International Economics

Ninth Edition

Dennis R. Appleyard • Alfred J. Field, Jr.

Mc Graw Hill Education

INTERNATIONAL ECONOMICS

NINTH EDITION

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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 1996, 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 encompasses 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, startling new political/terrorist/military events in Pakistan, Syria, France, or the United States, 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 ninth 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 at home and abroad. 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 the shifting of the headquarters of U.S. firms to foreign locations. 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.

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. 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 eight editions of our book. In this ninth edition, we continue to build upon the well-received features to develop a text that is current and 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 developments since the

2007–2009 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 options, such as during the recent period, because we believe that the framework is effective in facilitating student understanding. 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. The Learning Objectives are now coordinated with the major sections of the chapter in that each objective is tied to a particular section. Further, 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 eighth 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

- Updated all tables and their accompanying descriptions.

Chapter 2

- Introduced additional material to the "In the Real World" box on current thinking with Mercantilist underpinnings and slightly amended existing material in the box.

Chapter 3

- Updated material in the "In the Real World" box on export concentration of selected countries.

Chapter 4

- Extended the table on freight and insurance factors in the "In the Real World" box on transportation costs to include 2013 as well as different countries; introduced new replacement table showing relative transportation costs by major geographical trading area; updated table on containership charter rates.
- Replaced existing Golub study on unit labor costs and trade patterns with newer and more comprehensive examination of the empirical validity of the Ricardian model.
- Introduced recent research on relative productivities and country specialization in output.
- Updated graphs showing U.S. steel industry labor productivity and U.S. import penetration ratios in steel in the existing "In the Real World" box.
- Introduced material on the spread of the benefits of productivity growth in China to other countries.

Chapter 5

- Updated the "In the Real World" box on consumer expenditure patterns since 1960 to include 2014 data.

Chapter 6

- Revised the "In the Real World" box on income distribution and trade to include recent material on changes in welfare due to trade.

Chapter 7

- Updated 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

- Introduced additional 2014 material on Canadian capital/labor ratios in selected industries.
- Updated estimates of tariff equivalence of transport costs in international trade.
- Restructured and updated the "In the Real World" box on cartels and monopolistic behavior in international trade.

Chapter 9

- Condensed the discussion of the Leontief paradox.
- Added new material on factor-intensity reversals.
- Added new material on the testing of the Heckscher-Ohlin theorem.
- Updated the data on the increasing income inequality in the United States.
- Provided new information on the impact of education on relative wages.

- Added material on the effects of Danish outsourcing.

Chapter 10

- Reorganized the chapter to separate early post–Heckscher-Ohlin theories from more recent post–Heckscher-Ohlin theories.
- Added material on the Melitz model of trade as well as material on multiproduct exporting.

Chapter 11

- Updated table showing the factor endowments of the United States, Japan, Canada, Australia, France, and Mexico to include 2014.
- Revised the "In the Real World" box discussing the recent terms-of-trade movements of four developing countries (Brazil, Jordan, Pakistan, and Thailand).

Chapter 12

- Updated the tables on foreign direct investment abroad by U.S. firms and foreign direct investment in the United States, as well as the tables on the world's largest corporations and the world's largest banks.
- Updated the "In the Real World Box" on migration into the United States and the country origins of that migration.

Chapter 13

- Updated the "In the Real World" box on important features of the commercial policy schedules of Australia, Pakistan, and El Salvador.

Chapter 14

- Added material on the U.S. ban on the export of crude oil.
- Introduced a new "In the Real World" box on the welfare impacts of Japanese import restrictions on rice.
- Introduced material regarding the potential impact of relaxing import restrictions in the context of the Melitz model.
- Added material to the "In the Real World" box on U.S. import restrictions on sugar.

Chapter 15

- Updated the "In the Real World" box on trade taxes as a source of government revenue.
- Updated the "In the Real World" boxes on U.S. antidumping actions and U.S. countervailing duties.
- Added recent developments to the "In the Real World" boxes on Harley-Davidson and Airbus-Boeing.

Chapter 16

- Introduced new Gallup opinion polls on Americans' attitudes toward trade.
- Updated the "In the Real World" box on Trade Adjustment Assistance to include 2015 legislation.
- Updated the discussion of the Doha Development Agenda.
- Did a general re-working of the text's recounting of significant U.S. trade policy actions.

Chapter 17

- Updated the "In the Real World" box on economic integration groups and added the Commonwealth of Independent States.
- Updated material on economic developments in the European Union; in particular, added material on the Greece debt crisis.
- Updated the discussion of NAFTA.
- Added material to the "In the Real World" box on ASEAN.
- Introduced material on the Trans-Pacific Partnership.

Chapter 18

- Changed designation of middle- and low-income countries from "less developed countries" (LDCs) to "emerging and developing countries" (EDCs).
- Updated the table on economic and noneconomic characteristics of countries at different income levels.
- Updated the table on external debt and debt ratios of emerging and developing countries.
- Re-worked the "In the Real World" box on the Multilateral Debt Relief Initiative (MDRI) to focus on the Heavily Indebted Poor Countries (HIPC) Initiative as well as on the MDRI.

Chapter 19

- Re-worked the material on sample entries in balance-of-payments accounting and on the U.S. balance of payments in light of the IMF's and U.S. Department of Commerce's new format for presenting information on international transactions.
- Updated the table and the discussion of U.S. international transactions.
- Updated the "In the Real World" box on U.S. trade deficits with Japan, China, and Canada; replaced OPEC with Mexico as the 4th economic unit examined.
- Updated the table and discussion of the U.S. international investment position in view of the recent U.S. Department of Commerce change to have direct investment included at its market value rather than at its current cost.
- Updated the "In the Real World" box on the U.S. net international investment position and the U.S. net direct investment position.

Chapter 20

- Updated the "In the Real World" box on the nominal and real Canadian dollar/U.S. dollar exchange rate and the U.S. dollar's nominal and real effective exchange rates.
- Updated the "In the Real World" box on the spot and PPP dollar/euro exchange rates and the spot and PPP dollar/pound exchange rates.
- Updated the Concept Box on currency futures quotations.

Chapter 21

- Updated the table on gross and net international bank lending and the table on the stock of international debt securities.
- Changed the "In the Real World" box on interest rates across countries to a discussion and presentation of (2014) nominal and real lending rates across countries rather than the previous focus on government bond yields across countries.
- Updated the "In the Real World" box on U.S. and eurodollar deposit and lending rates.
- Updated the table and graph on the size of global derivative instruments.

Chapter 22

- Introduced a new opening vignette (on the flow of funds out of the eurozone).
- Updated the discussion and table in the "In the Real World" box dealing with U.S. monetary concepts and the Federal Reserve's balance sheet.
- Introduced recent empirical tests of the monetary approach to the balance of payments and the exchange rate and a test of uncovered interest parity.

Chapter 23

- Added several recent studies to the "In the Real World" box on exchange rate pass-through.
- Expanded the "In the Real World" box on U.S. agricultural exports and the exchange rate to include recent export experience.

Chapter 24

- Updated the "In the Real World" box on average propensities to import of five major countries.
- Introduced a new "In the Real World" box on estimates of the government spending multiplier in developed and developing countries.

Chapter 25

- Updated the "In the Real World" box on foreign exchange restrictions in IMF countries.

Chapter 26

- Updated the "In the Real World" box on the variability of commodity prices and U.S. real GDP.
- Added a brief review of the euro's recent movements to the "In the Real World" box on policy frictions between the European Union and the United States.
- Placed additional emphasis on the G-20 in the "In the Real World" box on macro policy coordination.

Chapter 27

- Updated the "In the Real World" box on actual and natural U.S. levels of GDP and rates of unemployment; replaced previous Robert Gordon estimates with Congressional Budget Office estimates.
- Updated data and discussion in the "In the Real World" box on Sub-Saharan Africa.
- Updated data and discussion in the "In the Real World" box on U.S. inflation and unemployment.

Chapter 28

- Introduced new vignette on problems with both a flexible exchange rate and a fixed exchange rate.
- Updated and included revised information in the "In the Real World" box on reserve holdings under fixed and flexible exchange rates.
- Added brief recent information to the "In the Real World" box on currency boards in Estonia and Lithuania.

Chapter 29

- Introduced new opening vignette pertaining to recent exchange rate movements and the post-Bretton Woods system.
- Introduced a new "In the Real World" box on currency risk and confidence in exchange rates under the 1880–1914 international gold standard.
- Updated the table on country quotas at the IMF.
- Updated the table on the current exchange rate arrangements of countries.
- Updated the table on central bank international reserves, including recognition of the fact that the IMF now values gold at the current London market price rather than at the previous 35 SDRs = 1 ounce of gold price.
- Introduced a new "In the Real World" box on bitcoin.

It is our hope that the changes in the ninth 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 emerging/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 recent issues with the euro.

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 ninth edition of *International Economics* is accompanied by a comprehensive website, www.mhhe.com/appleyard/9e. 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 ninth edition also contains PowerPoint presentations, one to accompany every chapter, available on the Online Learning Center.

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CHAPTER

1

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 became more intense with the onset of the 2007–2008 global financial crisis and accompanying recession.

These recent events draw attention to the changes in the world economic structure that have been taking place in the years following World War II (WWII) when the United States was the dominant world economic power. The nature of that dominance has, however, been undergoing considerable change in terms of world production structure and importance in global GDP and trade. The emergence of Japan, the European Union (EU), and, notably, China on the world scene has been significant. Indeed, in terms of relative importance in global GDP and trade, the United States and China are roughly equivalent. The nature of economic activity both in terms of location and structure has also been changing as world production has become more integrated through global supply chains and the evolution of the world international monetary system. Even though the United States has diminished in relative importance in goods production and trade, it remains the dominant player in terms of global finance and global services and in areas such as technology development, and electronic development/processing. In addition, every country is affected by actions of the U.S. Federal Reserve as the U.S. dollar remains the world's key currency.

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 $18.9 trillion in 2014, 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 2.5 percent in 2014, 3.0 percent in 2013, 2.5 percent in 2012, 5.0 percent in 2011, 13.8 percent in 2010, and a *negative* 12.0 percent in 2009.[1]

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 2014. The first row, for example, indicates that 50.2 percent of the exports of countries of North America went to other North American countries, 8.6 percent of North American exports

TABLE 1 Growth in Volume of World Goods Production and Trade, 1963–2014 (average annual percentage change in volume)

	1963–1973	*1970–1979*	*1980–1985*	*1985–1990*	*1990–1998*	*1995–2000*	*2000–2006*	*2005–2010*	*2010–2014*	*2014*
Production										
All commodities	6.0%	4.0%	1.7%	3.0%	2.0%	4.0%	2.5%	2.0%	2.5%	2.0%
Agriculture	2.5	2.0	2.9	1.9	2.0	2.5	2.0	2.0	2.5	1.5
Mining	5.5	2.5	−2.7	3.0	2.0	2.0	1.5	0.5	1.5	2.5
Manufacturing	7.5	4.5	2.3	3.2	2.0	4.0	3.0	2.5	2.5	2.5
Exports										
All commodities	9.0%	5.0%	2.1%	5.8%	6.5%	7.0%	5.5%	3.5%	3.5%	2.5%
Agriculture	14.0	4.5	1.0	2.2	4.0	3.5	4.0	3.5	3.5	2.5
Mining	7.5	1.5	−2.7	4.8	5.5	4.0	3.0	1.5	1.5	1.0
Manufacturing	11.5	7.0	4.5	7.0	7.0	8.0	6.0	4.0	4.0	4.0

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; WTO, *International Trade Statistics* 2011 (Geneva: WTO, 2011), p. 19; and WTO, *World Trade Report 2015,* p. 39, all obtained from www.wto.org.

[1]World Trade Organization, *International Trade Statistics 2015,* Table 1.1, and World Trade Organization, Press Release 658, April 12, 2012, "Trade Growth to Slow in 2012 after Strong Deceleration in 2011," both obtained from www.wto.org.

TABLE 2 Merchandise Exports and Imports by Region, 2014 (billions of dollars and percentage of world totals)

	Exports		*Imports*	
	(billions of dollars, f.o.b.)*	*Share (%)*	*(billions of dollars, c.i.f. *)*	*Share (%)*
North America[†]	$ 2,493	13.2%	$ 3,300	17.4%
South and Central America	695	3.7	739	3.9
Europe	6,739	35.6	6,722	35.3
(European Union)[‡]	(6,162)	(32.6)	(6,133)	(32.2)
Commonwealth of Independent States (CIS)[§]	735	3.9	506	2.7
Africa	555	2.9	642	3.4
Middle East	1,288	6.8	784	4.1
Asia	6,426	33.9	6,325	33.3
World	$18,930	100.0%	$19,018	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, Croatia, 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, *World Trade Report 2015,* pp. 24, 26, obtained from www.wto.org.

TABLE 3 Regional Structure of World Merchandise Exports, 2014 (percentage of each origin area's exports going to each destination area)

	Destination							
Origin	*North America*	*South and Central America*	*Europe*	*CIS*	*Africa*	*Middle East*	*Asia*	*World*
North America	50.2%	8.6%	15.2%	0.7%	1.7%	3.2%	20.2%	100.0%
South and Central America	24.8	25.8	16.4	1.4	2.5	2.4	24.5	100.0
Europe	7.9	1.7	68.5	3.2	3.3	3.4	10.8	100.0
CIS	3.9	0.9	52.4	17.8	2.1	3.1	18.2	100.0
Africa	7.0	5.1	36.2	0.4	17.7	3.3	27.3	100.0
Middle East	7.7	0.8	11.5	0.5	2.8	8.8	53.9	100.0
Asia	18.0	3.1	15.2	2.1	3.5	5.1	52.3	100.0
World	*17.3*	*4.0*	*36.7*	*2.8*	*3.5*	*4.2*	*29.7*	*100.0*

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 2015,* p. 41, obtained from www.wto.org.

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 68.5 percent of its exports to itself. In addition, the table makes it evident that the countries in Africa and the Middle East do not trade heavily among themselves.

At the individual country level (see Table 4), the relative importance of Europe, North America, and Asia in 2014 is again quite evident. The largest country exporter is China

TABLE 4 Leading Merchandise Exporters and Importers, 2014 (billions of dollars and percentage share of world totals)

Exports			*Imports*		
Country	***Value***	***Share***	***Country***	***Value***	***Share***
1. China	$ 2,342	12.4%	United States	$ 2,413	12.7%
2. United States	1,621	8.6	China	1,959	10.3
3. Germany	1,508	8.0	Germany	1,216	6.4
4. Japan	684	3.6	Japan	822	4.3
5. Netherlands	672	3.6	United Kingdom	684	3.6
6. France	583	3.1	France	678	3.6
7. Republic of Korea	573	3.0	Hong Kong (China)	601	3.2
8. Italy	529	2.8	Netherlands	588	3.1
9. Hong Kong (China)	524	2.8	Republic of Korea	526	2.8
10. United Kingdom	506	2.7	Canada*	475	2.5
11. Russian Federation	498	2.6	Italy	472	2.5
12. Canada	475	2.5	India	463	2.4
13. Belgium	471	2.5	Belgium	452	2.4
14. Singapore	410	2.2	Mexico	412	2.2
15. Mexico	398	2.1	Singapore	366	1.9
16. United Arab Emirates	360	1.9	Spain	358	1.9
17. Saudi Arabia	354	1.9	Russian Federation*	308	1.6
18. Spain	325	1.7	Taiwan	274	1.4
19. India	322	1.7	United Arab Emirates	262	1.4
20. Taiwan	314	1.7	Turkey	242	1.3
21. Australia	241	1.3	Brazil	239	1.3
22. Switzerland	239	1.3	Australia	237	1.2
23. Malaysia	234	1.2	Thailand	228	1.2
24. Thailand	228	1.2	Poland	220	1.2
25. Brazil	225	1.2	Malaysia	209	1.1
26. Poland	217	1.1	Switzerland	203	1.1
27. Austria	178	0.9	Austria	182	1.0
28. Indonesia	176	0.9	Indonesia	178	0.9
29. Czech Republic	174	0.9	Saudi Arabia	163	0.9
30. Sweden	164	0.9	Sweden	163	0.9
30 countries	$15,542	82.1%		$15,592	82.0%
World	$18,930	100.0%		$19,018	100.0%

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

*Imports valued f.o.b.

Source: World Trade Organization, *World Trade Report 2015,* p. 26, obtained from www.wto.org.

(which displaced Germany in 2009, which in turn had displaced the United States in 2003). The six largest traders (exports plus imports) are China, the United States, Germany, Japan, France, and the Netherlands, and they account for nearly 40 percent 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 2014 commodity composition of world trade (Table 5), manufactures account for 66.5 percent of trade, with the remaining amount consisting of primary products. Among primary goods, trade in fuels is the largest (16.7 percent), followed by food products (8.1 percent). Trade in raw materials, ores and other minerals, and nonferrous metals accounts for 5.4 percent. In the manufacturing category, machinery and transport equipment account for 33.2 percent of world trade. Office and telecom equipment and automotive/transport products are major subcategories, accounting for 9.7 percent and 11.4 percent of exports, respectively. Other important categories of manufactures include trade in chemicals (11.1 percent) and in textiles and clothing (4.3 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 8.1 percent in 2014; fuels, which constituted 23.0 percent in 1980, fell in importance to 16.7 percent in 2014; and the share of primary products in total dropped from 42.4 percent in 1980 to slightly over 30 percent in 2014. 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 also is more likely to demonstrate greater price fluctuations.

TABLE 5 Commodity Composition of World Exports, 2014 and 1980

Product Category	*Value in 2014 ($ billion)*	*Share in 2014*	*Share in 1980*
Agricultural products	**$ 1,765**	**9.6%**	**14.7%**
Food	1,486	8.1	11.0
Raw materials	279	1.5	3.7
Fuels and mining products	**3,789**	**20.6**	**27.7**
Ores and other minerals	366	2.0	2.1
Fuels	3,068	16.7	23.0
Nonferrous metals	354	1.9	2.5
Manufactures	**12,243**	**66.5**	**53.9**
Iron and steel	472	2.6	3.8
Chemicals	2,054	11.1	7.0
Other semimanufactures	1,185	6.4	6.7
Machinery and transport equipment	6,112	33.2	25.8
Office and telecom equipment	1,794	(9.7)	(4.2)
Automotive products and other transport equipment	2,107	(11.4)	(6.5)
Other machinery	2,211	(12.0)	(15.2)
Textiles	314	1.7	2.7
Clothing	483	2.6	2.0
Other manufactures	1,623	8.8	5.8
Total	**$18,422**	**100.0%**	**100.0%**

Note: Components may not sum to category totals because of rounding. The three aggregate categories do not sum to $18,422 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, *World Trade Report 2015,* p. 24, and Appendix Table A12, obtained from www.wto.org.

TABLE 6 U.S. Merchandise Trade by Area and Country, 2014 (millions of dollars and percentage shares)

	Exports to		*Imports from*	
Region or Country	*Value*	*Share*	*Value*	*Share*
Europe	**$ 337,024**	**20.6%**	**$ 495,893**	**20.9%**
European Union	279,127	17.1	422,580	15.7
Belgium	34,752	2.1	21,160	0.9
France	31,684	1.9	47,606	2.0
Germany	49,637	3.0	124,174	5.2
Ireland	7,907	0.5	34,088	1.4
Italy	17,123	1.0	42,451	1.8
Netherlands	43,195	2.6	21,363	0.9
Switzerland	22,552	1.4	31,370	1.3
United Kingdom	54,547	3.3	55,439	2.3
Non-European Union	57,897	3.5	73,313	3.1
Canada	**313,510**	**19.2**	**354,354**	**14.9**
Latin America and Other Western Hemisphere	**425,401**	**26.1**	**452,876**	**19.1**
Brazil	42,412	2.6	30,102	1.3
Mexico	240,721	14.7	301,403	12.7
Venezuela	11,129	0.7	30,339	1.3
Asia and Pacific	**445,305**	**27.3**	**931,750**	**39.2**
China	124,747	7.6	467,940	19.7
Hong Kong (China)	41,997	2.6	6,345	2.6
India	22,523	1.4	45,412	1.9
Japan	68,014	4.2	136,680	5.8
Republic of Korea	46,114	2.8	69,846	2.9
Singapore	30,063	1.8	16,456	0.7
Taiwan	27,135	1.7	40,700	1.7
Middle East	**73,434**	**4.5**	**104,350**	**4.4**
Israel	15,094	0.9	23,199	0.9
Saudi Arabia	17,866	1.1	47,125	1.8
Africa	**37,670**	**2.3**	**34,879**	**1.5**
Nigeria	5,982	0.4	3,896	0.2
(Members of OPEC)	(81,372)	(4.9)	(133,198)	(5.6)
Total	**$1,632,639**	**100.0%**	**$2,374,101**	**100.0%**

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

Source: U.S. Department of Commerce, Bureau of Economic Analysis, Table 2.3 of Press Release, September 17, 2015, 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 2014 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 multicountry unit, followed by the EU. The second-largest individual trading partner country of the United States, behind Canada, is China, followed by Mexico, Japan, Germany, Republic of Korea, the United Kingdom, France, Brazil, and Taiwan. Of note is the fact that a major portion (63.7 percent) of the trade deficit of the United States in 2014 could be traced to China, Japan, and Mexico.

TABLE 7 Composition of U.S. Trade, 2014 (billions of dollars and percentage shares)

	Value of Exports	*Share (%)*	*Value of Imports*	*Share (%)*
Foods, feeds, and beverages	**143.8**	**8.8**	**126.7**	**5.4**
Coffee, cocoa, and sugar	—	—	8.2	0.3
Fish and shellfish	6.0	0.4	20.2	0.9
Grains and preparations	32.8	2.0	—	—
Meat products and poultry	20.1	1.2	12.1	0.5
Soybeans	25.1	1.5	—	—
Vegetables, fruits, nuts, and preparations	25.2	1.5	28.2	1.2
Industrial supplies and materials	**500.0**	**30.6**	**672.6**	**28.5**
Building materials, except metals	15.5	0.9	28.2	1.2
Chemicals, excluding medicinals	119.3	7.3	80.7	3.4
Energy products	182.5	11.2	375.0	15.9
Metals and nonmetallic products	89.7	5.5	114.6	1.8
Iron and steel products	19.0	1.2	46.2	2.0
Nonferrous metals	33.3	2.0	37.6	1.6
Paper and paper base stocks	22.5	1.4	12.6	0.5
Textile supplies and related materials	15.2	0.9	14.8	0.6
Capital goods, except automotive	**551.3**	**33.0**	**595.7**	**25.3**
Civilian aircraft, engines, and parts	113.1	6.9	53.2	2.3
Machinery and equipment, except consumer-type	431.5	26.4	535.5	22.7
Computers, peripherals, and parts	31.9	2.0	121.7	5.2
Electric generating machinery, electric apparatus, and parts	57.3	3.5	71.3	3.0
Industrial engines, pumps, and compressors	29.7	1.8	24.8	1.0
Machine tools and metalworking machinery	7.7	0.5	11.4	0.5
Measuring, testing, and control instruments	25.2	1.5	20.0	0.8
Oil drilling, mining, and construction machinery	29.6	1.8	24.1	1.0
Scientific, hospital, and medical equipment and parts	46.2	2.8	40.2	1.7
Semiconductors	43.7	2.7	44.0	1.9
Telecommunications equipment	40.7	2.5	58.7	2.5
Automotive vehicles, parts, and engines	**159.7**	**9.8**	**328.5**	**13.9**
(to/from Canada)	(60.0)	(3.7)	(63.2)	(2.7)
Passenger cars, new and used	60.6	3.8	153.6	6.5
Trucks, buses, and special purpose vehicles	19.9	1.2	32.5	1.4
Engines and engine parts	18.4	1.1	29.4	1.2
Other parts and accessories	60.9	3.8	113.1	4.8
Consumer goods (nonfood), except automotive	**198.3**	**12.1**	**559.4**	**23.7**
Durable goods	110.8	6.8	301.3	12.8
Household and kitchen appliances and other household goods	40.2	2.5	164.8	7.0
Radio and stereo equipment, including records, tapes, and disks	4.8	0.3	9.8	0.4
Televisions, video receivers, and other video equipment	4.6	0.3	28.2	1.2
Toys and sporting goods, including bicycles	10.4	0.6	36.9	1.6
Nondurable goods	87.5	5.4	258.1	10.9
Apparel, footwear, and household goods	11.3	0.7	135.9	5.8
Medical, dental, and pharmaceutical preparations	51.0	3.1	91.9	3.9
Goods, not elsewhere classified (including U.S. import goods returned)	**56.6**	**3.5**	**75.7**	**3.2**
Total	**$1,609.7**	**100.0%**	**$2,358.7**	**100.0%**

Notes: (a) Major category figures may not sum to totals because of rounding; (b) — = not available or negligible; and (c) data are preliminary.
Source: U.S. Department of Commerce, Bureau of Economic Analysis, Table 2.1 of Press Release, September 17, 2015, obtained from www.bea.gov.

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 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. If energy products are excluded, this category would show a small trade surplus. Sizeable net imports occur in consumer goods, autos, and energy products. The largest import category is industrial supplies and materials, followed by capital goods (except automotive) and consumer goods imports.

WORLD TRADE IN SERVICES

The discussion of world trade has to this point focused on merchandise trade and has ignored the rapidly growing exports of services, estimated to be almost $5 trillion in 2014 (one-fifth of total exports 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, 69 percent in Germany, 78 percent in the United States, 78 percent in the United Kingdom, and 73 percent in Japan.[2] 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, and India.

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, there has been a growing concern for the need to establish some general guidelines for international transactions in services. Consequently, discussions regarding the nature of the service trade and various country restrictions that may influence it were included in the

[2]World Bank, *World Development Indicators 2015,* Table 4.2, obtained from http://wdi.worldbank.org/table/4.2.