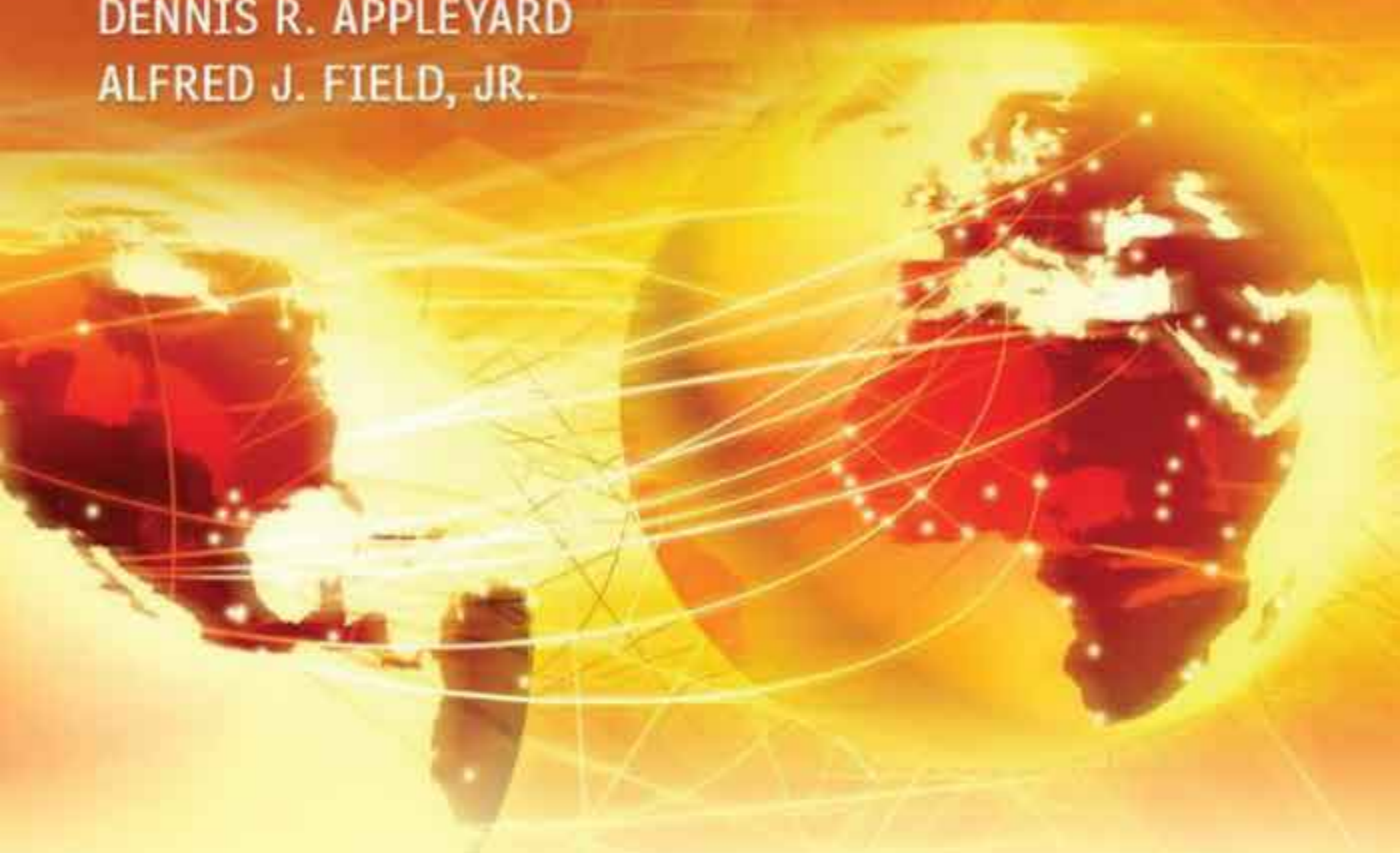


DENNIS R. APPLEYARD
ALFRED J. FIELD, JR.



International Economics

EIGHTH EDITION



INTERNATIONAL ECONOMICS

EIGHTH EDITION

DENNIS R. APPLEYARD

DAVIDSON COLLEGE

ALFRED J. FIELD, JR.

UNIVERSITY OF NORTH CAROLINA
AT CHAPEL HILL



**McGraw-Hill
Irwin**



INTERNATIONAL ECONOMICS, EIGHTH EDITION

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This book is printed on acid-free paper.

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

ISBN 978-0-07-802167-1

MHID 0-07-802167-7

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Cover Designer: *Studio Montage, St. Louis, MO*
Cover Image: *Brand X Pictures/Getty Images*
Typeface: *10/12 Times LT Std Roman*
Compositor: *Laserwords Private Limited*
Printer: *R. R. Donnelley*

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The authors dedicate this book to parents, family, and friends whose love and support have sustained us in the writing process over the past 25 years.

Library of Congress Cataloging-in-Publication Data

Appleyard, Dennis R.

International economics / Dennis R. Appleyard, Alfred J. Field, Jr. — 8th ed.

p. cm. — (The McGraw-Hill series economics)

ISBN 978-0-07-802167-1 (alk. paper)

ISBN 0-07-802167-7

1. International economic relations. 2. International trade. 3. International finance.

I. Field, Alfred J. II. Title.

HF1359.A77 2014

337—dc23

2012036158

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ABOUT THE AUTHORS

Dennis R. Appleyard

Dennis R. Appleyard is James B. Duke Professor of International Studies and Professor of Economics, Emeritus, Davidson College, Davidson, North Carolina, and Professor of Economics, Emeritus, University of North Carolina at Chapel Hill. He attended Ohio Wesleyan University for his undergraduate work and the University of Michigan for his Master's and Ph.D. work. He joined the economics faculty at the University of North Carolina at Chapel Hill in 1966 and received the universitywide Tanner Award for "Excellence in Inspirational Teaching of Undergraduate Students" in 1983. He moved to his position at Davidson College in 1990 and retired in 2010. At Davidson, he was Chair of the Department of Economics for seven years and was Director of the college's Semester-in-India Program in fall 1996 and fall 2008, and the Semester-in-India and Nepal Program in fall 2000. In 2004 he received Davidson's Thomas Jefferson Award for teaching and service.

Professor Appleyard has taught economic principles, intermediate microeconomics, intermediate macroeconomics, money and banking, international economics, and economic development. His research interests lie in international trade theory and policy and in the Indian economy. Published work, much of it done in conjunction with Professor Field, has appeared in the *American Economic Review*, *Economic Development and Cultural Change*, *History of Political Economy*, *Indian Economic Journal*, *International Economic Review*, *Journal of Economic Education*, and *Journal of International Economics*, among others. He has also done consulting work for the World Bank, the U.S. Department of the Treasury, and the Food and Agriculture Organization of the United Nations (in Islamabad, Pakistan). Professor Appleyard always derived genuine pleasure from working with students, and he thinks that teaching kept him young in spirit, since his students were always the same age! He is also firmly convinced that having the opportunity to teach others about international economics in this age of growing globalization is a rare privilege and an enviable challenge.

Alfred J. Field, Jr.

Alfred J. Field is a Professor of Economics, Emeritus, at the University of North Carolina at Chapel Hill. He received his undergraduate and graduate training at Iowa State University and joined the faculty at Carolina in 1967. Field taught courses in international economics and economic development at both the graduate and undergraduate level and directed numerous Senior Honors theses and Master's theses. He served as principal member or director of more than 100 Ph.D. dissertations, duties that he continued to perform after retirement in 2010. In addition, he has served as Director of Graduate Studies, Associate Chair/Director of the Undergraduate Program in Economics, and Acting Department Chair. In 1966, he received the Department's Jae Yeong Song and Chunuk Park Award for Excellence in Graduate Teaching, and in 2006 he received the University of North Carolina at Chapel Hill John L. Sanders Award for Excellence in Undergraduate Teaching and Service. He also served on the Advisory Boards of several university organizations, including the Institute for Latin American Studies.

Professor Field's research encompassed the areas of international trade and economic development. He has worked in Latin America and China, as well as with a number of international agencies in the United States and Europe, primarily on trade and development policy issues. His research interests lie in the areas of trade policy and adjustment and development policy, particularly as they relate to trade, agriculture, and household decision making in developing countries. Another of Field's lines of research addressed trade and structural adjustment issues in the United States, focusing on the textile and apparel industries and the experience of unemployed textile and apparel workers in North Carolina during the 1980s and 1990s. He maintains an active interest in theoretical trade and economic integration issues, as well as the use of econometric and computable general equilibrium models in analyzing the effects of trade policy, particularly in developing countries.

PREFACE

It is our view that in a time of dramatic increase in globalization and high interrelatedness among countries, every student should have a conscious awareness of “things international.” Whether one is studying, for example, political science, sociology, chemistry, art, history, or economics, developments worldwide impinge upon the subject matter of the chosen discipline. Such developments may take the form of the discovery of a new compound in Germany, an election result in Greece, a new oil find in Mexico, formation of a new country in Africa, a startling new political/terrorist/military development in Pakistan or Syria, or a change in consumer tastes in China. And, because information now gets transmitted instantaneously across continents and oceans, scientists, governments, firms, and households all react quickly to new information by altering behavior in laboratories, clinics, legislative processes, production and marketing strategies, consumption and travel decisions, and research projects. Without keeping track of international developments, today’s student will be unable to understand the changing nature of the world and the material that he or she is studying.

In addition to perceiving the need for international awareness on the part of students in general, we think it is absolutely mandatory that students with an interest in economics recognize that international economic events and the international dimensions of the subject surround us every day. As we prepared to launch this eighth edition of *International Economics*, we could not help noting how much had changed since the initial writing for our first edition. The world has economically internationalized even faster than we anticipated more than 20 years ago, and the awareness of the role of international issues in our lives has increased substantially. Almost daily, headlines focus on developments such as the increased problems facing monetary union in Europe and the euro; proposed policies of erecting additional trade barriers as a protective response to worldwide economic weakness; increased integration efforts such as the emerging Trans-Pacific Partnership; and growing vocal opposition and hostility in many countries to the presence of large and increasing numbers of immigrants. Beyond these broad issues, headlines also trumpet news of the U.S. trade deficit, rising (or falling) gasoline prices, the value of the Chinese renminbi yuan, and outsourcing to call centers in India. In addition, as we write this edition, the world has become painfully aware that increased globalization links countries together strongly in times both of recession and prosperity.

The growing awareness of the importance of international issues is also in evidence in increased student interest in such issues, particularly those related to employment, international working conditions, and equity. It is thus increasingly important that individuals have a practical working knowledge of the economic fundamentals underlying international actions to find their way through the myriad arguments, emotions, and statistics that bombard them almost daily. Young, budding economists need to be equipped with the framework, the tools, and the basic institutional knowledge that will permit them to make sense of the increasingly interdependent economic environment. Further, there will be few jobs that they will later pursue that will not have an international dimension, whether it be ordering components from a Brazilian firm, traveling to a trade show in Malaysia, making a loan for the transport of Caspian Sea oil, or working in an embassy in Quito or in a medical mission in Burundi.

Thus, the motive for writing this edition is much the same as in earlier editions: to provide a clear and comprehensive text that will help students move beyond simple recognition and interest in international issues and toward a level of understanding of current and future international developments that will be of use to them in analyzing the problem at hand and selecting a policy position. In other words, we seek to help these scholars acquire the necessary human capital for dealing with important questions, for satisfying their intellectual curiosity, and for providing a foundation for future on-the-job decisions.

We have been very flattered by the favorable response to the previous seven editions of our book. In this eighth edition, we continue to build upon the well-received features to develop a text that is even more attuned to our objectives. We have also continued to attempt to clarify our presentation of some of the more difficult concepts and models in order to be more student-friendly.

IMPROVEMENTS AND SPECIFIC CHAPTER CHANGES

In this edition, as usual, we have attempted to provide current and timely information on the wide variety of international economic phenomena. New boxes have been added and previous ones modified to provide up-to-date coverage of emerging issues in the global economy. The text includes such matters as recent developments in U.S. trade policy, major changes in the European Union and implications of the recent

worldwide financial crisis/recession. We should note that, in the monetary material, we continue to maintain our reliance on the *IS/LM/BP* framework for analyzing macroeconomic policy because we believe that the framework is effective in facilitating student understanding and because that material was favorably received by users of the earlier editions. We also continue to incorporate key aspects of the asset approach into the *IS/LM/BP* model.

Particular mention should be made of the fact that, in this edition, we have continued to employ Learning Objectives at the beginning of each chapter to orient the reader to the central issues. This text is comprehensive in its coverage of international concepts, and the Learning Objectives are designed to assist the instructor with the choice of chapters to cover in designing the course and to assist the students in focusing on the critical concepts as they begin to read each chapter. Because of the positive response to the opening vignettes in recent editions, we have retained and updated them in this edition to focus on the real-world applicability of the material.

We have continued to use the pedagogical structure employed in the seventh edition. As in that edition, the “In the Real World” boxes are designed to provide examples of current international issues and developments drawn straight from the news that illustrate the concepts developed in the chapter. We have added, updated or deleted boxes where appropriate. In situations where particularly critical concepts would benefit from further elaboration or graphical representation, we have continued to utilize “Concept” boxes.

Generally speaking, in each chapter we edited and updated textual material, in addition to the specific changes listed below. Also, where appropriate, we have deleted outdated or overly technical material, and these deletions are not included in this list.

Chapter 1

- Updating of all tables and related discussion pertaining to world, regional, and U.S. trade value, composition, and structure.

Chapter 2

- Addition of new material to the “In the Real World” box on present-day Mercantilism.

Chapter 3

- Updating of the “In the Real World” box on countries with highly concentrated export bundles and the particular leading commodities in those bundles.

Chapter 4

- Updating and provision of new material on freight rates for shipment of various commodities and on the “freight and insurance factor” difference between c.i.f./f.o.b. prices for various countries’ import bundles.
- A new, updated graph on steel industry productivity.
- An updated graph of U.S. steel import penetration ratios over time.
- A new “In the Real World” box on how exporting can lead to higher industry productivity, drawing on recent studies of nine African countries and Slovenia.

Chapter 5

- Updating of the “In the Real World” box on U.S. consumer expenditure patterns since 1960 to include 2010 data.

Chapter 6

- Brief acknowledgment of the fact that, although micro trade theory and analysis assume that

resources are fully employed, such has not been the situation in recent years; nevertheless, the basic case for engaging in international trade still holds.

Chapter 7

- Updating of information contained in “In the Real World” boxes showing the commodity terms of trade and income terms of trade of major groups of countries since 1973.

Chapter 8

- Updating of data in an “In the Real World” table showing capital/labor, capital/land, and labor/land ratios in six countries.

Chapter 9

- Fuller explanation of the implications of factor-intensity reversals for the theoretical validity of the Heckscher-Ohlin theorem.
- A new “In the Real World” box providing details of two recent empirical papers that assess the relative contribution of Heckscher-Ohlin compared with other theories as an explanation of real-world trade patterns.
- Updating of information on growing income inequality, especially in the United States; introduction of recent wealth data in addition to recent income data.

Chapter 10

- Distinguishing between outsourcing and offshoring.
- New literature references throughout the chapter where appropriate.
- Reorganization of section on post-Heckscher-Ohlin theories; addition of new section on multi-product exporting firms.

Chapter 11

- Updating of data on factor endowments in selected countries to include 2010.
- Updating of “In the Real World” box on the terms of trade of Brazil, Jordan, Morocco, and Thailand.

Chapter 12

- Updating of opening vignette on foreign direct investment (FDI) in China.
- Updating of data on worldwide FDI, U.S. FDI abroad, and foreign FDI in the United States
- Updating of tables on the world’s largest corporations and largest banks.
- Updating of an “In the Real World” box on the determinants of FDI; updating of data on worldwide labor migration, including the material in the “In the Real World” box on immigration to the United States.
- Updating of data on immigrants’ remittances worldwide.
- A new “In the Real World” box on the relationship between immigration to a country and that country’s trade pattern.

Chapter 13

- Updating to 2012 of the tables on U.S. tariff rates and countries receiving Generalized System of Preferences treatment from the United States.
- New information on nominal and effective tariff rates for the European Union’s agricultural sectors.
- A new “In the Real World” box on recent nominal and effective tariff rates in Egypt and Vietnam.
- Updating of the “In the Real World” box that discusses trade controls in Australia, El Salvador, and Pakistan.
- A new table showing the domestic price impacts of the existence of tariffs and nontariff barriers on food and agricultural products in several developed countries.

Chapter 14

- Inclusion of new estimates of the potential impact on world welfare of the removal by eight developed countries of tariff and non-tariff barriers to trade in food products.
- Inclusion of new estimates by the U.S. International Trade Commission of the welfare impact of removing significant U.S. import barriers.

Chapter 15

- Updating of data, including data on government revenues obtained from tariffs in a variety of countries and of information pertaining to the number of anti-dumping duties and

countervailing duties in place in the United States against imports.

- Inclusion of recent information on the Boeing–Airbus rivalry.

Chapter 16

- Presentation of new information on the attitudes of citizens of the United States and a variety of other countries toward international trade.
- Discussion of recent developments in the World Trade Organization multilateral trade negotiations and in U.S. international trade policy.

Chapter 17

- Inclusion of recent developments in the European Union and in the East African Community.
- Introduction of new material on Canada’s movement toward forming free-trade pacts with other countries.
- Considerable change in the treatment of the effects on trade and on the partner countries of the implementation of the North American Free Trade Agreement.
- Revision of material on the United States/Central American–Dominican Republic Free Trade Agreement.
- Introduction of new material on the 2011 free-trade agreements of the United States with Colombia, South Korea, and Panama; introduction of material on the Trans-Pacific Partnership.
- Updating of material on the Free Trade Area of the Americas and on Chile’s many free-trade agreements.

Chapter 18

- Updating of information on the contrasting characteristics of emerging/developing countries and developed countries.
- Introduction of new material on the Fair Trade Movement.
- Introduction of new empirical material regarding the relationship of growth in trade with economic growth in developing countries.
- Updating of data pertaining to the external debt problems of emerging and developing countries.

Chapter 19

- Updating of tables and data throughout the chapter, including balance-of-trade deficits with China and leading trading partners and the international investment position of the United States.
- Introduction of new material on the size of the global daily foreign exchange market.
- Change in presentation of balance-of-payments accounting entries to conform more closely with current official presentations.

Chapter 20

- Updating of numerical examples and tables throughout the chapter.
- New case study of the nominal and real exchange rate behavior of the Canadian dollar relative to the U.S. dollar.
- Updating of graph showing the nominal and real effective exchange rates of the U.S. dollar through 2011.
- Updating of the graphs showing spot and purchasing-power-parity (PPP) exchange rates of the U.S. dollar relative to the euro and the UK pound through 2011.
- Updating of discussion in Concept Boxes on currency futures and futures options.
- Addition of material on the “carry trade” pertaining to foreign exchange markets and money markets.

Chapter 21

- Updating of information and discussion of international bank lending, international bond markets, and size and growth of financial derivatives.
- Updating discussion in Concept Boxes on interest rate futures and interest rate futures options.
- Presentation of new data on nominal and real interest rates in 24 countries and in graphs of U.S. and LIBOR deposit and lending rates.

Chapter 22

- Updating and condensation of information on the Federal Reserve balance sheet and the money supply.
- Updating of information in an “In the Real World” box on money, prices, and exchange rates in Russia.
- Discussion of four recent papers on the testing of the monetary approach and the portfolio balance approach to the balance of payments and the exchange rate.

Chapter 23

- Provision of new information on real-world estimates of import and export demand elasticities.
- Introduction of recent information pertaining to the J curve.

Chapter 24

- Updating of data on the average propensities to import of Canada, France, Japan, the United Kingdom, and the United States.
- Introduction of a new “In the Real World” box on the tendency of industrial countries’ GDP movements to become more highly correlated over the long run than in the short run.
- Expanded discussion of fiscal policy’s income effects, taking into account feedback loops from trading partners.
- A new discussion of increased synchronization of business cycles across countries since 2007.

Chapter 25

- Inclusion of a brief consideration of real-world government expenditure multipliers in the context of the *IS/LM/BP* model.
- Addition of new graph and textual material to illustrate, using the *IS/LM/BP* analysis, Greece’s recent fiscal difficulties.
- Updated data on the extent of foreign exchange restrictions in IMF countries.

Chapter 26

- General updating of discussion and data throughout the chapter.
- Addition of material on current economic events at several points in the chapter.
- Introduction of a new “In the Real World” box on perceived increased economic instability in Europe and its impact on the United States, using the *IS/LM/BP* framework.
- Reworking and updating of the “In the Real World” box on policy coordination among developed countries.

Chapter 27

- Updating of information on actual and natural levels of U.S. GDP, actual and natural levels of unemployment, and U.S. inflation rates.
- Inclusion of recent research results comparing the impact of government expenditures on income under fixed and flexible exchange rates.
- Interpretation of the recent financial crisis in the United States in terms of the aggregate demand/aggregate supply framework.
- Inclusion of a brief overview of recent research regarding the workings and effectiveness of monetary policy.
- Updating of information in an “In the Real World” box on sub-Saharan Africa.

Chapter 28

- Addition of new research findings on the impact of exchange rate changes on the size of international trade.
- Updating and extension of the comparison over time of central banks’ reserves with the size of imports.
- Updating of discussion in the “In the Real World” box on currency boards in Estonia and Lithuania.
- Introduction of a new “In the Real World” box describing the nature of the four current monetary unions in the world economy, focusing on the Eastern Caribbean Currency Union.

Chapter 29

- Updating of information on members’ quotas in the IMF.
- Addition of material at various spots on the current euro-zone difficulties and world recovery from the recent recession.

It is our hope that the changes in the eighth edition will prove beneficial to students as well as to instructors. The improvements are designed to help readers both understand and appreciate more fully the growing importance of the global economy in their lives.

DESCRIPTION OF TEXT

Our book follows the traditional division of international economics into the trade and monetary sides of the subject. Although the primary audience for the book will be students in upper-level economics courses, we think that the material can effectively reach a broad, diversified group of students—including those in political science, international studies, history, and business who may have fewer economics courses in their background. Having taught international economics ourselves in specific nonmajors' sections and Master's of Business Administration sections as well as in the traditional economics department setting, we are confident that the material is accessible to both noneconomics and economics students. This broad audience will be assisted in its learning through the fact that we have included separate, extensive review chapters of microeconomic (Chapter 5) and macroeconomic (Chapter 24) tools.

International Economics presents international trade theory and policy first. Introductory material and data are found in Chapter 1, and Chapters 2 through 4 present the Classical model of trade, including a treatment of pre-Classical Mercantilism. A unique feature is the devotion of an entire chapter to extensions of the Classical model to include more than two countries, more than two goods, money wages and prices, exchange rates, and transportation costs. The analysis is brought forward through the modern Dornbusch-Fischer-Samuelson model including a treatment of the impact of productivity improvements in one country on the trading partner. Chapter 5 provides an extensive review of microeconomic tools used in international trade at this level and can be thought of as a "short course" in intermediate micro. Chapters 6 through 9 present the workhorse neoclassical and Heckscher-Ohlin trade theory, including an examination of the assumptions of the model. Chapter 6 focuses on the traditional production possibilities–indifference curve exposition. We are unabashed fans of the offer curve because of the nice general equilibrium properties of the device and because of its usefulness in analyzing trade policy and in interpreting economic events, and Chapter 7 extensively develops this concept. Chapter 8 explores Heckscher-Ohlin in a theoretical context, and Chapter 9 is unique in its focus on testing the factor endowments approach, including empirical work on the trade-income inequality debate in the context of Heckscher-Ohlin.

Continuing with theory, Chapters 10 through 12 treat extensions of the traditional material. Chapter 10 discusses various post-Heckscher-Ohlin trade theories that relax standard assumptions such as international factor immobility, homogeneous products, constant returns to scale, and perfect competition. An important focus here is upon imperfect competition and intra-industry trade, and new material has been added regarding the multiproduct exporting firm. Chapter 11 explores the comparative statics of economic growth and the relative importance of trade, and it includes material on endogenous growth models and on the effects of growth on the offer curve. Chapter 12 examines causes and consequences of international factor movements, including both capital movements and labor flows.

Chapters 13 through 17 are devoted to trade policy. Chapter 13 is exclusively devoted to presentation of the various instruments of trade policy. Chapter 14 then explores the welfare effects of the instruments, including discussion of such effects in a "small-country" as well as a "large-country" setting. Chapter 15 examines various arguments for protection, including strategic trade policy approaches. Chapter 16 begins with a discussion of the political economy of trade policy, followed by a review of various trade policy actions involving the United States as well as issues currently confronting the WTO. Chapter 17 is a separate chapter on economic integration. We have updated the discussion of the European Union (including recent problems) and the North American Free Trade Agreement. In addition, there is new material on the U.S. free-trade agreements with Colombia, South Korea, and Panama and on the Trans-Pacific Partnership. The trade part of the book concludes with Chapter 18, which provides an overview of how international trade influences growth and change in the developing countries as well as a discussion of the external debt problem.

The international monetary material begins with Chapter 19, which introduces balance-of-payments accounting. This is followed by discussion of the foreign exchange market in Chapter 20. We think this sequence makes more sense than the reverse, since the demand and supply curves of foreign exchange reflect the debit and credit items, respectively, in the balance of payments. A differentiating feature of the presentation of the foreign exchange market is the extensive development of various exchange rate measures, for example, nominal, real, and effective exchange rates. Chapter 21 then describes characteristics of "real-world" international financial markets in detail, and discusses a (we hope not-too-bewildering) variety of international financial derivative instruments. Chapter 22 presents in considerable detail the monetary and portfolio balance (or asset market) approaches to the balance of payments and to exchange rate determination. The more technical

discussion of testing of these approaches is in an appendix, which has been updated to include recent empirical research. The chapter concludes with an examination of the phenomenon of exchange rate overshooting. In Chapters 23 and 24, our attention turns to the more traditional price and income adjustment mechanisms. Chapter 24 is in effect a review of basic Keynesian macroeconomic analysis.

Chapters 25 through 27 are concerned with macroeconomic policy under different exchange rate regimes. As noted earlier, we continue to utilize the *IS/LM/BP* Mundell-Fleming approach rather than employ exclusively the asset market approach. The value of the *IS/LM/BP* model is that it can embrace both the current and the capital/financial accounts in an understandable and perhaps familiar framework for many undergraduates. This model is presented in Chapter 25 in a manner that does not require previous acquaintance with it but does constitute review material for most students who have previously taken an intermediate macroeconomic theory course. The chapter concludes with an analysis of monetary and fiscal policy in a fixed exchange rate environment. These policies are then examined in a flexible exchange rate environment in Chapter 26. We have included in the appendixes to Chapters 25 and 26 material that develops a more formal graphical link between national income and the exchange rate. The analysis is then broadened to the aggregate demand–aggregate supply framework in Chapter 27. The concluding chapters, Chapters 28 and 29, focus on particular topics of global concern. Chapter 28 considers various issues related to the choice between fixed and flexible exchange rates, including material on currency boards. Chapter 29 then traces the historical development of the international monetary system from Bretton Woods onward, examines proposals for reform such as target zone proposals, and addresses some implications of the 2007–2009 world recession and the recent “euro crisis.”

Because of the length and comprehensiveness of the *International Economics* text, it is not wise to attempt to cover all of it in a one-semester course. For such a course, we recommend that material be selected from Chapters 1 to 3, 5 to 8, 10, 13 to 15, 19 and 20, 22 to 26, and 29. If more emphasis on international trade is desired, additional material from Chapters 17 and 18 can be included. For more emphasis on international monetary economics, we suggest the addition of selected material from Chapters 21, 27, and 28. For a two-semester course, the entire *International Economics* book can be covered. Whatever the course, occasional outside reading assignments from academic journals, current popular periodicals, a readings book, and Web sources can further help to bring the material to life. The “References for Further Reading” section at the end of the book, which is organized by chapter, can hopefully give some guidance. If library resources are limited, the text contains, both in the main body and in boxes, summaries of some noteworthy contributions.

PEDAGOGICAL DEVICES

To assist the student in learning the material, we have included a variety of pedagogical devices. We like to think of course that the major device in this edition is again clear exposition. Although all authors stress clarity of exposition as a strong point, we continue to be pleased that many reviewers praised this feature. Beyond this general feature, more specific devices are described herein.

Learning Objectives

Except for Chapter 1, every chapter begins with a set of explicit learning objectives to help students focus on key concepts. The learning objectives can also be useful to instructors in selecting material to cover in their respective classes.

Opening Vignettes

These opening vignettes or cases were mentioned earlier. The intent of each case is to motivate the student toward pursuing the material in the forthcoming chapter as well as to enable the student to see how the chapter’s topics fit with actual applied situations in the world economy.

Boxes

There are three types of material that appear in boxes (more than 100 of them) in *International Economics*. Some are analytical in nature (Concept Boxes), and they explain further some difficult concepts or relationships. We have also included several biographical boxes (Titans of International Economics). These short sketches of well-known economists add a personal dimension to the work being studied, and they discuss not only the professional interests and concerns of the individuals but also some of their less well-known “human” characteristics. Finally, the majority of the boxes are case studies (In the Real World), appearing throughout chapters and supplemental to the opening vignettes. These boxes serve to illuminate concepts and analyses under discussion. As with the opening vignettes, they give students an opportunity to see the relevance of the material to current events. They also provide a break from the sometimes heavy dose of theory that permeates international economics texts.

Concept Checks

These are short “stopping points” at various intervals within chapters (about two per chapter). The concept checks pose questions that are designed to see if basic points made in the text have been grasped by the student.

End-of-Chapter Questions and Problems

These are standard fare in all texts. The questions and problems are broader and more comprehensive than the questions contained in the concept checks.

Lists of Key Terms

The major terms in each chapter are boldfaced in the chapters themselves and then are brought together at the end of the chapter in list form. A review of each list can serve as a quick review of the chapter.

References for Further Reading

These lists occur at the end of the book, organized by chapter. We have provided bibliographic sources that we have found useful in our own work as well as entries that are relatively accessible and offer further theoretical and empirical exploration opportunities for interested students.

Instructor's Manual and Test Bank

This companion work offers instructors assistance in preparing for and teaching the course. We have included suggestions for presenting the material as well as answers to the end-of-chapter questions and problems. In addition, sample examination questions are provided, including some of the hundreds of multiple-choice questions and problems that we have used for examining our own students. Access this ancillary, as well as the Test Bank, through the text's Online Learning Center.

Online Learning Center

The eighth edition of *International Economics* is accompanied by a comprehensive website, www.mhhe.com/appleyard/8e. The Instructor's Manual and Test Bank exist in Word format on the password-protected portion. Additionally, the password-protected site includes answers to the Graphing Exercises. Students also benefit from visiting the Online Learning Center. Chapter-specific graphing exercises and interactive quizzes serve as helpful study materials. A Digital Image Library contains all of the images from the text. The eighth edition also contains PowerPoint presentations, one to accompany every chapter, available on the Online Learning Center.



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ACKNOWLEDGMENTS

Our major intellectual debts are to the many professors who taught us economics, but particularly to Robert Stern of the University of Michigan and Erik Thorbecke of Cornell University. We also have found conversations and seminars over the years with faculty colleagues at the University of North Carolina at Chapel Hill to have been extremely helpful. We particularly wish to thank Stanley Black, Patrick Conway, William A. Darity, Jr., Richard Froyen, and James Ingram. Thanks also to colleagues at Davidson College, especially Peter Hess, Vikram Kumar, David Martin, Lou Ortmyer, and Clark Ross; and to the many students at Chapel Hill and Davidson who were guinea pigs for the material and provided helpful insights and suggestions. In addition, we express special appreciation to Steven L. Cobb of the University of North Texas for his contributions to the previous three editions of this book. As a coauthor, Steve provided numerous creative ideas and valuable content, much of which continues to be used in this eighth edition.

We are also indebted to the entire staff at McGraw-Hill/Irwin, especially Mary Jane Lampe, Christina Kouvelis, Jennifer M. Jelinski, Terri Schiesl, Prashanthi Nadipalli, Michele Janicek, Jennifer Pickel, and Douglas Reiner, as well as freelancers Beth Baugh and Venkatraman Jayaraman. We thank them for their cooperation, patience, encouragement, and guidance in the development of this eighth edition.

In addition, we are grateful to the following reviewers; their thoughtful, prescriptive comments have helped guide the development of these eight editions:

Deergha Raj Adhikari <i>University of Louisiana at Lafayette</i>	Khosrow Doroodian <i>Ohio University–Athens</i>
Francis Ahking <i>University of Connecticut–Storrs</i>	Mary Epps <i>University of Virginia</i>
Mohsen Bahmani-Oskooee <i>University of Wisconsin–Milwaukee</i>	Jim Gerber <i>San Diego State University</i>
Scott Baier <i>Clemson University</i>	Norman Gharrity <i>Ohio Wesleyan University</i>
Michael Barry <i>Mount St. Mary’s University</i>	Animesh Ghoshal <i>DePaul University</i>
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Tibor Besedes <i>Georgia Institute of Technology</i>	James Hartigan <i>University of Oklahoma</i>
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Michael Quinn <i>Bentley College</i>	Grigor Sukiassyan <i>California State University–Fullerton</i>
James Rakowski <i>University of Notre Dame</i>	Kishor Thanawala <i>Villanova University</i>
James Rauch <i>University of California–San Diego</i>	Edward Tower <i>Duke University</i>
Monica Robayo <i>University of North Florida</i>	John Wilson <i>Michigan State University</i>
Simran Sahi <i>University of Minnesota</i>	

We also wish to thank David Ball (North Carolina State University), David Collie (Cardiff University), David Cushman (University of Saskatchewan), Guzin Erlat (Middle East Technical University–Ankara), J. Michael Finger (World Bank, retired), Dan Friel (Bank of America), Art Goldsmith (Washington and Lee University), the late Monty Graham (The Peterson Institute of International Economics), Michael Jones (Bowdoin College), Joseph Joyce (Wellesley College), and Joe Ross (Goldman Sachs) for their helpful comments on this and earlier editions. Appreciation is also extended to the many other individuals who have contacted us over the years regarding our book. Of course, any remaining shortcomings or errors are the responsibility of the authors (who each blame the other). A special note of thanks goes to our families for their understanding, support, and forbearance throughout the time-absorbing process required to complete all eight editions.

Finally, we welcome any suggestions or comments that you may have regarding this text. Please feel free to contact us at our e-mail addresses. And thank you for giving attention to our book!

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THE WORLD OF INTERNATIONAL ECONOMICS

INTRODUCTION

Welcome to the study of international economics. No doubt you have become increasingly aware of the importance of international transactions in daily economic life. When people say that “the world is getting smaller every day,” they are referring not only to the increased speed and ease of transportation and communications but also to the increased use of international markets to buy and sell goods, services, and financial assets. This is not a new phenomenon, of course: in ancient times international trade was important for the Egyptians, the Greeks, the Romans, the Phoenicians, and later for Spain, Portugal, Holland, and Britain. It can be said that all the great nations of the past that were influential world leaders were also important world traders. Nevertheless, the importance of international trade and finance to the economic health and overall standard of living of a country has never been as clear as it is today.

Signs of these international transactions are all around us. The clothes we wear come from production sources all over the world: the United States

to the Pacific Rim to Europe to Central and South America. The automobiles we drive are produced not only in the United States but also in Canada, Mexico, Japan, Germany, France, Italy, England, Sweden, and other countries. The same can be said for the food we eat, the shoes we wear, the appliances we use, and the many different services we consume. In addition, in the United States, when you call an 800 number about a product or service, you may be talking to someone in India. Further, products manufactured in the United States often use important parts produced in other countries. At the same time, many U.S. imports are manufactured with important U.S.-made components.

This increased internationalization of economic life is made even more complicated by foreign-owned assets. More and more companies in many countries are owned partially or totally by foreigners. In the 1990s, foreigners began to purchase U.S. government bonds and corporate stocks in record numbers, partly fueling the stock market boom of those years. The overall heightened presence of foreign goods, foreign producers, and foreign-owned assets causes many to question the impact and desirability of international transactions. This questioning has become more intense in recent years with the onset of the global financial crisis and accompanying recession. It is our hope that after reading this text you will be better able to understand how international trade and payments affect a country and that you will know how to evaluate the implications of government policies that are undertaken to influence the level and direction of international transactions.

You will be studying one of the oldest branches of economics. People have been concerned about the goods and services crossing their borders for as long as nation-states or city-states have existed. Some of the earliest economic data relate to international trade, and early economic thinking often centered on the implications of international trade for the well-being of a politically defined area. Although similar to regional economics in many respects, international economics has traditionally been treated as a special branch of the discipline. This is not terribly surprising when one considers that economic transactions between politically distinct areas are often associated with many differences that influence the nature of exchanges between them rather than transactions within them. For example, the degree of factor mobility between countries often differs from that within countries. Countries can have different forms of government, different currencies, different types of economic systems, different resource endowments, different cultures, different institutions, and different arrays of products.

The study of international economics, like all branches of economics, concerns decision making with respect to the use of scarce resources to meet desired economic objectives. It examines how international transactions influence such things as social welfare, income distribution, employment, growth, and price stability and the possible ways public policy can affect the outcomes. In the study of international trade, we ask, for example: What determines the basis for trade? What are the effects of trade? What determines the value and the volume of trade? What factors impede trade flows? What is the impact of public policy that attempts to alter the pattern of trade? In the study of international monetary economics we address questions such as: What is meant by a country's balance of payments? How are exchange rates determined? How does trade affect the economy at the macro level? Why does financial capital flow rapidly and sizably across country borders? Should several countries adopt a common currency? How do international transactions affect the use of monetary and fiscal policy to pursue domestic targets? How do economic developments in a country get transmitted to other countries? This chapter provides an overview of the subjects and issues of international economics that will be discussed throughout the rest of this text.

THE NATURE OF MERCHANDISE TRADE

Before delving further into the subject matter of international economics, however, it is useful to take a brief look at some of the characteristics of world trade today. The value of world merchandise exports was \$17.8 trillion in 2011,¹ a figure that is dramatic when one realizes that the value of goods exported worldwide was less than \$2 trillion in 1985. Throughout the past four decades, international trade volume has, on average, outgrown production (see Table 1), illustrating how countries are becoming more interdependent. With the worldwide recession, slow recovery, and uncertainties of recent years, trade growth has been variable: It grew 5.0 percent in 2011, a fall from the 13.8 percent of 2010, but well above the *negative* growth of 12.0 percent of 2009.²

The Geographical Composition of Trade

In terms of major economic areas, the industrialized countries dominate world trade. Details of trade on a regional basis are provided in Table 2. The relative importance of Europe, North America, and Asia is evident, as they account for more than 83 percent of trade. Asia has become increasingly important in developing countries' imports and exports.

To obtain an idea of the geographical structure of trade, look at Table 3, which provides information on the destination of merchandise exports from several regions for 2010. The first row, for example, indicates that 48.7 percent of the exports of countries of North America went to other North American countries, 8.4 percent of North American exports went to South and Central America, and so forth. From this table it is clear that the major markets for all regions' exports are in North America, Europe, and Asia. This is true for these three areas themselves, especially for Europe, which sends 71.0 percent of its exports to itself. In addition, the table makes it evident that the countries in Africa and the Middle East trade relatively little with themselves.

TABLE 1 Growth in Volume of World Goods Production and Trade, 1963–2010 (average annual percentage change in volume)

	1963–1973	1970–1979	1980–1985	1985–1990	1990–1998	1995–2000	2000–2006	2005–2010	2010
Production									
All commodities	6.0%	4.0%	1.7%	3.0%	2.0%	4.0%	2.5%	2.0%	4.0%
Agriculture	2.5	2.0	2.9	1.9	2.0	2.5	2.0	2.0	0.0
Mining	5.5	2.5	−2.7	3.0	2.0	2.0	1.5	0.5	2.0
Manufacturing	7.5	4.5	2.3	3.2	2.0	4.0	3.0	2.5	5.5
Exports									
All commodities	9.0%	5.0%	2.1%	5.8%	6.5%	7.0%	5.5%	3.5%	14.0%
Agriculture	14.0	4.5	1.0	2.2	4.0	3.5	4.0	3.5	7.5
Mining	7.5	1.5	−2.7	4.8	5.5	4.0	3.0	1.5	5.5
Manufacturing	11.5	7.0	4.5	7.0	7.0	8.0	6.0	4.0	18.0

Sources: General Agreement on Tariffs and Trade, *International Trade 1985–86* (Geneva: GATT, 1986), p. 13; GATT, *International Trade 1988–89*, I (Geneva: GATT, 1989), p. 8; GATT, *International Trade 1993: Statistics* (Geneva: GATT, 1993), p. 2; GATT, *International Trade 1994: Trends and Statistics* (Geneva: GATT, 1994), p. 2; World Trade Organization, *Annual Report 1999: International Trade Statistics* (Geneva: WTO, 1999), p. 1; WTO, *International Trade Statistics 2003* (Geneva: WTO, 2003), p. 19; WTO, *International Trade Statistics 2007* (Geneva: WTO, 2007), p. 7; and WTO, *International Trade Statistics 2011* (Geneva: WTO, 2011), p. 19, all obtained from www.wto.org.

¹World Trade Organization, Press Release 658, April 12, 2012, “Trade Growth to Slow in 2012 after Strong Deceleration in 2011,” obtained from www.wto.org.

²*Ibid.*

TABLE 2 Merchandise Exports and Imports by Region, 2011 (billions of dollars and percentage of world totals)

	<i>Exports</i>		<i>Imports</i>	
	<i>(billions of dollars, f.o.b.*)</i>	<i>Share (%)</i>	<i>(billions of dollars, c.i.f. *)</i>	<i>Share (%)</i>
North America [†]	\$ 2,283	12.8%	\$ 3,090	17.2%
South and Central America	749	4.2	727	4.0
Europe	6,601	37.1	6,854	38.1
(European Union [27]) [‡]	(6,029)	(33.9)	(6,241)	(34.7)
Commonwealth of Independent States (CIS) [§]	788	4.4	540	3.0
Africa	597	3.4	555	3.1
Middle East	1,228	6.9	665	3.7
Asia	<u>5,534</u>	<u>31.1</u>	<u>5,568</u>	<u>30.9</u>
World	\$17,779	100.0%	\$18,000	100.0%

Note: Components may not sum to totals because of rounding.

*Exports are recorded f.o.b. (free on board) and imports are recorded c.i.f. (cost, insurance, and freight).

[†]Including Mexico.

[‡]Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, and United Kingdom.

[§]Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russian Federation, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

Source: World Trade Organization, Press Release 658, April 12, 2012, "Trade Growth to Slow in 2012 after Strong Deceleration in 2011," obtained from www.wto.org.

TABLE 3 Regional Structure of World Merchandise Exports, 2010 (percentage of each origin area's exports going to each destination area)

<i>Origin</i>	<i>Destination</i>							<i>World</i>
	<i>North America</i>	<i>South and Central America</i>	<i>Europe</i>	<i>CIS</i>	<i>Africa</i>	<i>Middle East</i>	<i>Asia</i>	
North America	48.7%	8.4%	16.8%	0.6%	1.7%	2.7%	21.0%	100.0%
South and Central America	23.9	25.6	18.7	1.3	2.6	2.6	23.2	100.0
Europe	7.4	1.7	71.0	3.2	3.1	3.0	9.3	100.0
CIS	5.6	1.1	52.4	18.6	1.5	3.3	14.9	100.0
Africa	16.8	2.7	36.2	0.4	12.3	3.7	24.1	100.0
Middle East	8.8	0.8	12.1	0.5	3.2	10.0	52.6	100.0
Asia	17.1	3.2	17.2	1.8	2.7	4.2	52.6	100.0
<i>World</i>	<i>16.9</i>	<i>4.0</i>	<i>39.4</i>	<i>2.7</i>	<i>3.0</i>	<i>3.8</i>	<i>28.4</i>	<i>100.0</i>

Note: Destination percentages for any given origin area do not sum to 100.0% because of rounding and/or incomplete specification.

Source: World Trade Organization, *International Trade Statistics 2011* (Geneva: WTO, 2011), p. 21, obtained from www.wto.org.

At the individual country level (see Table 4), the relative importance of Europe, North America, and Asia in 2011 is again quite evident. The largest country exporter is China (which displaced Germany in 2009, which in turn had displaced the United States in 2003). The 6 largest traders (exports plus imports) are the United States, China, Germany, Japan,

TABLE 4 Leading Merchandise Exporters and Importers, 2011 (billions of dollars and percentage share of world totals)

<i>Exports</i>			<i>Imports</i>		
<i>Country</i>	<i>Value</i>	<i>Share</i>	<i>Country</i>	<i>Value</i>	<i>Share</i>
1. China	\$ 1,899	10.4%	United States	\$ 2,265	12.3%
2. United States	1,481	8.1	China	1,743	9.5
3. Germany	1,474	8.1	Germany	1,254	6.8
4. Japan	823	4.5	Japan	854	4.6
5. Netherlands	660	3.6	France	715	3.9
6. France	597	3.3	United Kingdom	636	3.5
7. Republic of Korea	555	3.0	Netherlands	597	3.2
8. Italy	523	2.9	Italy	557	3.0
9. Russian Federation	522	2.9	Republic of Korea	524	2.9
10. Belgium	476	2.6	Hong Kong (China)	511	2.8
11. United Kingdom	473	2.6	Canada*	462	2.5
12. Hong Kong (China)	456	2.5	Belgium	461	2.5
13. Canada	452	2.5	India	451	2.5
14. Singapore	410	2.2	Singapore	366	2.0
15. Saudi Arabia	365	2.0	Spain	362	2.0
16. Mexico	350	1.9	Mexico	361	2.0
17. Taiwan	308	1.7	Russian Federation*	323	1.8
18. Spain	297	1.6	Taiwan	281	1.5
19. India	297	1.6	Australia	244	1.3
20. United Arab Emirates	285	1.6	Turkey	241	1.3
21. Australia	271	1.5	Brazil	237	1.3
22. Brazil	256	1.4	Thailand	228	1.2
23. Switzerland	235	1.3	Switzerland	208	1.1
24. Thailand	229	1.3	Poland	208	1.1
25. Malaysia	227	1.2	United Arab Emirates	205	1.1
26. Indonesia	201	1.1	Austria	192	1.0
27. Poland	187	1.0	Malaysia	188	1.0
28. Sweden	187	1.0	Indonesia	176	1.0
29. Austria	179	1.0	Sweden	175	1.0
30. Czech Republic	162	0.9	Czech Republic	151	0.8
30 countries**	\$14,835	81.4%		\$15,180	82.6%
World**	\$18,215	100.0%		\$18,380	100.0%

Note: Components do not sum to totals because of rounding.

*Imports valued f.o.b.

**Includes significant re-exports or imports for re-export. World totals will thus differ from those of Table 2.

Source: World Trade Organization, Press Release 658, April 12, 2012, "Trade Growth to Slow in 2012 after Strong Deceleration in 2011," obtained from www.wto.org.

France, and the Netherlands, and they account for more than one-third of world trade. Also noteworthy has been the spectacular growth in the trade of Hong Kong, the Republic of Korea (South Korea), Taiwan, and Singapore. Finally, the 10 largest trading countries account for over 50 percent of world trade. World trade thus tends to be concentrated among relatively few major traders, with the remaining approximately 200 countries accounting for slightly less than 50 percent.

The Commodity Composition of Trade

Turning to the 2010 commodity composition of world trade (Table 5), manufactures account for 67.1 percent of trade, with the remaining amount consisting of primary products. Among primary goods, trade in fuels is the largest (15.8 percent), followed by food products (7.5 percent). Trade in raw materials, ores and other minerals, and nonferrous metals accounts for 6.2 percent. In the manufacturing category, machinery and transport equipment account for 34.2 percent of world trade. Office and telecom equipment and automotive/transport products are major subcategories, accounting for 10.8 percent and 11.4 percent of exports, respectively. Other important categories of manufactures include trade in chemicals (11.5 percent) and in textiles and clothing (4.1 percent).

What is especially notable is the current importance of trade in manufactures and the declining importance of primary products. Comparison of the last column of Table 5 with the next-to-last column illustrates the relatively sluggish growth of primary products in world trade compared with the growth in manufactured goods. For example, food products accounted for 11.0 percent of world exports in 1980 but only 7.5 percent in 2010; fuels, which constituted 23.0 percent in 1980, fell in importance to 15.8 percent in 2010; and the share of primary products in total dropped from 42.4 percent in 1980 to slightly under 30 percent in 2010. These developments are of particular relevance to many developing countries, whose trade has traditionally been concentrated in primary goods. Specialization in commodity groups that are growing relatively more slowly makes it difficult for them to obtain the gains from growth in world trade accruing to countries exporting manufactured products. The demand for primary products not only tends to be less responsive to income growth but is also more likely to demonstrate greater price fluctuations.

TABLE 5 Commodity Composition of World Exports, 2010 and 1980

<i>Product Category</i>	<i>Value in 2010 (\$ billions)</i>	<i>Share in 2010</i>	<i>Share in 1980</i>
Agricultural products	\$ 1,362	9.2%	14.7%
Food	1,119	7.5	11.0
Raw materials	243	1.6	3.7
Mining products	3,026	20.4	27.7
Ores and other minerals	339	2.3	2.1
Fuels	2,348	15.8	23.0
Nonferrous metals	339	2.3	2.5
Manufactures	9,962	67.1	53.9
Iron and steel	421	2.8	3.8
Chemicals	1,705	11.5	7.0
Other semimanufactures	941	6.3	6.7
Machinery and transport equipment	5,082	34.2	25.8
Office and telecom equipment	1,603	(10.8)	(4.2)
Automotive products and other transport equipment	1,695	(11.4)	(6.5)
Other machinery	1,784	(12.0)	(15.2)
Textiles	251	1.7	2.7
Clothing	351	2.4	2.0
Other manufactures	1,211	8.2	5.8
Total	\$14,851	100.0%	100.0%

Note: Components may not sum to category totals because of rounding. The three aggregate categories do not sum to \$14,851 and 100.0% because of incomplete specification of products.

Sources: World Trade Organization, *International Trade 1995: Trends and Statistics* (Geneva: WTO, 1995), p. 77; WTO, *International Trade Statistics 2011* (Geneva: WTO, 2011), p. 226, obtained from www.wto.org.

TABLE 6 U.S. Merchandise Trade by Area and Country, 2011 (millions of dollars and percentage shares)

<i>Region or Country</i>	<i>Exports to</i>		<i>Imports from</i>	
	<i>Value</i>	<i>Share</i>	<i>Value</i>	<i>Share</i>
Europe	\$ 335,587	22.4%	\$ 453,603	20.3%
European Union	273,280	18.3	373,216	16.7
Belgium	29,896	2.0	17,739	0.8
France	28,524	1.9	40,616	1.8
Germany	49,596	3.3	99,398	4.4
Ireland	7,701	0.5	39,514	1.8
Italy	16,229	1.1	34,325	1.5
Netherlands	43,103	2.9	23,970	1.1
United Kingdom	57,114	3.8	52,062	2.3
Non-European Union	62,307	4.2	80,387	3.6
Canada	282,253	18.8	321,955	14.4
Latin America and Other				
Western Hemisphere	367,416	24.5	442,128	19.8
Brazil	42,811	2.9	31,478	1.4
Mexico	197,777	13.2	267,572	12.0
Venezuela	12,345	0.8	43,390	1.9
Asia and Pacific	418,903	28.0	817,951	36.6
China	105,180	7.0	400,529	17.9
India	21,740	1.5	36,341	1.6
Japan	67,654	4.5	131,666	5.9
Republic of Korea	45,238	3.0	57,437	2.6
Singapore	31,542	2.1	19,683	0.9
Taiwan	27,118	1.8	41,441	1.9
Middle East	59,497	4.0	106,699	4.8
Saudi Arabia	14,003	0.9	47,563	2.1
Africa	33,733	2.3	93,345	4.2
Nigeria	4,827	0.3	33,908	1.5
(Members of OPEC)	(65,304)	(4.4)	(193,921)	(8.7)
Total	\$1,497,389	100.0%	\$2,235,681	100.0%

Notes: (a) Components may not sum to totals because of rounding; (b) data are preliminary.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, April 2012, pp. 34–35, obtained from www.bea.gov.

U.S. International Trade

To complete our discussion of the current nature of merchandise trade, we take a closer look at the geographic and commodity characteristics of the 2011 U.S. international trade (see Tables 6 and 7). Geographically, Canada is the most important trading partner for the United States, both in exports and imports. The North American Free Trade Agreement (NAFTA) partners (Canada and Mexico) are the largest multi-country unit, followed by the European Union (EU). The second-largest individual trading partner country of the United States, behind Canada, is China, followed by Mexico, Japan, Germany, the United Kingdom, South Korea, Brazil, France, and Taiwan. Of note is the fact that a major portion (58.1 percent) of the trade deficit of the United States in 2011 could be traced to China, Japan, and Mexico.

Turning to the commodity composition of U.S. trade (Table 7), agricultural products (foods, feeds, and beverages) are an important source of exports. The capital goods

TABLE 7 Composition of U.S. Trade, 2011 (billions of dollars and percentage shares)

	<i>Value of Exports</i>	<i>Share (%)</i>	<i>Value of Imports</i>	<i>Share (%)</i>
Total	\$1,497.4	100.0%	\$2,235.7	100.0%
Foods, feeds, and beverages	126.1	8.4	108.2	4.8
Coffee, cocoa, and sugar	—	—	11.1	0.5
Fish and shellfish	5.7	0.4	16.6	0.7
Grains and preparations	36.2	2.4	—	—
Meat products and poultry	17.1	1.1	7.7	0.3
Soybeans	18.0	1.2	—	—
Vegetables, fruits, nuts, and preparations	20.5	1.4	23.7	1.1
Industrial supplies and materials	517.7	34.6	783.0	35.0
Building materials, except metals	13.7	0.9	19.9	0.9
Chemicals, excluding medicinals	122.9	8.2	75.4	3.4
Energy products	157.1	10.5	490.1	21.9
Metals and nonmetallic products	131.0	8.7	128.1	5.7
Iron and steel products	19.6	1.3	37.3	1.7
Nonferrous metals	72.3	4.8	60.3	2.7
Paper and paper base stocks	23.6	1.6	12.6	0.6
Textile supplies and related materials	14.4	1.0	13.4	0.6
Capital goods, except automotive	491.4	32.8	513.3	23.0
Civilian aircraft, engines, and parts	80.2	5.4	35.4	1.6
Machinery and equipment, except consumer-type	405.9	27.1	473.3	21.2
Computers, peripherals, and parts	48.4	3.2	119.7	5.4
Electric generating machinery, electric apparatus, and parts	48.1	3.2	62.3	2.8
Industrial engines, pumps, and compressors	28.1	1.9	21.4	1.0
Machine tools and metalworking machinery	7.8	0.5	9.7	0.4
Measuring, testing, and control instruments	23.7	1.6	17.5	0.8
Oil drilling, mining, and construction machinery	32.8	2.2	21.8	1.0
Scientific, hospital, and medical equipment and parts	42.7	2.9	35.9	1.6
Semiconductors	43.8	2.9	37.9	1.7
Telecommunications equipment	35.8	2.4	48.5	2.2
Automotive vehicles, parts, and engines	132.5	8.8	255.0	11.4
(to/from Canada)	(54.2)	(3.6)	(56.5)	(2.5)
Passenger cars, new and used	47.4	3.2	122.6	5.5
Trucks, buses, and special purpose vehicles	19.4	1.3	20.2	0.9
Engines and engine parts	14.5	1.0	24.4	1.1
Other parts and accessories	51.3	3.4	87.8	3.9
Consumer goods (nonfood), except automotive	176.3	11.8	516.8	23.1
Durable goods	98.1	6.6	272.9	12.2
Household and kitchen appliances and other household goods	34.0	2.3	133.8	6.0
Radio and stereo equipment, including records, tapes, and disks	6.1	0.4	11.9	0.5
Televisions, video receivers, and other video equipment	5.7	0.4	33.5	1.5
Toys and sporting goods, including bicycles	10.5	0.7	35.6	1.6
Nondurable goods	78.2	5.2	243.9	10.9
Apparel, footwear, and household goods	9.4	0.6	125.7	5.6
Medical, dental, and pharmaceutical preparations	45.5	3.0	91.7	4.1
Goods, not elsewhere classified (including U.S. import goods returned)	53.3	3.6	59.3	2.7

Notes: (a) Major category figures may not sum to totals because of rounding; (b) — = not available or negligible; (c) data are preliminary.

Source: U.S. Department of Commerce, Bureau of Economic Analysis, *Survey of Current Business*, April 2012, pp. 37–38, obtained from www.bea.gov.

category is the largest single export category and is dominated by nonelectric machinery. Industrial supplies, importantly consisting of chemicals and metal/nonmetallic products, is also an important export category for the United States, although imports are larger than exports in the entire category (even excluding energy products). Sizable net imports occur in consumer goods, autos, and energy products. The largest import category is industrial supplies and materials, followed by consumer goods and almost equally by capital goods, except automotive products. Currently, energy products account for 21.9 percent of total imports. It is not surprising that the United States is a major importer of several primary products, such as petroleum, and also of products that traditionally rely relatively heavily on labor in production such as textiles and apparel.

WORLD TRADE IN SERVICES

The discussion of world trade has to this point focused on merchandise trade and has ignored the rapidly growing trade in services, estimated to be more than \$4 trillion in 2011 (almost one-fifth of the total trade in goods and services). The rising importance of services in trade should not be unexpected since the service category now accounts for the largest share of income and employment in many industrial countries including the United States. More specifically, in recent years services accounted for 79 percent of gross domestic product (GDP) in France, 68 percent in Germany, 79 percent in the United States, 78 percent in the United Kingdom, and 72 percent in Japan.³ In this context, services generally include the following categories in the International Standard Industrial Classification (ISIC) system: wholesale and retail trade, restaurants and hotels, transport, storage, communications, financial services, insurance, real estate, business services, personal services, community services, social services, and government services.

International trade in services broadly consists of commercial services, investment income, and government services, with the first two categories accounting for the bulk of services. Discussions of trade in “services” generally refer to trade in commercial services. During the 1970s this category grew more slowly in value than did merchandise trade. However, since that time, exports of commercial services have outgrown merchandise exports, and the relative importance of commercial services is roughly the same today as it was in the early 1970s. A word of caution is in order, however: the nature of trade in “services” is such that it is extremely difficult to obtain accurate estimates of the value of these transactions. This results from the fact that there is no agreed definition of what constitutes a traded service, and the ways in which these transactions are measured are less precise than is the case for merchandise trade. Estimates are obtained by examining foreign exchange records and/or through surveys of establishments. Because many service transactions are not observable (hence, they are sometimes referred to as the “invisibles” in international trade), the usual customs records or data are not available for valuing these transactions. Thus, it is likely that the value of trade in commercial services is underestimated. However, there may also be instances when firms may choose to overvalue trade in services, and reported figures must be viewed with some caution.

In terms of the geographical nature of trade in services, this trade is also concentrated among the industrial countries (see Table 8). The principal world traders in merchandise are generally also the principal traders in services. It is notable that both exports and imports of services are important for industrializing economies such as Thailand, Taiwan, Singapore, India, and South Korea.

The nature of trade in services is such that until the 1980s they were virtually ignored in trade negotiations and trade agreements. However, because of their increasing importance,

³World Bank, *World Development Indicators 2012* (Washington, DC: World Bank, 2012), pp. 218–20, obtained from www.worldbank.org.