Applied International Economics

Fifth Edition

W. Charles Sawyer and Richard L. Sprinkle

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ROUTLEDGE

Applied International Economics

Applied International Economics, 5th edition, offers a modern and accessible treatment of international economics, shifting the emphasis from pure theory to the application of theory by using the standard tools of economic analysis. This new and streamlined edition makes the real-world application of international economics even more clear than previous editions, and focuses on the basics that students will need in order to analyze information on the world economy throughout their future careers. The new edition has been refocused, revised, and thoroughly updated. Key features include:

- Expanded coverage of China's role in the world economy.
- New material on how changes in trade flows can be decomposed into the extensive and intensive margins of trade.
- New material on the use of Section 301 of U.S. trade law and the U.S.–China trade dispute.
- Updated coverage of Brexit.
- A new focus on the sole use of the Mundell-Fleming model to analyze balance of payments issues.
- Improved linkages between the concepts of purchasing power parity and the real exchange rate.

Written in a thorough and engaging style, the book covers topics at a level appropriate for students specializing in business or international relations, as well as economics students. Along with a wealth of case studies and real-life examples, the book offers extensive pedagogical tools that include a companion website, end-of-chapter summaries, and explanations of key concepts and terms. For instructors, PowerPoint presentations and an extensive test bank are available.

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PREFACE

It is difficult to get through a day without the world economy touching our lives in some way. Every day, we spend much of our time either consuming goods and services from, or producing goods and services for, other countries. Our exposure to the language of international economics is pervasive as terms like the exchange rate, the trade balance, the WTO, or NAFTA frequently appear in newspapers, magazines, news programs, and on the internet. In addition, the profitability of many businesses depends on their ability to effectively manage an increasingly global business environment. Governments also must deal with the world economy's influence on public policy. In most countries, international trade in goods and services is becoming an increasingly large percentage of total economic activity. As a result, national governments need to consider the international implications of their policies. Despite the growing importance of international economics, general knowledge about the subject is often superficial at best. This lack of understanding has resulted in an increasing number of students who are enrolling in international economics courses.

AUDIENCE: A DIVERSE MIX OF STUDENTS

Until recently, international economics was a course taken only by economics majors who had completed courses in intermediate microeconomic and macroeconomic theory. As international economics has become a more important subject in business, government, and our daily lives, the enrolment in international economics courses has been increasing. This increase is not due to a sudden boom in the number of economics majors. Rather, it is related to the growing number of students taking the course who are *not* majoring in economics. Many business majors now take international economics as part of their core degree requirements, and the course has become a common elective for MBA students attempting to get a more global perspective on business problems. The international economics course is a natural part of the curriculum for liberal arts students majoring in international or regional studies. Finally, an increasing number of political science or public administration students take the course as global economic conditions may have important effects on the public sector. The diversity of students enrolled in international economics today is the main reason why we wrote *Applied International Economics*.

APPROACH: PREPARING STUDENTS FOR SUCCESSFUL CAREERS

Most international textbooks are written with two unstated assumptions. The first is that the students enrolled in the course are economics majors. The second is that most students need to learn international economics in a way that prepares them to take the *next* course in international economics. Increasingly, neither of these assumptions is correct as an ever larger percentage of the students taking this course are not economics majors. Further, the vast majority of economics majors are not planning to attend graduate school in economics. The typical economics major is headed for law school, an MBA program, or a career. Even a book designed to prepare students for graduate work in economics is not likely to serve the interests of economics majors, much less nonmajors.

The reality is that most students studying international economics need to prepare for success in their chosen careers. To us, this means two things. First, students need to learn the parts of international economic theory that they will most likely need to know for a career in the public or private sector. Second, learning some theory will not do these students much good if they cannot apply it. This book's approach is to apply basic economic theory to international economic issues. In one sense, the approach in *Applied International Economics* is simpler because it is less purely theoretical. However, learning some economic theory, what the theory *means*, and how to use it is not so easy.

Our approach is driven by what we are trying to accomplish. Most students entering this course have only a vague understanding of the terminology associated with international economics. The main goal of *Applied International Economics* is to guide students to the point at which they can easily understand any information on international economics that they may encounter in their careers. If students can understand and apply international economics, then they have a good chance of having a more successful career. Both of us have spent some time teaching in executive MBA programs and have found that the average midcareer manager knows little more about international economics than the typical junior in college. This lack of knowledge makes them uncomfortable and in many cases may be costing them higher salaries and/or promotions. These students have been invaluable in teaching us what our younger students need to know before they start their careers: basic theory and how to apply it.

PEDAGOGY: TEACHING AND APPLYING THEORY

Most international economics textbooks are trying, in varying degrees, to do three things. First, they are teaching some new theoretical tools. Second, they are teaching students how to apply these tools in a "real-world" context. Finally, they are preparing students for further study in international economics. But teaching international economics to a diverse group of majors using a book designed for economics majors is like trying to juggle too many balls: it can lead to a lot of frustration. To make the course easier to teach and more useful to the new students taking this course, we have adopted a different pedagogical approach to the subject. Because most students taking this course have either had a one-semester survey course or the traditional two-semester principles of microeconomics and macroeconomics, the theory we use throughout this book to analyze economics is the same theory students have already learned in Principles of Economics. This approach accomplishes two things. First, instructors have to teach little if any "new" theory. This allows them to move at a much faster pace and cover much more of the subject than would be the case if they spent a substantial amount of class time teaching theory that many of the students have not been prepared to easily learn. Second, it becomes much easier to focus on applying the theory. Since the students are seeing the theory for the "second" time, they can spend more time on learning how to apply the theory and use it in their careers.

The book employs a number of pedagogical features to reinforce this basic approach.

- The book is written in a user-friendly style that emphasizes how to use international economic theory and where to apply it.
- Students can't possibly comprehend international economics unless they know the specialized terms of the discipline. These terms are in bold in the text and defined in a separate glossary.

- We can't assume that students will remember everything they learned in their Principles of Economics course. That's why we provide a quick review of economic principles at key points in the text. This gives instructors the flexibility to review the material in class or to let students review the material on their own. To accommodate those students who have had only the one-semester survey course (which is usually less oriented toward macroeconomics), these reviews are more extensive in the second half of the book.
- Although applications of international economics are liberally distributed throughout the text, each chapter includes a number of boxes that provide more extensive examples or applications of the previously described theory.
- The end-of-chapter questions accomplish two things. First, many of the questions are designed to encourage students to describe what they know in their own words. This allows them to discover what they *don't* know before it really matters (i.e., an exam). Second, the remaining questions are designed to motivate students to either apply the theory and/or to think about issues that the theory implies.

FEATURES: CONTENT THAT MAKES A DIFFERENCE

Beyond the book's basic approach and pedagogy, *Applied International Economics* contains some content-oriented features that represent a somewhat different approach to teaching the course.

- Data—The world of international economics is full of numerical data. However, this is not always reflected in the way international economics textbooks teach the subject. In this book, there is a more extensive presentation of international economic data than is usually the case. For example, it is quite possible for an international economics text to neglect to mention the size of the world economy. In *Applied International Economics*, that number is just the starting point for discussing other types of international economic data. However, in the discipline of international economics, the numbers can seem, at first glance, to be implausibly large. To remedy these perceptual problems, we put the data into perspective with regard to national economies and the world economy so that students can see how international economic data compares with national economies and the world economy. For example, learning that U.S. exports are over $1.5 trillion is a useful thing to know. If you also learn that the size of the U.S. economy is $17 trillion and the size of the world economy is $73 trillion, then the information on U.S. exports has more meaning. Students learn not only how large exports are, but how they fit into the economy overall.
- Intra-industry trade—Intra-industry trade has become an extremely important part of total international trade. The explanations for this type of trade are different than those used to explain interindustry trade. To adequately cover both the phenomenon and its explanations, intra-industry trade is covered in a separate chapter (Chapter 5).
- The firm in international trade—One of the most recent areas of research in international economics has been on the role of the firm in international trade. This research is yielding insights that are not only of interest to economists, but also have a practical significance for the business community. Chapter 6 explains the current state of knowledge in this area and relates it in a way that is both understandable and usable in a practical sense.
- Factor movements—The international movements of labor and capital play a critical role in the world economy. Immigrants are now a large part of the population in many developed countries, and firms building plants and investors buying stocks and bonds in

other countries are just a normal part of the global business environment. The importance of these labor and capital movements is one of the reasons why we cover factor movements in a separate chapter early in the book (Chapter 7). Since the factors that drive these movements can be related to the traditional explanations of international trade, the early placement of this chapter makes the material easier to teach and learn.

- Public choice—Tariff and nontariff barriers to trade are policies made in a political market. Students need to know not only what effects these barriers have on trade, but also why they exist in the first place. The chapter on international trade policy (Chapter 10) is designed to explain the process that leads to trade barriers. This chapter also enables students to better understand both today's trade policy debates and those they will no doubt encounter during their careers.
- The relationship between the current account and capital account—In addition to the traditional emphasis on the current account, *Applied International Economics* highlights the role of the capital account. The discussion focuses on the relationship among the current account, the capital account, GDP, and the components of GDP. These relationships are identified first in Chapter 13 and are an integral part of the discussion of open economy macroeconomics in Chapters 16 through 18.
- Asset market approach to exchange rate determination—The approach we use to explain the determination of exchange rates is the modern asset market approach. The focus is on how interest rates and other factors cause short-run changes in exchange rates. Chapter 14 on purchasing power parity emphasizes the modern asset market approach as a useful reference point in analyzing commonly used terms such as "overvalued" or "undervalued" exchange rates.
- Open economy macroeconomics—The focus of *International Economics* is on how changes in the exchange rate affect output and the price level. In much of our discussion we assume that the exchange rate and the current account are usually allowed to adjust to macroeconomic policies aimed at inflation and unemployment. This allows the discussion to be more representative of macroeconomic policy in most countries.
- Fixed vs. flexible exchange rate systems—Despite the wide use of flexible exchange rate systems, fixed exchange rates are still an important part of the international monetary system. However, there are newer forms of fixed exchange rate systems such as currency boards and monetary unions that countries are now using to replace more traditional ways of fixing the exchange rate. In order to cover both exchange rate systems adequately, *International Economics* covers flexible and fixed exchange rate systems separately in Chapters 17 and 18, respectively. Chapter 19 summarizes the discussion as a choice entailing different mixes of costs and benefits.

CHANGES IN THE FIFTH EDITION

Most of the changes in the fourth edition were related to the primary purpose of the book. Our intention has always been to teach international economics in a way that will enhance the ability of students to use what they learn during their careers. In the fifth edition this led to several significant changes. The growing influence of the Chinese economy is given more weight throughout the book. For example, there is now coverage of the U.S.–China trade dispute in terms of Section 301 of U.S. trade law. Second, the concept of changes in trade flows in terms of the extensive versus intensive margins of trade is introduced. Third, there is a new focus on the sole use of the Mundell-Fleming model to analyze balance of payments and exchange rate issues.

This reflects its virtual universal use in discussing these issues. Finally, the linkages between the concepts of purchasing power parity and the real exchange rate are both improved and streamlined to make the material easier for students to understand. Finally, the presentation of the data has been improved and a number of new boxes have been added throughout the book, both to incorporate the latest applicable research and to update the book with respect to current events such as Brexit.

ALTERNATIVE COURSE DESIGNS

Applied International Economics was designed to be used in two commonly used course formats. The first half of the book on international trade, factor movements, and trade and economic development are covered in most international economics courses. The final ten chapters on international finance can be divided into at least three parts: national income accounting and exchange rate determination; purchasing power parity and the real exchange rate; and open economy macroeconomics. The result is that instructors have the flexibility to design a course appropriate for both the content of the course and the background of the students.

The traditional International Economics course is a one-semester course covering both international trade and finance. Students in this course normally are either majoring in economics or in a related discipline such as finance or international business. *International Economics* was written concisely to allow instructors to finish all of the chapters and/or omit chapters in order to cover readings or other material. In this type of course, Chapter 7 (International factor movements), Chapter 12 (International trade and economic growth) or Chapter 20 (Capital flows and the developing countries) could be omitted without loss of continuity.

It is increasingly common for International Economics to be taught as a one-semester "Survey" course to classes where the majority of students are not majoring in economics. *Applied International Economics* also was designed to accommodate this type of course. Throughout the book, the basic material is presented using only the tools the students learned in Principles of Economics. The more technical points are always covered in separate sections to allow instructors to move at a faster pace by omitting this material. Most courses of this type are more heavily weighted toward international trade and add some international finance at the end of the course. The book is organized to allow instructors to cover all of the essential parts of international trade. The second half of the text was written to allow for flexibility of coverage in international finance. The eight chapters on international finance can be considered in a number of different ways. Chapters 13, 14, and 16 cover the "core" topics of the balance of payments, exchange rate determination, and open economy macroeconomics. These chapters can be combined with groups of other chapters to produce a course with a focus on exchange rates, open economy macroeconomics, or a combination of the two. Adding Chapters 15, 19, and 20 produces a course with a focus on exchange rates. A course with a focus on open economy macroeconomics can be obtained by covering Chapters 15 through 18.

SUPPLEMENTARY MATERIALS

The Companion Website for *Applied International Economic*s (https://routledgetextbooks.com/textbooks/9780415746212) contains a variety of material for use by both instructors and students. For instructors, the Instructor's Manual contains an extensive test bank consisting of multiple-choice, true–false, short essay, and long essay questions. In addition, chapter outlines and a list of glossary terms for each chapter are included. The website also provides PowerPoint Lecture

Presentations which follow the outline of the chapter and provide a wealth of data and graphics for classroom presentations. For students, there are additional resources for each chapter. First, there is a Chapter Outline and a list of glossary terms with definitions. Second, answers to end-of-chapter questions are provided to assist students in practicing their knowledge. Finally, there are ten objective questions with answers for each chapter to allow students to practice before taking exams. For both instructors and students, a link exchange on *Applied International Economics* is being maintained to allow for materials for classroom discussion and to stay current with important events in the world economy.

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CHAPTER 1

Introduction
An overview of the world economy

> Merchants have no country. The mere spot they stand on does not constitute so strong an attachment as that from which they draw their gains.
>
> Thomas Jefferson

INTRODUCTION

Today, no country inhabits an economic island. Its firms and industries, its commercial activities in goods and services, its technology and available capital, its standard of living, and all other features of its economy are related to the economies of other countries. These relationships form a complex flow of goods, services, capital, labor, and technology among countries. As the world economy becomes increasingly integrated, every country must come to terms with this increased interdependence.

Until the early 1970s, this interdependence was perceived to be a one-way street. To most consumers and businesses located within the U.S., the economy appeared to be and acted like a self-sufficient and closed economy. At the time, the U.S. economy's absolute and relative size led consumers, businesses, and policy makers to conclude that the economy was immune to economic events that occurred abroad. In contrast, foreign countries were greatly influenced by events that took place in the U.S. A recession would mean that the rest of the world's economy would suffer greatly. In addition, the U.S. could raise import tariffs on steel, automobiles, or lumber without effective retaliation. Further, the U.S. could ignore the international value of the dollar because exchange rates were fixed.

However, over the last several decades, this interdependence truly has become a two-way street. In the U.S. and the rest of the world, goods, services, capital, technology, and people flow across borders with greater frequency and in increasingly greater volumes. Between 1975 and 2019, global trade in goods has increased by almost 600 percent. For some individuals and businesses, international transactions and international relationships have become more important than interactions within their own country. National policies that affect trade, investment, the value of the country's currency, and the level of national output can be used to enhance these benefits and lessen the costs of interdependence. To reap these additional benefits, each country needs to base its national policies on an objective analysis of international economics.

The purpose of international economics is to explain these patterns of international trade, investment, and other cross-border transactions that we currently observe in the real world. Much of our examination of international economics is based on analyzing the economic data of individual countries and the world economy. In this chapter, we describe several different aspects of a country's interdependence in the world economy. Throughout the rest of the text, we will refer to economic data as it pertains to selected international economic issues. We begin by describing how international economics relates to the concepts you have learned in previous economics courses. From there we will examine the overall landscape of the world economy. We will do this by first looking at the output of the world economy. With this information we can then consider how international transactions such as international trade and capital movements fit into the picture. At that point, some of the more important issues that are discussed later in the book can be introduced.

THE SCOPE OF INTERNATIONAL ECONOMICS

The discipline of economics can be divided into two major parts: microeconomics and macroeconomics. **Microeconomics** deals with the production and consumption of various goods and services and how particular industries work. Using microeconomic theory, you can analyze the activities of individuals and the behavior of individual businesses in choosing what to produce and how much to charge. **Macroeconomics** deals with the operation of the entire economy and examines the factors that determine the economy's total output and the overall price level. In a sense, economics is like medicine. Many physicians are general practitioners who can deal with practically any minor ailment. On the other hand, a large number of physicians are specialists who primarily work on one particular disease or system of the body. Economics has evolved in much the same way. The study of economics is now subdivided into a number of different areas such as labor economics, natural resource economics, economic development, and international economics.[1]

International economics is the study of the production, distribution, and consumption of goods and services on a worldwide basis. As such, international economics is a blend of microeconomics and macroeconomics. In Chapters 1 through 12, we extend our study of microeconomics by examining international trade. In many respects, international trade is similar to domestic trade. However, each country has different codes or rules that make one national economy different from another. These national or political boundaries determine not only the legal, linguistic, social, and currency barriers to trade, but also the nature of economic policies. These national laws tend to partially isolate each country and cause significant differences in the way trade is conducted domestically versus how it is carried out internationally.

Chapters 13 through 20 are an extension of macroeconomics. In your Principles of Economics course, the text you read may have assumed that the U.S. economy was something like an economic island. To simplify the analysis, the effects of changes in other countries' economic conditions on the U.S. economy may have been downplayed or ignored. This simplification was based on the idea that the economy can be more easily understood by considering only domestic consumption, investment, government spending, and various government policies. Adding factors, such as changes in the exchange rate or trade flows, creates a model that is more realistic. However, this added degree of realism may get in the way of teaching the basic principles of macroeconomics.

The purpose of the second half of this book is to expand the model you learned in your principles courses in two important ways. First, changes in foreign economic conditions at

times may noticeably affect the domestic economy. Further, changes in any domestic economy can have noticeable impacts on foreign economies. Second, changes in government policies have significant impacts not only on the domestic economy, but also on the sectors of the economy related to international trade. These extensions to microeconomics and macroeconomics have now become so important and extensive that they easily constitute an extra semester of study.

Although international economics is important, it is essential to keep it in perspective. For the U.S. and many other countries, international trade is an important adjunct to domestic economic activity. However, the international exchange of goods, services, and assets is now large and growing at a rapid rate. While no one can predict how long this process of "internationalization" or "globalization" will continue, it currently shows no signs of abating. This chapter provides basic information about the world economy; the importance and trends in international trade; the significance of trade in services; the size and importance of international capital flows; and the position of the U.S. in the world economy.

This material is important for several reasons. First, everyone needs a sense of the size of the world economy in order to keep the size of trade and flows of assets in perspective. Second, there are startling differences between countries and regions of the world in terms of physical size, population, and their economic importance. For instance, while many know that Canada is a large country in terms of its physical size and is small in terms of population, the absolute size of the Canadian economy is probably less well known. Third, there are substantial differences in the absolute size of the world's economies and standards of living. Fourth, imports and exports of goods and services are an important part of both the world economy and the U.S. economy. While most individuals are aware of this importance, they are unsure about the specifics. Fifth, international trade in services and the movements of capital between countries are becoming increasingly important. Until recently, both of these subjects have been given relatively brief attention in the study of international economics. However, the rapid growth of trade in services and the volume of trade in real and financial assets have made these critical issues in international economics. In the last part of the chapter we examine several trends in the world economy over the last two decades and consider what these trends imply.

THE OUTPUT OF THE WORLD ECONOMY

Describing the world's economic output is important for two reasons. First, we have all heard the terms *world economy*, *internationalization*, *globalization*, or any number of variations on this basic idea. What is missing is some sense of the world economy's size and the magnitude of internationalization. It is important to know these facts before we begin our analysis. Second, while absolute size is important, relative size matters as well. That is why our analysis throughout this text considers the relative size of various countries and regions of the world.

The size of the world economy is measured as the sum of **Gross Domestic Product (GDP)** for each country.[2] GDP measures the market value of all final goods and services that a country produces during a given period of time. In 2018, world output was estimated to be $85,820,900 million or approximately *$85.8 trillion*.[3] This estimate of total world output is a conservative one because the calculation of GDP has several major omissions. First, all economic activity that is not sold in a market is excluded. For example, the production of services that a homemaker provides is excluded from GDP. For developing countries, the production of a farmer's own food may be excluded from GDP. Second, some economic activities are not reported because participants are attempting to escape taxation and/or government regulation

TABLE 1.1

Distribution of world population and economic output, 2018[a]

	GDP per capita	Population (millions)	% of world population	Total GDP (billions of $)	% of world GDP
Low-income economies	$812	705	9.3%	$572.2	0.7%
Middle-income economies	$5,483	5,679	74.8%	$31,140.6	36.3%
High-income economies	$44,717	1,210	18.4%	$54,108.1	63.0%
World total		7,594	—	$85,820.9	—

Source: World Bank (2019).
[a]The countries included in the table are shown in the endpaper table and each country is classified as high- middle-, or low-income.

or are engaging in illegal activities. This underground economy can cause an underestimate of world production.

Table 1.1 provides a summary of the distribution of the world's economic output. For comparison purposes, the **World Bank** classifies each country of the world into low-income, middle-income, and high-income economies. This classification is based on GDP per capita, which is calculated by dividing the GDP of a country by its population. In 2018, the average GDP per capita for low-, middle-, and high-income economies was $812, $5,483, and $44,717, respectively.[4] Notice that the high-, middle-, and low-income economies are producing 63.0 percent, 36.3 percent, and 0.7 percent of the world's economic output, respectively.

This distribution of world output affects how we look at international economics. With minor adjustments, GDP measures both the total production and the total income of a country. As a result, there is an obvious relationship between the distribution of world production and the distribution of world income. This distribution of world income affects the study of international trade because the production of goods and income is unevenly distributed among the world's economies. As we will see, the pattern of international trade is likewise skewed.

IMPORTS AND EXPORTS OF GOODS IN THE WORLD ECONOMY

Imports and exports of goods dominate the interdependence of countries in the world economy. **Exports** are the part of a country's domestic production that is sold to residents of other countries. **Imports** are the part of a country's domestic consumption and/or investment that is purchased from foreign producers.[5]

From Table 1.1, the total value of GDP for the world economy is approximately $85.8 trillion. To gain some perspective on the relative importance of international trade, we need the information on the value of exports and imports contained in Table 1.2. In 2018, exports and

TABLE 1.2

Distribution of imports and exports of merchandise in the world economy, 2018

	Imports (billions of $)	% of world total	Exports (billions of $)	% of world total
Low-income economies	$60.0	0.3%	$147.9	0.7%
Middle-income economies	$6,517.6	33.3%	$6,337.9	31.8%
High-income Economies	$12,986.8	66.4%	$13,424.8	67.4%
World total	$19,564.4	—	$19,910.6	—

Source: World Bank (2019).

imports of goods were $19,910.6 billion and $19,564.4 billion, respectively.[6] In terms of percentages, exports and imports are approximately 23.2 percent and 22.8 percent of world output, respectively. These percentages reflect trade in goods and do not include international trade in services. We can now define one aspect of the term *globalization*, which is the amount of domestic consumption produced in other countries (imports) and, conversely, the amount of domestic production shipped to other countries (exports).

In the preceding section, we saw that world economic output was not evenly distributed among the world's economies. The high-income economies account for approximately 63 percent of the world's output. A similar distribution is observed when examining total imports and exports. As Table 1.2 shows, the low-income economies account for less than 1 percent of international trade. Notice in Table 1.1 that these countries have only 0.7 percent of the world's economic output. A similar situation exists for the middle- and high-income economies. The middle-income economies account for a bit over 31 percent of world trade and 36 percent of world production. Not surprisingly, the high-income economies account for nearly 67 percent of world trade and 63 percent of world production.[7]

This similarity in world production and trade is not difficult to explain. For a country to export a product, it first must produce the product. Because the high-income economies have the overwhelming part of world production, a corresponding share of world exports originates within these economies. Similarly, imports are a form of consumption or investment spending that is produced in another country. For a country to import a product, the buyer has to have the income to purchase the good (i.e., effective demand). High-income economies are not a misnomer. Countries with high levels of income consume not only more domestically produced goods, but also more foreign-produced goods. As a result, the high-income economies also have a high share of world imports.

The economic interdependence among countries has increased over time. Figure 1.1 shows real GDP growth and real export growth in goods from 1975 through 2018. Notice that over the period, export growth has been faster than GDP growth. To make both series comparable we have converted each series into an index number that equals 100 in 1975. As the figure shows, real GDP and real exports grew at approximately the same rate between 1975 and 1985. Beginning in the mid-1980s world exports began to rise faster than world GDP. By 2018, world exports were approximately 600 percent larger than in 1975 and world GDP was only 200 percent larger.

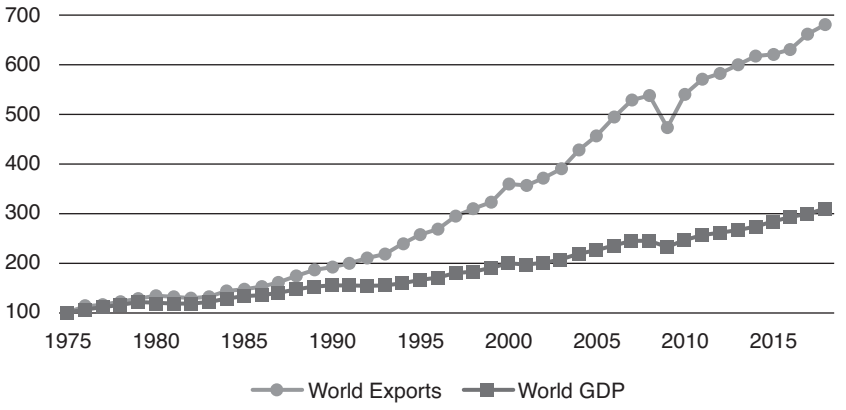


FIGURE 1.1
Real-world exports and real GDP, 1975–2018 (1975=100)

Source: Adapted from World Trade Organization (2019).

BOX 1.1 U.S. STATES AND REGIONS IN THE WORLD ECONOMY

An emerging topic of discussion in economics is the potential link between international economics and regional economics.[8] Regional economics analyzes why there are substantial economic differences between regions within countries, the U.S. being one example. Recently, economists have been exploring how U.S. states and regions would fit into the global economy if these entities were independent countries. If you examine the appendix at the end of the text, you will notice that the different countries of the world are ranked by total GDP. The table also contains data on population, GDP per capita, exports, and exports per capita. Similar data for the different census regions of the U.S. is listed in CAPITALS, and the various states within the U.S. are listed in *italics*.

What if any of the listed regions or states in the table were a country? The results are quite interesting. Five U.S. census regions would be among the world's top ten economies. If California were a country, it would be slightly smaller than Germany and slightly larger than United Kingdom. The smallest U.S. state (Vermont) would still have an economy smaller than Latvia or slightly larger than Zimbabwe. Look at the data for your home state, region, or country. It may help to bring the idea of the global economy and international trade a bit closer to home.

INTERNATIONAL TRADE IN SERVICES

When describing international trade, many commentators describe trade in goods, while ignoring trade in services. There are several reasons for this bias. First, you can more readily see the trade in goods, which is sometimes called visible trade. The export goods are shipped to a port on a visible truck or railroad car. The goods are then loaded into a ship or, with increasing frequency, a cargo plane. The merchandise is then shipped to a foreign country and the process reverses.

When most of us think about international trade, this is what comes to mind. However, this characterization of international trade ignores the less visible trade in services. Service trade consists of business services, such as transportation and insurance. Individuals also consume international services, with tourism being a prominent example. Trade in services is less "visible" than trade in merchandise and is sometimes called invisible trade. For example, the consumption of car insurance is considerably less visible than the consumption of a car.

Second, international trade in services is more difficult to measure than merchandise trade. Goods must pass through a country's border where they are assessed some value. This is not necessarily the case for international trade in services. For example, when a British citizen vacations in Disney World, these expenditures are considered a U.S. export just like a U.S. product that is sold to a British company. In the latter case, U.S. officials would record this transaction as it left a U.S. port and British customs officials would record it as the good entered the U.K. However, how do the U.S. and the U.K. count the spending of the British tourist in the U.S.? Although the dollars that tourists spend are a U.S. export, these transactions may not be recorded because they are difficult to monitor. This same monitoring problem plagues much of international trade in services. What is difficult to see and measure becomes something that is not thought about and/or studied.

Third, the study of international trade in services is in its infancy. As we will see in the next two chapters, we can explain the determinants of international trade in goods. The same cannot be said for international trade in services. At this point, there is not a general theory of what causes international trade in services, and this leads to a tendency to downplay its importance. Finally, international trade in services comprised, until recently, a relatively small portion of total trade. This relatively small size coupled with the factors mentioned earlier has led to little or no emphasis on this type of trade.

The inattention to international trade in services is difficult to reconcile with the reality of the absolute size of the trade flows. As Table 1.3 indicates, the absolute volume of international trade in services is now quite large. Imports and exports of services in the world economy are over *$11 trillion*. While this number is large, its size in relation to trade in goods is perhaps even more revealing. International trade in services is approximately 28 percent of the size of international trade in goods. Since the 1970s, international trade in services has been growing faster than trade in goods with the exception of the period 2000 through 2005.

Table 1.3 also provides information on the distribution among countries of international trade in services. As they do with trade in goods, the high-income economies dominate international trade in services. These countries account for 73.1 percent of the imports of services

TABLE 1.3

Distribution of international trade in services in the world economy, 2018

	Imports (billions of $)	% of world total	Exports (billions of $)	% of world total
Low-income economies	$36.6	0.7%	$0	0.0%
Middle-income economies	$1,413.2	26.3%	$1,131.7	19.9%
High-income economies	$3,926.5	73.1%	$4569.3	80.1%
World total	$5,371.3	—	$5,701.0	—

Source: World Bank (2019).

BOX 1.2 THE U.S. POSITION IN THE WORLD ECONOMY

The U.S. has a truly unique position in the world economy for a number of reasons. First, the sheer size of the U.S. economy makes it important. The GDP of the U.S. is approximately $20.5 trillion. The second largest economy is China, with a GDP of approximately $13.6 trillion. The U.S. economy accounts for nearly a quarter of the world's economic output. Second, the U.S. is also the world's largest exporter. In 2018, the U.S. exported and imported approximately $2,501.3 billion and $3,129.0 billion in goods and services, respectively. In both an absolute and a relative sense, the U.S. is the world's largest trading nation. In the concern over U.S. trade deficits, these facts are frequently overlooked. Third, the U.S. has the world's largest financial market. Consequently, a substantial amount of the capital flows and currency trading directly or indirectly involves these financial markets. Finally, the dollar is the dominant vehicle currency for transactions in the world economy. A vehicle currency is currency used indirectly in international exchanges because it is stable and easy to trade.[9]

Despite these statistics, the discussion of international trade and the U.S. economy has been a focus of controversy for some time. If the U.S. is simultaneously the world's largest economy and the world's largest trading nation, why should international trade issues remain so controversial? Figure 1.2 is useful in resolving this seeming paradox. The chart tracks two conflicting trends for the U.S. economy. First, over the last fifty years the percentage of the U.S. economy that produces exports has risen from approximately 2 percent to nearly 14 percent. For industries that emphasize exports, this increasing "openness" of the U.S. economy has created opportunities for increased sales and profits. However, for the part of the economy that produces domestic goods that compete with imports, clothing, steel, and lumber, for example, the adjustment to this new level of competition has been difficult, as sales and profits have fallen. While trade is beneficial to the economy as a whole, the same cannot be said for all segments of the economy. Perhaps the chronic trade deficits the U.S. has run over the last twenty years have focused too much attention on import competition and not enough attention on the U.S. as a successful exporter of goods and services.

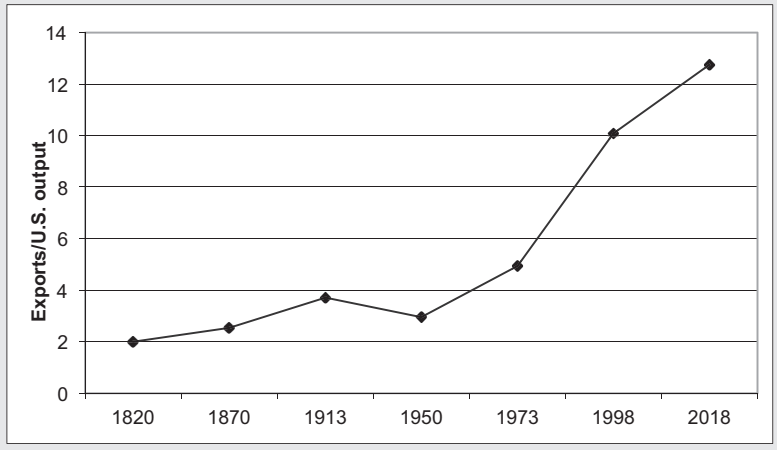
The second part of the chart tracks U.S. GDP as a percentage of the economic output of the world economy. In the middle of the 20th century, the U.S. economy was approximately 27 percent of the economy of the world. The U.S. during that period was not just a relatively large economy—it was the dominant economy. In the ensuing thirty years, the U.S. economy has become "smaller" relative to the rest of the world economy. This means that for some time the economy of the rest of the world has grown faster than that of the U.S. Whether or not this relative decline is of any importance or not has been a subject of some debate.[10] However, being the world's largest economy, the world's largest trading nation, and having one of the highest standards of living in the world is not a particularly terrible position for a country to be in.

A closer examination of the chart reveals that the time frame covers more than 100 years. This historical perspective is intentional. If one examines the position of the U.S. economy in the late nineteenth century, the parallels with the late twentieth century are interesting. In terms of both trade as a percentage of GDP and U.S. GDP relative to the rest of the world, the U.S. position today is not so different from what it was 100 years ago. At that time, the U.S. was the world's largest economy. Also, exports were approximately 40 percent as important a component in GDP as they are now. Looking at a longer stretch of history, the position of the U.S. economy as a relatively "closed" economy seems abnormal. The same may be true for the dominant position that the U.S. economy had in the mid-twentieth century. Despite the U.S. economy's large absolute size, its dominance in the mid-twentieth century may have

BOX 1.2 (CONTINUED)

been something of an aberration created by the lingering effects of the Great Depression and World War II. While the position of the U.S. in the world economy is now somewhat different from what it was twenty or thirty years ago, this position may, in a longer historical view, be more typical.[11]

(a) U.S. exports as a percentage of U.S. output



(b) U.S. output as a percentage of world output

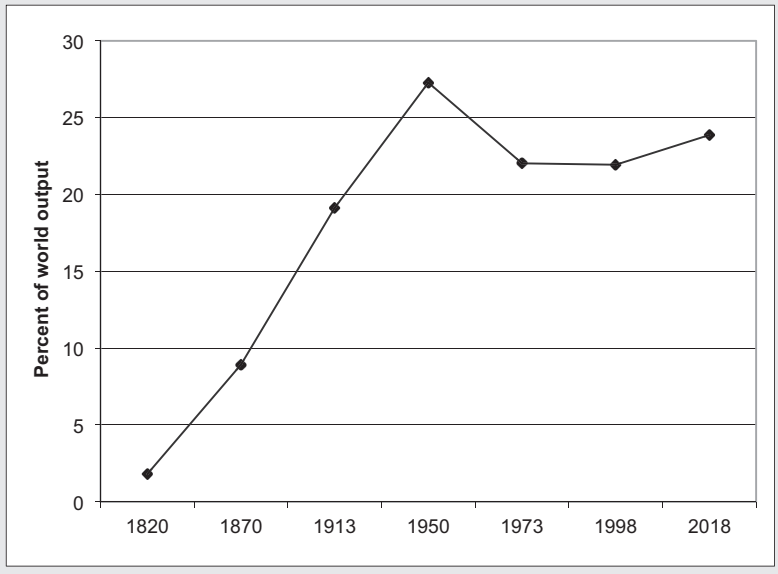


FIGURE 1.2
Exports as a percentage of U.S. and world output

Sources: Maddison (2001) and World Bank (2019).