

CHAPTER 1

Introduction

Unique among the concerns of economics, international trade has always carried a note of romance—the lure of the exotic, the hint of danger. Traders' dreams of bartering for the riches of the Orient spurred the European voyages of discovery that began in the fifteenth century. Today, supertankers move hundreds of thousands of tons of crude oil at a time from producing to consuming lands at strikingly low cost—except when the breakup of a tanker at sea pollutes hundreds of miles of shoreline.

The romance of international commerce surges through its contact with public policy. British restrictions on colonial trade helped fuel the American Revolution. After World War II the nations of Western Europe, sickened by the recurrent wars spawned by modern nationalism, sought permanent reconciliation and peace through a trade treaty that removed barriers to commerce through the European Union.

This book promotes an understanding of the economic causes and consequences of international exchange. Any branch of economics rests on theoretical concepts and models. The scholar's job is to bring systematic observation and explanation to the chaotic diversity of the world. The Census Bureau records data on about 14,000 classifications of commodities entering into the foreign trade of the United States—4,000 for exports and 10,000 for imports. Are 14,000 explanations for these trade flows truly necessary? Could one explanation possibly cover every bundle of merchandise? Our quest is for the simplest model, or the smallest family of models, capable of answering the important questions about trade patterns and how public policy should deal with them.

The foreign commerce of nations, one of the oldest branches of economics, has drawn the attention of some of history's greatest economists. Indeed, many of the ideas in this book can boast of famous ancestors. Modern economics owes much of its understanding of money in international trade to the philosopher David Hume (Chapter 19). One principal model of international trade and production derives from David Ricardo (Chapter 4), an English stockbroker with a powerful, analytical mind. Still, much of present-day international economics is quite new. A fruitful model relating trade to factors of production comes from two twentieth-century Swedish economists, Eli F. Heckscher and Bertil Ohlin (Chapter 6). As well, our understanding of how trade relates to employment, and how policy can deal properly with both, is in part a late fall-out of the Keynesian Revolution of the late 1930s (Chapter 17).

1.1 The Subject of International Economics

International economics is somewhat curiously related to the other conventional branches of economics. Public finance, money and banking, and labor economics select a neatly distinguished group of transactors or markets in the economy for special study. “But,” you may ask, “doesn’t international economics similarly deal with international markets?” It does, and these markets are capable of exact *legal* definition. Sovereign states are ubiquitous; therefore, we always can tell whether the two parties to a transaction are citizens of different countries.

Still, are international transactions economically unique and readily separated from transactions within nations? Do Kansas wheat farmers know or care whether the bushels of wheat they sell will be exported? When you buy a handkerchief, do you inspect it closely for a label indicating manufacture abroad? International transactions are indeed interrelated with domestic markets. Ultimately our explanation of international trade must be part of an explanation of each national market.

This intertwining of international and national markets runs throughout international economics. If India decides to train more physicians, the supply of physicians in Britain is apt to increase (through immigration). If the United States raises government spending to increase employment, employment in Canada is almost sure to increase. Clearly then, international economics can easily (and usefully) be viewed as “international aspects of supply and demand,” “international aspects of money and finance,” or “international aspects of taxation.” Nonetheless, international trade and payments must be treated—for many good reasons—as a separate field of study. Following are two of the most important reasons for such treatment.

The Power of International Economic Theory

The most useful models for explaining international trade are those that are simple, strong, and general. They not only explain international trade patterns, they also tell much about patterns of production, income distribution, and so on, within countries.

What, indeed, is the simplest possible way to model the international economy? The central questions about international trade deal solely with *exchange* between traders in two national markets. This book argues that the sparsest and clearest explanation of trade between nations, and of the gains nations derive from trade, requires only a description of the exchange of fixed endowments of goods. Such simplification, by concentrating first on exchange, stems from putting aside the details of how goods are produced. We then can explain, for example, what happened in 1973 when the exporting nations quadrupled the price of oil. Having set the essentials, the basic model of trade can be expanded to explore details of how bundles of goods are produced.

Why should economists employ separate models to explain international trade and domestic trade? The traditional answer holds that in the long run the factors of production—labor and capital—move freely within the national economy but are immobile between countries. Presumably labor and capital move freely between New York and California whenever workers or lenders feel that such a shift will improve their real incomes. Does California produce movies because of its abundance of movie

stars? Did the movie stars arrive in response to the casting calls of the moviemakers? Or did moviemakers and stars simply converge because of California's abundant sunshine—a matter of economic geography? When labor and capital are largely immobile between nations, however, they become a “given” that can explain trade patterns—along with the gifts of nature.

Once the theory of international trade and production is constructed with capital and labor assumed immobile internationally, the immobility assumption can be peeled away to allow several perspectives on factor mobility. One approach tightens the mobility constraint by assuming that each sector employs a specialized factor of production not useful in other industries (shoemakers can only make shoes). Another loosens it by allowing factors to be mobile internationally.

Models of the macroeconomy enjoy the same flexibility to deal with capital flows along with international trade flows. Fifty years ago, macroeconomists mostly used (and taught) models of national income and employment that ignored international transactions. Events in the international economy then forced economists to change their tactics. For example, international capital flows play an important macroeconomic role by representing a difference between domestic saving and investment. Any major disturbance to domestic saving or investment decisions—for instance, when the government decides to run a large budget deficit—triggers a large change in international capital flows and other important macroeconomic variables.

The Importance of Nationhood for Policy

The other factor that distinguishes international economics is rooted in policy-making, especially in the context of policies toward international trade and payments. Trade occurs between sovereign nations, between us and them. Two governments, with potentially clashing objectives, can choose policies affecting the flow of trade between them so as to harm each other's interests. More profoundly, the fear and suspicion of outsiders felt by even the most saintly mortal repeatedly prompts debate over whether or not the nation benefits from trading with foreigners. No one doubts that Vermont gains from trading with New Hampshire, or Minneapolis with St. Paul. The proposition that the United States and France both gain from trading with each other might not, however, win a majority vote in either country. Rich countries fear they will suffer by importing the products of low-wage foreign labor; poor countries dread imports created by high-level foreign technology.

This universal xenophobia contributes to the often bitter and protracted nature of countries' international economic policy disputes. For example, a major issue in a 1988 Canadian election was approval of a free-trade agreement to end restrictions on trade flows between the United States and Canada. There was widespread consensus among economists suggesting that the arrangement would add at least several percentage points to Canada's national income. However, many Canadians considered the arrangement an invasion of their sovereignty and nationhood. This debate was dramatic but by no means unusual. Such disputes over international policy are often bitter, not only because some parties gain and some lose but also because dollars-and-cents issues become emotionally charged.

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The last few years have seen an extraordinary disjoint between economic welfare and public attitudes over *globalization*. This ill-defined term generally refers to an increase in the share of the world's transactions that comprise exchanges between nations. That increase in turn flows from many supportive changes in public policy: reduced restrictions on international trade and investment, especially among the developing countries; the transformation to market economies of crumbling centrally planned regimes in Eastern Europe and China; and widespread privatization and deregulation in many domestic markets that tended to increase the economic efficiency of both domestic and international transactions. Economists regard these changes as a great boon to economic welfare. However, several high-profile meetings on international economic policy have been vigorously disrupted by protesters who see globalization as impoverishing unskilled labor, fostering sweatshop conditions in developing countries, and degrading the global environment. These views of burgeoning international commerce as boon and bane could hardly be farther apart. In the following chapters we flag the analyses that shed light on these deep misunderstandings.

How, then, does international economics pick its way through this minefield of nationalistic attitudes and controversies? A critical role for the theory of international trade is to identify the gains from trade and their indications for economic policy. Hence the spare, clear explanation of trade through a simple model of exchange is particularly useful for determining the gains from trade.

After the gains are determined, the next focus is the division of gains among the trading nations. International economics takes a flexible approach to this question. Following the tradition of general economics, international economics often concentrates on maximizing the welfare—the real income—of a single country's citizens. However, economic analysis also identifies policies that maximize global welfare, which in many situations can differ from policies serving a particular nation's interest. Certain policies that raise the welfare of one trading nation lower the global welfare and perforce the welfare levels of other trading nations. Identifying the clashes and harmonies between national and world welfare is an important task of this book. In addition, the welfare of groups of countries (such as the European Union) and of groups of income recipients within a country must be considered. Changes in the international economy or in trade policies almost always change the distribution as well as the level of a country's income. Only by understanding the relation between trade and income distribution can we discover why American labor has opposed foreign investment by U.S. companies or why the South once opposed, but now favors, high tariffs.

Issues of international conflict and harmony also arise over macroeconomic policies and their implications. For several years both the United States and China have followed economic policies that foster rapidly growing exports from China to the United States (and other countries) and a large excess of imports over exports for the United States. Chinese policy contributed to this outcome by keeping its currency tied to the U.S. dollar at a low rate (making Chinese goods cheap to Americans). U.S. policy contributed by running a very large excess of federal government spending over tax revenue, a government deficit that (we see later) almost necessarily is matched by a large excess of imports over exports of goods and services. These merchandise imports furnished stiffened competition for many American manufacturers, who then clamored

for restrictions on imports from China. The countries' governments fell to blaming each other for a situation that was to a large extent their own doing. In 2005 China began small steps to adjust its exchange rate, but the U.S. government refused to stanch its government deficit.

In short, international economics seeks to cast light through the dark waters of contention over economic policy by (1) showing how international exchange and improvements in economic policies can result in gains; (2) identifying the bases for conflict over international economic policy, both within nations (between interest groups) and among them; and (3) pointing to ways in which conflicting groups or nations can resolve their differences for mutual benefit.

1.2 Patterns of International Trade

We all pick up some casual knowledge of patterns of international trade: The United States exports a lot of commercial aircraft, Japan a lot of automobiles, and Saudi Arabia a lot of petroleum. The following data aim to provide an impression of important patterns in international commerce and introduce a few puzzles to be dealt with in this book.

Although politicians fret that there may be too much international trade, since World War II underlying economic forces have been steadily nudging upward the proportion of market economies' transactions that involve international trade in goods and services. Between 1960 and 1995 real world output grew by 3.8 percent annually while real world trade grew by 6.1 percent, more than half again as fast. Among the many forces behind the growing importance of international transactions are the spectacular reductions that have occurred in the real costs of international shipping and international travel. Between 1920 and 1990 average ocean freight and port charges for U.S. import and export cargo fell almost 70 percent. Between 1930 and 1990 average air-transport fares per passenger mile fell by 84 percent, and the cost of a three-minute telephone call between New York and London plummeted 98.6 percent.¹

Table 1.1 shows the pattern of trade of the United States, described in two ways. The first and third columns indicate how the value of total exports and imports is divided among various industries. For agricultural and forest products, food, chemicals, computers and electronic products, and several others, the share of exports exceeds that of imports, and the United States has in some sense an advantage against foreign competitors. It markedly lacks that advantage in minerals and petroleum (and petroleum and coal products), apparel, and leather. In sophisticated or so-called high-technology products, such as machinery and transportation equipment, we are heavy importers as well as heavy exporters: An explanation is forthcoming about why countries both export and import similar goods.

The second and fourth columns of Table 1.1 show the share of each sector's domestic production that is exported and the share of imports in domestic use (which

¹U.S. Council of Economic Advisors, *Economic Report of the President, 1997*, p. 243.

TABLE 1.1

U.S. Merchandise Trade by Industry, 2001, Shares of Total Trade and Production or Use (percentages)

Industry	Exports		Imports	
	Share of Total Exports	Share of Production	Share of Total Imports	Share of Use
Agriculture and forest products	4.7	13.9	2.2	11.4
Minerals, petroleum	0.9	5.1	7.1	43.0
Food products	4.2	5.9	1.8	4.4
Beverages and tobacco products	0.7	3.7	0.8	7.1
Textiles and fabrics	1.1	15.5	0.6	14.1
Textile mill products	0.3	6.2	0.7	20.2
Apparel and accessories	1.0	11.8	5.8	56.5
Leather and allied products	0.4	25.9	2.0	77.0
Wood products	0.6	4.5	1.4	15.2
Paper products	2.2	9.0	1.7	11.4
Printing, publishing	0.8	4.8	0.4	4.1
Petroleum and coal products	1.3	3.7	3.3	14.3
Chemicals	12.2	17.5	7.5	18.2
Plastics and rubber products	2.5	9.2	1.6	9.8
Nonmetallic mineral products	1.2	7.8	1.3	13.4
Primary metal products	2.9	13.1	3.4	23.2
Fabricated metal products	3.1	7.7	2.6	10.8
Machinery, nonelectrical	12.1	28.7	6.7	27.5
Computers, electronic products	21.2	31.3	19.2	41.0
Electrical equipment	3.6	15.4	3.6	29.9
Transportation equipment	19.4	20.4	19.7	30.7
Furniture, fixtures	0.4	3.4	1.4	18.9
Miscellaneous manufactures	3.3	17.9	5.3	37.2

Source: *Statistical Abstract of the United States, 2004–2005*, Tables 799, 987, 1302.

equals production minus exports plus imports). The trade flow holds at least a 5 percent share in most cases. Although we depend heavily on imports for some consumption goods (apparel, leather), the machinery sectors are the ones with consistently heavy involvement in trade flows.

A central indicator of globalization is the rising ratio of countries' merchandise trade (average of goods exports and imports) to gross domestic product (GDP) or to domestic value-added in the goods sector. Eight of the eleven countries listed in Table 1.2 showed substantial rises in the former; all showed large increases in the latter. Why the difference? As incomes grow, people tend to spend proportionally more of their incomes on services and less on goods. Merchandise trade hence rises more relative to merchandise production than to total production, including services. Globalization has revealed itself in times past—ratios of trade to production were high between 1890 and 1913—but the recent trend has been long and strong. Why has it occurred? Lower transport costs and government restrictions such as tariffs are obvious reasons. Less obvious but important is increased vertical specialization: Finished goods available for export are often made of components themselves imported from abroad. This specialization increases merchandise trade without any clear effect on value-added.

TABLE 1.2**Merchandise Trade Relative to GDP and Merchandise Value-Added, 1960–1990 (percent)**

Country	Merchandise Trade		Merchandise Trade	
	GDP		Merchandise Value-Added	
	1960	1990	1960	1990
Australia	13.0	13.4	24.4	38.7
Canada	14.5	22.0	37.6	69.8
Denmark	26.9	24.3	60.2	85.9
France	9.9	17.1	16.8	53.5
Germany	14.5	16.5	24.6	57.8
Italy	10.0	15.9	19.2	43.9
Japan	8.8	8.4	15.3	18.9
Norway	24.9	28.8	60.0	74.8
Sweden	18.8	23.5	39.7	73.1
United Kingdom	15.3	20.6	33.8	62.8
United States	3.4	8.0	9.6	35.8

Source: Robert C. Feenstra, "Integration of Trade and Disintegration of Production in the Global Economy," *Journal of Economic Perspectives*, 12 (Fall 1998): 31–50, Tables 1, 2.

We think of services such as haircuts and dry cleaning as locally produced and not entering into international trade. Tourism and many important business services, however, frequently cross national boundaries. Although the United States has a widely noted trade deficit (excess of merchandise imports over exports), the country is a net exporter of services. Services exports (relative to GDP) are growing even faster than goods exports. Services here include both the conventional services that we sell to foreigners (consulting and financial services and tourism) and the services of American factors of production working abroad (in particular, the foreign earnings of U.S. multinational companies). The growing importance of services in international trade is a worldwide phenomenon. While world exports of goods (nominal values) grew at a rate of 5.8 percent annually from 1980 to 1990, world exports of services grew 8.2 percent annually. Growth rates for the major classes of (nonfactor) services were:

Shipping	4.5%
Passenger services	10.4
Other transportation	3.8
Travel	9.8
Royalties and fees	10.8
Other private services	9.4

Data from United Nations, *World Economic Survey*, 1993, p. 74.

Table 1.3 shows a few broad facts about the distribution of merchandise trade among the industrial nations, the developing countries, and the former centrally planned economies that are now called "economies in transition." The developed countries, which in 1998 accounted for two thirds of world exports, trade extensively with each other. The developing countries ship the bulk of their exports to the developed

TABLE 1.3

Percentage Distribution of Exports by Major Trading Groups, 1985–1998

Exporter		Importer		
		Developed Countries	Economies in Transition	Developing Countries
Developed Countries	1985	72.7	—	23.0
	1998	71.8	4.4	22.8
Economies in Transition	1995	50.7	34.9	13.6
	1998	51.4	34.6	13.5
Developing Countries	1985	64.0	—	30.6
	1998	55.2	1.8	40.6

Source: United Nations, *World Economic and Social Survey*, 1999, Table A-14. Percentages add to less than 100 percent because of discrepancies in the underlying data, and usable data on the economies in transition are available only from 1995.

nations but sell a fast-growing share of these goods to each other. Before the economies in transition abandoned their regimes of central planning, they traded mostly with each other. By 1995, however, a majority of their exports went to the developed countries, mainly Western Europe. Table 1.3 fails to show the increasing divergence of trade patterns among the developing nations, with some remaining mired in underdevelopment, while others—newly industrialized countries, or NICs—have expanded their trade and income levels rapidly. Between 1970 and 1986 the developing countries' share of world exports of manufactures rose from 3.5 to 13.0 percent while their share of world exports of agricultural products fell from 29.3 to 25.4 percent.²

1.3 The Organization of This Book

International economics builds models to explain the links between national economies and to show how nations' policies can yield maximum welfare and stability. We begin with the simplest model of trade between nations, and that is the focus of Part I. Chapter 2 establishes the gains from international trade and relates them to the conditions of production and demand. In Chapter 3 the basic trade model is applied to the effects of various changes and disturbances—altered tastes of consumers, the size (growth) of the national economy, and the like.

Into the simple model of Part I, Part II builds various explanations of the nation's production apparatus. We first describe production processes in the fashion of David Ricardo, with a unit of each output requiring inputs of only a certain number of labor-hours (Chapter 4). Another scenario assumes that each output requires labor, plus units of a factor of production used only in that sector (Chapter 5). In a third scenario,

²The calculation excludes the developing countries that are petroleum exporters. See Anne O. Krueger, "Global Trade Prospects for the Developing Countries," *The World Economy*, 15 (July 1992): 457–474.

each output requires both capital and labor but in different proportions (Chapter 6). Chapter 7 introduces product differentiation and the market equilibrium associated with monopolistic competition, adding new consequences of international trade for welfare. Chapter 8 deals with goods that are inputs to the production of other goods; it details the consequences of stages of production being mobile from country to country. Chapter 9 addresses the international mobility of factors of production—labor migration and international capital transfers; it explains the role of multinational enterprises.

Part III considers tariffs and other controls on trade, identifying their effects and asking in what circumstances they might be desirable from the controlling nation's point of view. A major clash of interests exists in that the welfare of all countries together generally would be raised by removing all restrictions on international trade, but one country acting alone sometimes can improve its own welfare by maintaining or increasing restrictions. Chapters 10 and 11 present the theory of controls on trade, and Chapters 12, 13, and 14 apply this theory to present-day trade policies. Chapter 12 analyzes special problems posed by imperfectly competitive markets, in which nations attempt to exert monopoly power in international trade or to combat similar efforts by other countries. Chapter 13 examines types of trade restrictions in actual use and the industrial nations' efforts to reduce restrictions through international cooperation. Chapter 14 explores trade-policy issues in selected regions or groups of countries: preferential trading arrangements such as the European Union and the North American Free Trade Agreement; the former centrally planned economies in their transition to market organization; and the Asian nations that are enjoying rapid growth and expansion of their foreign trade.

Part IV presents models of short-run disequilibrium and adjustment in order to understand what happens when income and expenditure are not equal or when money prices are sticky. The analysis begins with simple models, then allows additional factors to vary. Chapter 15 explains the balance of payments accounts. Chapter 16 introduces the influence of the exchange rate on the balance of trade. Chapters 17 and 18 allow for variations in income (or employment) and the rate of interest. Chapter 19 discusses the influence of the money price level. Chapter 20 focuses on adjustment in a special, but important, case—the small, open economy that takes as a given the prices of all the goods it buys and sells on the world market but also contains a sector producing goods and services that are not traded internationally.

While Part IV addresses international movements of money and holdings of foreign currency reserves, Part V examines international capital movements. Chapter 21 provides background on the international financial markets—trends and major innovations, plus the liberalization and internationalization that has increasingly integrated national financial markets. Chapters 22 and 23 develop the implications of financial market integration for the domestic macroeconomy, in particular for the operation of fiscal and monetary policy. Chapter 24 on emerging markets and financial crises pursues the causes and consequences of the Asian financial crisis. Chapter 25 applies this analysis to the international interdependence of policies; Chapter 26 examines the role of inelastic supplies of output as an influence on price levels and inflation.

Part VI considers exchange rate determinants. Chapter 27 develops the role of expectations when determining the foreign exchange rate. Lastly, Chapter 28 discusses

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the problem of exchange rate forecasting and the role of risk in determining international asset portfolios and prices.

Following the final chapter is a group of supplements to the principal theoretical chapters of the book. We have added these supplements, which demand some mathematical sophistication, namely a basic knowledge of differential calculus, to satisfy readers who seek a more formal approach. The supplements are designed to be read with the text; the text is independent of the supplements. The text is completely free of any formal mathematics, other than a sprinkling of high school algebra, and draws instead upon simple diagrams and verbal reasoning.

