walker, Georgia College and State University; Dr. Evelyn Wamboye, University of Wisconsin–Stout; Dave Wharton, Washington College; Elizabeth M. Wheaton, Southern Methodist University; Jiawen Yang, George Washington University; Bassam Yousif, Indiana State University Hamid Zangeneh, Widener University;

I offer my thanks and admiration to the great group at McGraw-Hill/Irwin who worked with me closely in preparing this edition, including Michele Janicek, lead product developer; Christina Kouvelis, senior product developer; Lisa Brufloft, senior project manager; and Sourav Majumdar, project manager at SPi Global.

My final acknowledgment is in remembrance of the late Charles P. Kindleberger, who was one of my teachers during my graduate studies. He started this book over 60 years ago, and I strive to meet the standards of excellence and relevance that he set for the book.

Thomas A. Pugel

Brief Contents

- 1** International Economics Is Different 1
 - 2** The Basic Theory Using Demand and Supply 13
 - 3** Why Everybody Trades: Comparative Advantage 31
 - 4** Trade: Factor Availability and Factor Proportions Are Key 47
 - 5** Who Gains and Who Loses from Trade? 66
 - 6** Scale Economies, Imperfect Competition, and Trade 88
 - 7** Growth and Trade 117
 - 8** Analysis of a Tariff 137
 - 9** Nontariff Barriers to Imports 160
 - 10** Arguments for and against Protection 192
 - 11** Pushing Exports 222
 - 12** Trade Blocs and Trade Blocks 252
 - 13** Trade and the Environment 275
 - 14** Trade Policies for Developing Countries 309
 - 15** Multinationals and Migration: International Factor Movements 334
 - 16** Payments among Nations 370
 - 17** The Foreign Exchange Market 389
 - 18** Forward Exchange and International Financial Investment 405
 - 19** What Determines Exchange Rates? 433
 - 20** Government Policies toward the Foreign Exchange Market 464
 - 21** International Lending and Financial Crises 502
 - 22** How Does the Open Macroeconomy Work? 539
 - 23** Internal and External Balance with Fixed Exchange Rates 565
 - 24** Floating Exchange Rates and Internal Balance 603
 - 25** National and Global Choices: Floating Rates and the Alternatives 628
- APPENDIXES**
- A** The Web and the Library: International Numbers and Other Information 655
 - B** Deriving Production-Possibility Curves 659
 - C** Offer Curves 664
 - D** The Nationally Optimal Tariff 667
 - E** Accounting for International Payments 673
 - F** Many Parities at Once 677
 - G** Aggregate Demand and Aggregate Supply in the Open Economy 680
 - H** Devaluation and the Current Account Balance 690
- SUGGESTED ANSWERS TO ODD-NUMBERED QUESTIONS AND PROBLEMS 694**
- REFERENCES 731**
- INDEX 743**

Contents

Chapter 1

International Economics Is Different 1

Four Controversies 1

U.S. Exports of Natural Gas 1

Immigration 4

China's Exchange Rate 5

Euro Crisis 7

Economics and the Nation-State 11

Factor Mobility 11

Different Fiscal Policies 12

Different Moneys 12

Chapter 2

The Basic Theory Using Demand and Supply 13

Four Questions about Trade 14

Demand and Supply 14

Demand 14

Consumer Surplus 16

Case Study *Trade Is Important* 17

Supply 18

Producer Surplus 19

Global Crisis *The Trade Mini-Collapse of 2009* 20

A National Market with No Trade 22

Two National Markets and the Opening of Trade 22

Free-Trade Equilibrium 24

Effects in the Importing Country 25

Effects in the Exporting Country 27

Which Country Gains More? 27

Summary: Early Answers to the Four Trade Questions 28

Key Terms 28

Suggested Reading 29

Questions and Problems 29

Chapter 3

Why Everybody Trades: Comparative Advantage 31

Adam Smith's Theory of Absolute Advantage 32

Case Study *Mercantilism: Older Than Smith—and Alive Today* 33

Ricardo's Theory of Comparative Advantage 35

Ricardo's Constant Costs and the Production-Possibility Curve 38

Focus on Labor *Absolute Advantage Does Matter* 40

Extension *What If Trade Doesn't Balance?* 42

Summary 43

Key Terms 44

Suggested Reading 44

Questions and Problems 44

Chapter 4

Trade: Factor Availability and Factor Proportions Are Key 47

Production with Increasing Marginal Costs 48

What's Behind the Bowed-Out Production-Possibility Curve? 48

What Production Combination Is Actually Chosen? 50

Community Indifference Curves 51

Production and Consumption Together 53

Without Trade 53

With Trade 54

Focus on China *The Opening of Trade and China's Shift Out of Agriculture* 56

Demand and Supply Curves Again 58

The Gains from Trade 58

Trade Affects Production and Consumption	59
What Determines the Trade Pattern?	60
The Heckscher–Ohlin (H–O) Theory	61
Summary	62
Key Terms	63
Suggested Reading	63
Questions and Problems	63

Chapter 5

Who Gains and Who Loses from Trade? 66

Who Gains and Who Loses within a Country	66
<i>Short-Run Effects of Opening Trade</i>	67
<i>The Long-Run Factor-Price Response</i>	67
Three Implications of the H–O Theory	69
<i>The Stolper–Samuelson Theorem</i>	69
Extension <i>A Factor-Ratio Paradox</i>	70
<i>The Specialized-Factor Pattern</i>	72
<i>The Factor-Price Equalization Theorem</i>	72
Does Heckscher–Ohlin Explain Actual Trade Patterns?	73
<i>Factor Endowments</i>	74
Case Study <i>The Leontief Paradox</i>	75
<i>International Trade</i>	76
What are the Export-Oriented and Import-Competing Factors?	78
<i>The U.S. Pattern</i>	78
<i>The Canadian Pattern</i>	79
<i>Patterns in Other Countries</i>	79
Focus on China <i>China’s Exports and Imports</i>	80
Do Factor Prices Equalize Internationally?	82
Focus on Labor <i>U.S. Jobs and Foreign Trade</i>	83
Summary: Fuller Answers to the Four Trade Questions	84
Key Terms	85
Suggested Reading	85
Questions and Problems	85

Chapter 6

Scale Economies, Imperfect Competition, and Trade 88

Scale Economies	89
<i>Internal Scale Economies</i>	90
<i>External Scale Economies</i>	91
Intra-Industry Trade	92
<i>How Important Is Intra-Industry Trade?</i>	93
<i>What Explains Intra-Industry Trade?</i>	94
Monopolistic Competition and Trade	95
<i>The Market with No Trade</i>	97
<i>Opening to Free Trade</i>	98
<i>Basis for Trade</i>	99
Extension <i>The Individual Firm in Monopolistic Competition</i>	100
<i>Gains from Trade</i>	103
Oligopoly and Trade	104
<i>Substantial Scale Economies</i>	105
<i>Oligopoly Pricing</i>	105
Extension <i>The Gravity Model of Trade</i>	106
External Scale Economies and Trade	109
Summary: How Does Trade Really Work?	111
Key Terms	114
Suggested Reading	114
Questions and Problems	114

Chapter 7

Growth and Trade 117

Balanced Versus Biased Growth	118
Growth in Only One Factor	120
Changes in the Country’s Willingness to Trade	121
Case Study <i>The Dutch Disease and Deindustrialization</i>	123
Effects on the Country’s Terms of Trade	124
<i>Small Country</i>	124
<i>Large Country</i>	124
<i>Immiserizing Growth</i>	126
Technology and Trade	128
<i>Individual Products and the Product Cycle</i>	129

Focus on Labor *Trade, Technology, and*

U.S. Wages 130

Openness to Trade Affects Growth 131

Summary 132

Key Terms 133

Suggested Reading 134

Questions and Problems 134

Chapter 8

Analysis of a Tariff 137

Global Governance *WTO and GATT: Tariff*

Success 138

A Preview of Conclusions 140

The Effect of a Tariff on Domestic

Producers 140

The Effect of a Tariff on Domestic

Consumers 142

The Tariff as Government Revenue 145

The Net National Loss from a Tariff 145

Extension *The Effective Rate of Protection* 148

Case Study *They Tax Exports, Too* 150

The Terms-of-Trade Effect and a Nationally

Optimal Tariff 152

Summary 156

Key Terms 157

Suggested Reading 157

Questions and Problems 157

Chapter 9

Nontariff Barriers to Imports 160

Types of Nontariff Barriers to Imports 160

The Import Quota 162

Quota versus Tariff for a Small Country 162

Global Governance *The WTO: Beyond*

Tariffs 164

Global Crisis *Dodging Protectionism* 167

Ways to Allocate Import Licenses 168

Extension *A Domestic Monopoly Prefers*

a Quota 170

Quota versus Tariff for a Large Country 172

Voluntary Export Restraints (VERs) 173

Other Nontariff Barriers 175

Product Standards 175

Case Study *VERs: Two Examples* 176

Case Study *Carrots Are Fruit, Snails Are Fish,*

and X-Men Are Not Humans 178

Domestic Content Requirements 179

Government Procurement 180

How Big Are the Costs of Protection? 181

As a Percentage of GDP 181

As the Extra Cost of Helping Domestic

Producers 182

International Trade Disputes 183

America's "Section 301": Unilateral Pressure 183

Focus on China *China in the WTO* 184

Dispute Settlement in the WTO 186

Summary 187

Key Terms 188

Suggested Reading 189

Questions and Problems 189

Chapter 10

Arguments for and against Protection 192

The Ideal World of First Best 193

The Realistic World of Second Best 194

Government Policies toward Externalities 196

The Specificity Rule 196

Promoting Domestic Production

or Employment 197

The Infant Industry Argument 201

How It Is Supposed to Work 201

How Valid Is It? 202

Focus on Labor *How Much Does It Cost to*

Protect a Job? 204

The Dying Industry Argument and Adjustment

Assistance 206

Should the Government Intervene? 206

Trade Adjustment Assistance 207

The Developing Government (Public Revenue)

Argument 208

Other Arguments for Protection: Noneconomic

Objectives 209

National Pride 209

National Defense 210

Income Redistribution 210

The Politics of Protection 211

The Basic Elements of the Political–Economic

Analysis 211

When Are Tariffs Unlikely? 212
When Are Tariffs Likely? 213
Applications to Other Trade-Policy Patterns 214
Case Study *How Sweet It Is (or Isn't)* 215

Summary 217
 Key Terms 219
 Suggested Reading 219
 Questions and Problems 219

Chapter 11

Pushing Exports 222

Dumping 222
 Reacting to Dumping: What Should a Dumpee Think? 225
 Actual Antidumping Policies: What Is Unfair? 226
 Proposals for Reform 229
Case Study *Antidumping in Action* 230
 Export Subsidies 233
 Exportable Product, Small Exporting Country 234
 Exportable Product, Large Exporting Country 236
 Switching an Importable Product into an Exportable Product 237
 WTO Rules on Subsidies 238
 Should the Importing Country Impose Countervailing Duties? 239
Case Study *Agriculture Is Amazing* 242
 Strategic Export Subsidies Could Be Good 244
Global Governance *Dogfight at the WTO* 246
 Summary 248
 Key Terms 249
 Suggested Reading 249
 Questions and Problems 250

Chapter 12

Trade Blocs and Trade Blocks 252

Types of Economic Blocs 252
 Is Trade Discrimination Good or Bad? 253
 The Basic Theory of Trade Blocs:
 Trade Creation and Trade Diversion 255
 Other Possible Gains from a Trade Bloc 258
 The EU Experience 259
Case Study *Postwar Trade Integration in Europe* 260

North America Becomes a Bloc 262
 NAFTA: Provisions and Controversies 263
 NAFTA: Effects 264
 Rules of Origin 265
 Trade Blocs among Developing Countries 266
 Trade Embargoes 267
 Summary 272
 Key Terms 273
 Suggested Reading 273
 Questions and Problems 273

Chapter 13

Trade and the Environment 275

Is Free Trade Anti-Environment? 275
 Is the WTO Anti-Environment? 280
Global Governance *Dolphins, Turtles, and the WTO* 282
 The Specificity Rule Again 284
 A Preview of Policy Prescriptions 285
 Trade and Domestic Pollution 287
 Transborder Pollution 290
 The Right Solution 291
 A Next-Best Solution 293
 NAFTA and the Environment 294
 Global Environmental Challenges 295
 Global Problems Need Global Solutions 295
 Extinction of Species 296
 Overfishing 298
 CFCs and Ozone 299
 Greenhouse Gases and Global Warming 300
 Summary 305
 Key Terms 306
 Suggested Reading 306
 Questions and Problems 306

Chapter 14

Trade Policies for Developing Countries 309

Which Trade Policy for Developing Countries? 311
 Are the Long-Run Price Trends Against Primary Producers? 313
Case Study *Special Challenges of Transition* 314

International Cartels to Raise Primary-Product Prices 319

- The OPEC Victories* 319
- Classic Monopoly as an Extreme Model for Cartels* 320
- The Limits to and Erosion of Cartel Power* 322
- The Oil Price Increase since 1999* 323
- Other Primary Products* 324

Import-Substituting Industrialization (ISI) 324

- ISI at Its Best* 325
- Experience with ISI* 326

Exports of Manufactures to Industrial Countries 329

- Summary 330
- Key Terms 331
- Suggested Reading 331
- Questions and Problems 331

Chapter 15

Multinationals and Migration: International Factor Movements 334

- Foreign Direct Investment 335
- Multinational Enterprises 337
- FDI: History and Current Patterns 338
- Why Do Multinational Enterprises Exist? 340
 - Inherent Disadvantages* 341
 - Firm-Specific Advantages* 341
 - Location Factors* 342
 - Internalization Advantages* 343
 - Oligopolistic Rivalry* 344

Taxation of Multinational Enterprises' Profits 344

- Case Study** *CEMEX: A Model Multinational from an Unusual Place* 345

MNEs and International Trade 347

- Should the Home Country Restrict FDI Outflows? 349
- Should the Host Country Restrict FDI Inflows? 350
- Focus on China** *China as a Host Country* 352

- Migration 354
- How Migration Affects Labor Markets 357
- Should the Sending Country Restrict Emigration? 360
- Should the Receiving Country Restrict Immigration? 361

- Effects on the Government Budget* 361
- External Costs and Benefits* 361
- Case Study** *Are Immigrants a Fiscal Burden?* 362
- What Policies to Select Immigrants?* 364

- Summary 365
- Key Terms 367
- Suggested Reading 367
- Questions and Problems 367

Chapter 16

Payments among Nations 370

- Accounting Principles 370
- A Country's Balance of Payments 371
 - Current Account* 371
 - Financial Account* 373
 - Official International Reserves* 374
 - Statistical Discrepancy* 375
- The Macro Meaning of the Current Account Balance 375
- The Macro Meaning of the Overall Balance 380
- The International Investment Position 381
- Euro Crisis** *International Indicators Lead the Crisis* 383
- Summary 385
- Key Terms 386
- Suggested Reading 386
- Questions and Problems 386

Chapter 17

The Foreign Exchange Market 389

- The Basics of Currency Trading 390
 - Case Study** *Brussels Sprouts a New Currency: €* 392
 - Using the Foreign Exchange Market* 393
 - Case Study** *Foreign Exchange Trading* 394
 - Interbank Foreign Exchange Trading* 395
- Demand and Supply for Foreign Exchange 396
 - Floating Exchange Rates* 397
 - Fixed Exchange Rates* 399
 - Current Arrangements* 400
- Arbitrage within the Spot Exchange Market 401
- Summary 402

Key Terms 402
 Suggested Reading 402
 Questions and Problems 403

Chapter 18

Forward Exchange and International Financial Investment 405

Exchange-Rate Risk 405
 The Market Basics of Forward Foreign Exchange 406
 Hedging Using Forward Foreign Exchange 407
 Speculating Using Forward Foreign Exchange 408
 Extension *Futures, Options, and Swaps* 410
 International Financial Investment 412
 International Investment with Cover 413
 Covered Interest Arbitrage 415
 Covered Interest Parity 416
 International Investment without Cover 417
 Case Study *The World's Greatest Investor* 420
 Does Interest Parity Really Hold? Empirical Evidence 422
 Evidence on Covered Interest Parity 422
 Evidence on Uncovered Interest Parity 423
 Case Study *Eurocurrencies: Not (Just) Euros and Not Regulated* 424
 Global Crisis and Euro Crisis *Covered Interest Parity Breaks Down* 426
 Evidence on Forward Exchange Rates and Expected Future Spot Exchange Rates 428
 Summary 428
 Key Terms 430
 Suggested Reading 430
 Questions and Problems 430

Chapter 19

What Determines Exchange Rates? 433

A Road Map 435
 Exchange Rates in the Short Run 436
 The Role of Interest Rates 437
 The Role of the Expected Future Spot Exchange Rate 438
 The Long Run: Purchasing Power Parity (PPP) 440

The Law of One Price 441
Absolute Purchasing Power Parity 441
Relative Purchasing Power Parity 442
Case Study *PPP from Time to Time* 443
Case Study *Price Gaps and International Income Comparisons* 444
Relative PPP: Evidence 446

The Long Run: The Monetary Approach 449
 Money, Price Levels, and Inflation 449
 Money and PPP Combined 450
 The Effect of Money Supplies on an Exchange Rate 451
 The Effect of Real Incomes on an Exchange Rate 451
 Exchange-Rate Overshooting 452
 How Well Can We Predict Exchange Rates? 455
 Four Ways to Measure the Exchange Rate 457
 Summary 459
 Key Terms 460
 Suggested Reading 461
 Questions and Problems 461

Chapter 20

Government Policies toward the Foreign Exchange Market 464

Two Aspects: Rate Flexibility and Restrictions on Use 465
 Floating Exchange Rate 466
 Fixed Exchange Rate 466
 What to Fix to? 467
 When to Change the Fixed Rate? 467
 Defending a Fixed Exchange Rate 469
 Defense through Official Intervention 470
 Defending against Depreciation 470
 Defending against Appreciation 472
 Temporary Disequilibrium 474
 Disequilibrium That Is Not Temporary 475
 Exchange Control 477
 International Currency Experience 480
 The Gold Standard Era, 1870–1914 (One Version of Fixed Rates) 481
 Interwar Instability 484

The Bretton Woods Era, 1944–1971 (Adjustable Pegged Rates) 486

Global Governance *The International Monetary Fund* 487

The Current System: Limited Anarchy 492

Summary 496

Key Terms 498

Suggested Reading 499

Questions and Problems 499

Chapter 21

International Lending and Financial Crises 502

Gains and Losses from Well-Behaved International Lending 503

Taxes on International Lending 506

International Lending to Developing Countries 506

The Surge in International Lending, 1974–1982 507

The Debt Crisis of 1982 508

The Resurgence of Capital Flows in the 1990s 509

The Mexican Crisis, 1994–1995 510

The Asian Crisis, 1997 512

The Russian Crisis, 1998 512

Global Governance *Short of Reserves? Call 1-800-IMF-LOAN* 513

Argentina's Crisis, 2001–2002 516

Financial Crises: What Can and Does Go Wrong 517

Waves of Overlending and Overborrowing 517

Extension *The Special Case of Sovereign Debt* 518

Exogenous International Shocks 520

Exchange-Rate Risk 520

Fickle International Short-Term Lending 520

Global Contagion 521

Resolving Financial Crises 522

Rescue Packages 522

Debt Restructuring 523

Reducing the Frequency of Financial Crises 525

Bank Regulation and Supervision 526

Capital Controls 527

Global Financial and Economic Crisis 528

How the Crisis Happened 528

Causes and Amplifiers 530

Euro Crisis *National Crises, Contagion, and Resolution* 532

Summary 534

Key Terms 536

Suggested Reading 536

Questions and Problems 536

Chapter 22

How Does the Open Macroeconomy Work? 539

The Performance of a National Economy 539

A Framework for Macroeconomic Analysis 540

Domestic Production Depends on Aggregate Demand 541

Trade Depends on Income 543

Equilibrium GDP and Spending

Multipliers 543

Equilibrium GDP 543

The Spending Multiplier in a Small Open Economy 545

Foreign Spillovers and Foreign-Income Repercussions 547

A More Complete Framework:

Three Markets 549

The Domestic Product Market 550

The Money Market 552

The Foreign Exchange Market (or Balance of Payments) 554

Three Markets Together 557

The Price Level Does Change 558

Trade Also Depends on Price

Competitiveness 559

Summary 560

Key Terms 562

Suggested Reading 563

Questions and Problems 563

Chapter 23

Internal and External Balance with Fixed Exchange Rates 565

From the Balance of Payments to the Money Supply 566

From the Money Supply Back to the Balance of Payments	569
Sterilization	572
Monetary Policy with Fixed Exchange Rates	574
Fiscal Policy with Fixed Exchange Rates	575
Perfect Capital Mobility	578
Shocks to the Economy	580
<i>Internal Shocks</i>	580
<i>International Capital-Flow Shocks</i>	580
<i>International Trade Shocks</i>	582
Imbalances and Policy Responses	584
<i>Internal and External Imbalances</i>	584
Case Study <i>A Tale of Three Countries</i>	586
<i>A Short-Run Solution: Monetary–Fiscal Mix</i>	589
Surrender: Changing the Exchange Rate	591
How Well Does the Trade Balance Respond to Changes in the Exchange Rate?	594
<i>How the Response Could Be Unstable</i>	595
<i>Why the Response Is Probably Stable</i>	596
<i>Timing: The J Curve</i>	597
Summary	598
Key Terms	600
Suggested Reading	601
Questions and Problems	601

Chapter 24

Floating Exchange Rates and Internal Balance 603

Monetary Policy with Floating Exchange Rates	604
Fiscal Policy with Floating Exchange Rates	607
Shocks to the Economy	609
<i>Internal Shocks</i>	609
Case Study <i>Why Are U.S. Trade Deficits So Big?</i>	610
<i>International Capital-Flow Shocks</i>	612
<i>International Trade Shocks</i>	613
Internal Imbalance and Policy Responses	614
International Macroeconomic Policy Coordination	615

Global Crisis <i>Liquidity Trap!</i>	616
Case Study <i>Can Governments Manage the Float?</i>	619
Global Crisis <i>Central Bank Liquidity Swaps</i>	622
Summary	623
Key Terms	625
Suggested Reading	625
Questions and Problems	625

Chapter 25

National and Global Choices: Floating Rates and the Alternatives 628

Key Issues in the Choice of Exchange-Rate Policy	629
<i>Effects of Macroeconomic Shocks</i>	629
Case Study <i>What Role for Gold?</i>	631
<i>The Effectiveness of Government Policies</i>	635
<i>Differences in Macroeconomic Goals, Priorities, and Policies</i>	636
<i>Controlling Inflation</i>	637
<i>Real Effects of Exchange-Rate Variability</i>	639
National Choices	641
Extreme Fixes	643
<i>Currency Board</i>	643
“Dollarization”	644
The International Fix—Monetary Union	645
<i>Exchange Rate Mechanism</i>	646
<i>European Monetary Union</i>	647
Summary	652
Key Terms	653
Suggested Reading	653
Questions and Problems	654

APPENDIXES

A The Web and the Library: International Numbers and Other Information	655
B Deriving Production-Possibility Curves	659
C Offer Curves	664

D	The Nationally Optimal Tariff	667
E	Accounting for International Payments	673
F	Many Parities at Once	677
G	Aggregate Demand and Aggregate Supply in the Open Economy	680
H	Devaluation and the Current Account Balance	690

Suggested Answers to Odd-Numbered Questions and Problems	694
---	------------

References	731
-------------------	------------

Index	743
--------------	------------

Chapter One

International Economics Is Different

Nations are not like regions or families. They are sovereign, meaning that no central court can enforce its will on them with a global police force. Being sovereign, nations can put all sorts of barriers between their residents and the outside world. A region or family must deal with the political reality that others within the same nation can out-vote it and can therefore coerce it or tax it. A family or region has to compromise with others who have political voice. A nation feels less pressure to compromise and often ignores the interests of foreigners. A nation uses policy tools that are seldom available to a region and never available to a family. A nation can have its own currency, its own barriers to trading with foreigners, its own government taxing and spending, and its own laws of citizenship and residence.

As long as countries exist, international economics will be a body of analysis distinct from the rest of economics. The special nature of international economics makes it fascinating and sometimes difficult. Let's look at four controversial developments that frame the scope of this book.

FOUR CONTROVERSIES

U.S. Exports of Natural Gas

Natural gas has wide-ranging uses as a source of energy, from heating homes and commercial buildings, to generating electricity, to the production of such products as steel, paper, cement, and glass, to providing the feedstock for the production of chemicals, fertilizers, and plastics. For the U.S. market for natural gas during the decade to 2006, several trends were clear. U.S. production of natural gas had been about flat since the mid-1990s. As U.S. consumption increased, imports rose from 13 percent of consumption in the mid-1990s to over 19 percent in 2006, with nearly all of the imports from Canada through pipelines. The cost of production from new wells in the United States (and in Canada) was rising, as the lowest-cost sources (using standard production technologies) were exhausted. The typical producer price of natural gas in the United States rose from \$2 per million British thermal units (MMBtu) to \$6 in the mid-2000s. The expectation was the United States would soon need to ramp up high-cost imports of liquefied natural gas (LNG) to meet continued growth in consumption.