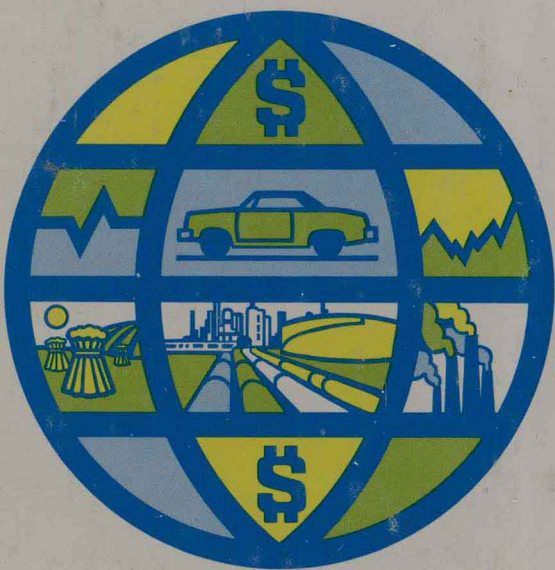


International Economics



**A Micro-Macro
Approach**

A. Ross Shepherd

INTERNATIONAL ECONOMICS

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A. Ross Shepherd

University of Missouri-Kansas City

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Preface

This book is about basic economic theory as it applies to the international exchange of goods, services, and financial assets. It has been my aim that the reader who works carefully through it will emerge with a knowledge of the basic economic theory that illuminates much of real-world policy discussion and daily activity of international exchange. Although theoretical in orientation and systematic in approach, this book is intended for any reader with some exposure to introductory economics and high school algebra and geometry.

Because the book specializes in basic theory, the classroom teacher who uses it will have maximum latitude to fashion the course to his or her own specifications by introducing appropriate supplementary topics and materials. It can be used as the basis of a course in the theory of international exchange, or it can provide the basic theory for a course emphasizing either public policy issues or the day-to-day practice of international trade and finance.

International economics is often presented as a strangely divided subject. The “real” exchange relationships are worked out, often on the assumption of barter exchange, in a section on the “pure theory of international trade;” money prices and payments are then taken up under the general heading of “international finance” or “international monetary relations.” And all too often the relationships between the real and the monetary formulations are pretty much left to the reader’s imagination. For example, the relationships among domestic and foreign commodity markets, markets for financial assets, and the foreign exchange market are not clearly presented; and therefore, among other shortcomings, the differences and the relationships between transitory portfolio adjustment transactions and continuous commodity flows are inadequately treated.

The subject matter of this book is not organized around a real–monetary distinction; throughout, I emphasize the interrelationships between the real and the monetary. Instead, I approach the subject of international economics as a straightforward extension of the microeconomic and macroeconomic analyses found in the typical introductory economics course. The microeconomics of international exchange is covered in part two. The discussion there concerns the economic principles that help to explain what goods, services, and financial assets are exchanged internationally and how the international exchange of these items affects the patterns of production and consumption, and the economic well-being, of the trading parties.

Part three deals with the macroeconomics of international exchange; that is, it deals with the relationships between the level of international exchange and the levels of total production, total expenditure, and average price.

In part one, the rationale for international exchange is considered, and the concepts used to record and analyze international transactions are discussed. Part four is essentially an elaboration on the alternative ways to handle imbalances that occur during the international exchange of goods, services, and financial assets.

At the end of the book, the reader will find some suggestions for further reading. Throughout the book special topics of interest to some readers, but not crucial for all readers, are presented in chapter appendices. To encourage and facilitate the reader's participation, several suggested analytical exercises are introduced in the text immediately after applicable principles have been discussed.

Earlier drafts of various parts of this book have been used for classroom instruction, and I have been aided in my writing by the commentary of many students and colleagues. I especially wish to thank Professors John O. Ward, University of Missouri-Kansas City; K. Laurence Chang, Case Western Reserve University; Duane Kujawa, Florida Internationale University; Thomas J. Grennes, North Carolina State Univ.; and William F. Laird, Florida State University; who read the manuscript at various stages of development. I also wish to thank John B. McHugh and Frances Margolin of the Charles E. Merrill Publishing Company for their patience and helpful suggestions. Only I should be blamed for the errors that may remain on the following pages.

This book is dedicated to my wife, Barbara, whose patient understanding and acceptance of the opportunity costs of book writing are deeply appreciated. It is also dedicated to my sons, Matthew and Steven, ages twelve and eight, respectively, in recognition of their ebullient, albeit as yet untutored, enthusiasm for economics.

A. Ross Shepherd
Kansas City, Missouri

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part one

INTRODUCTION

The Rationale for International Exchange

1

Why do nations exchange goods and services? Why do they borrow and lend (that is, exchange financial assets)? The detailed answers to these questions will be discussed in part two of this book. In the meantime, we shall accept the intuitively plausible idea that nations exchange goods, services, and financial assets for the same basic reason people do — namely, because they are better off as a result of such exchanges. First, it is clear that without international exchange, many countries would simply find it impossible to obtain certain goods. Countries without petroleum deposits, for example, must either import petroleum or do without it. Second, with respect to those goods and services which countries *can* supply to themselves, international exchange permits each to concentrate on what it does best, as compared to the rest of the world, and thus to achieve the efficiencies resulting from the division of labor and economic specialization. Just as it is economically inefficient for an individual person to try to produce everything he or she consumes, it is economically inefficient for an individual country (or particular region within that country) to attempt to produce everything its inhabitants consume.

THE IMPORTANCE OF INTERNATIONAL EXCHANGE

International exchange has become a vital part of modern economic activity. Consider the case of the United States. Although exports represent only about 7 percent of total American production, export business is extremely important for certain U.S. industries. In 1973, the United States exported 67 percent of its wheat crop.¹

¹The percentages and ratios in this section are taken from, or calculated from data shown in, the U.S. Bureau of Census' *Statistical Abstract of the United States: 1975* (96th ed.). Washington, D.C., 1975.

For some other commodities, the percentage of production exported that year was: corn (for grain) 22 percent, soybeans 35 percent, cotton 38 percent, tobacco 42 percent, fats and oils 42 percent, sulfur 16 percent, molybdenum 64 percent, and magnesium 26 percent. Exports are also important for many high-technology U.S. companies producing aircraft, automobiles, and various kinds of machinery.

Equally significant is the importance of imports for U.S. production and consumption. Nearly 54 percent of the fishery products and about 21 percent of the lumber consumed in the United States in 1973 was imported. In that year the United States imported over five times as much bauxite (which is refined into aluminum) as it produced domestically; for iron ore the ratio of imports to domestic production was one-half, for copper one-third, and for uranium four-fifths. In that same year, 96 percent of the nickel, 18 percent of the lead, 67 percent of the tin, and 23 percent of the rubber consumed in the United States was imported. Without international exchange U.S. consumers would have (with the negligible exception of hothouse production) no coffee, tea, or bananas; and U.S. producers would have no chrome and little cobalt or manganese. The disappearance of foreign automobiles, cameras, clothing, sporting goods, perfumes, radios, and wines would distress many U.S. consumers. About 40 percent of America's daily consumption of petroleum is imported. The Arab oil embargo, imposed in October 1973, made it abundantly clear to America that even a relatively small decrease in the availability of a vital commodity can wreak havoc with U.S. production and consumption. As nothing else in recent history, this episode demonstrated the crucial importance of international exchange for the U.S. economy.

DOMESTIC EXCHANGE AND INTERNATIONAL EXCHANGE

Although the underlying rationale for international exchange is the same as for domestic exchange, there are four salient features that distinguish the economic environment of international exchange from that of domestic exchange. First, international exchange takes place across exchange rates. That is, in international exchange, unlike domestic exchange, prices of the same commodity are quoted in different currencies; and the rates of exchange between currencies establish the terms on which quotations in one currency are translated into quotations in other currencies.

Second, the international mobility of labor is severely limited by immigration laws, whereas domestic labor mobility is usually unrestricted by legal barriers. The upshot of international restrictions on labor mobility is wage differentials between countries that give rise to differences in costs of production. These differences motivate, in turn, greater international exchange of goods and services. In short, the international immobility of labor causes increased international exchange of goods and services.

Third, the mobility of goods between countries is typically less free than their domestic mobility because governments impose tariffs, quotas, and other barriers.

These barriers cause the same goods to have different equilibrium prices in different countries.

Fourth, the domestic macroeconomic policies (that is, monetary and fiscal policies) of a government tend to result in similar changes in prices and production throughout the nation; different governments, on the other hand, may be pursuing dissimilar policies, so different economies may be experiencing dissimilar changes in price and production levels. These developments will affect the flows of international exchange in ways that will be explored in part three of this book.²

THE PURPOSE AND PLAN OF THIS BOOK

As I said in the preface, this book is about basic economic theory as it applies to the international exchange of goods, services, and financial assets. It is my aim that you emerge from a study of it with a knowledge of the basic economic theory that illuminates both international economic policy and the day-to-day practice of international exchange.

In chapter 2 we will discuss the concepts used to record and analyze the international flows of goods, services, and financial assets. Part two deals with the *microeconomics* of international exchange. That is, it deals with the economic principles that help to explain what goods, services, and financial assets are exchanged internationally, and how the international exchange of these items affects the patterns of production and consumption, and the economic well-being, of the trading parties. Part three deals with the *macroeconomics* of international exchange. That is, it deals with the relationships between the level of international exchange and the levels of total production, total expenditure, and average price. In part four, the focus is on an elaboration of the alternative arrangements for handling the imbalances that occur during the international exchange of goods, services, and financial assets.

At the end of the book you will find some suggestions for further reading. Throughout the book topics of special interest are presented in the chapter appendices. To facilitate your study, there are several suggested analytical exercises in the text; in each case, the exercise immediately follows a discussion of the applicable principles.

²You may feel that I have overlooked an important difference between international and domestic exchange, namely, the magnitude of transportation costs. The reason I have not listed transportation costs as a difference is that neither the distance to be shipped nor the cost per mile per unit of weight relates systematically to the internal versus external character of the exchange. For example, Buffalo and Montreal are geographically and economically closer than Buffalo and Seattle.

Appendix 1

The Nature of Economic Theory

This book deals with economic theory as it is applied to an analysis of the international exchange of goods, services, and financial assets. This appendix is written especially for those readers who doubt that economic theory is relevant to the “real world.”

ECONOMICS: THE SCIENCE OF MEANS

Economics has been called the science of *means*, in contrast to *theology* and *philosophy*, which consider, among other things, the proper *ends* of human endeavor. This definition does not mean that economists avoid making judgments concerning ends (*value judgments*); indeed, they make them all the time. It does mean that education in economics helps people discern the most efficient means to certain ends, but contributes little or nothing unique to their ability to assess the ethical quality of those ends. For example, the professional economist has special knowledge concerning the most expeditious way to reduce inflation, but no special ability to assess the ethical quality of an income redistribution caused by inflation, better than, say, physicists and physicians.

What Is and What Ought To Be

As an *economist*, then, a person will make *positive statements* about what is predicted to occur if some particular thing is done; as an *informed citizen*, he will also make *normative statements*, about what, according to his ethical standards, ought to be done. Both kinds of statements are obviously important, but we must keep the two types of statements separated in our thinking because they must be handled differently.

Normative Statements

Normative statements are subjective and cannot be tested by any known procedure for winning the agreement of all reasonable people. Reasonable people may differ concerning normative statements; after all efforts at peaceful persuasion have been exhausted, the parties must either agree to disagree, or the implications of one view must be imposed upon the behavior of all parties by means of democratic (vote) or undemocratic (fiat) coercion. A little reflection makes it clear that this category of statements is very large and very important. Indeed, it encompasses that body of social decisions we commonly refer to as *the law*. But the fact remains that the science of economics has nothing to contribute to the analysis of purely normative statements. (At least nothing beyond training in orderly processes of thought, and, one hopes, intellectual civility, which may also be acquired by study in other fields.)

Positive Statements

Positive statements are objective and can, at least in principle, be tested by known scientific procedures for winning the agreement of all reasonable people. If a test is not only conceivable but feasible, it will eventually be conducted; and a positive statement will either (1) be revealed as being consistent with observable phenomena, in which case it is retained (tentatively) as a useful addition to our (tentative) knowledge, or (2) be revealed as being inconsistent with that evidence, in which case the statement is rejected. The next step is to see how positive statements are generated.

THEORIZING OR MODEL BUILDING

The word *model* is a particularly useful synonym for the word *theory*, and it is therefore widely used in discussions of formal economics. First, when we speak of a model, we immediately think of some simplified version of a more complex reality (for example, a model airplane); and this is precisely what a theory is. Second, we recognize that models can range from very simple and crude versions to extremely complicated and sophisticated versions, and it is the same with theories.³ Third, we understand that we can manipulate and experiment with a model in ways that would be very difficult, very costly, or both, or simply impossible, with the real thing. This is also true of a theory.

The process of theorizing, or model building, begins with the identification of some problem that requires explication. Next, terms to be used in the model are defined. Then assumptions are laid down, and this point is where confusion and misunderstanding frequently develop.

Assumptions in Positive Economics

A set of assumptions is simply a series of statements, each of which is treated for purposes of the model as true. These statements can be well-established scientific ideas, empirical generalizations, intuitive suggestions, bizarre assertions — anything. Not all assumptions will be equally good, of course, but good or bad, they are all assumptions.

These statements (assumptions) are made for one or more of four reasons. (1) The most obvious but not necessarily the most likely reason is that the author of the theory believes that the world is exactly the way the assumption says it is. (2) The model is intended to apply only to that segment of the real world for which the assumption is satisfied. If the author assumes, for example, that perfect competition prevails in a labor market, he or she may not intend to assert that *all* labor markets are perfectly competitive, but rather that the model is only applicable to those markets that *are* perfectly competitive. (3) A third possible reason is that the statement is used merely to exclude extraneous ideas. If the author assumes, for example, that there is no government taxation, he may be saying that taxation does not affect the results of the model, so forget about it. (4) An extremely important type of assumption is the convenient fiction, that is, a contrary-to-literal-fact statement that is treated as true in order to simplify the problem at hand sufficiently to

obtain certain basic insights. Such simplifying assumptions are necessarily part of any theory; they are what make the construct a model of reality rather than merely a detailed description of it.

Lest you suppose that a detailed description would be preferable, note that such a description would ultimately tell us all there is to know about a single Boeing 747 aircraft, for example, but never yield a model that highlighted the important common characteristics of all airplanes. (Indeed, the term *Boeing 747* denotes a very complex and detailed aircraft model, rather than any individual aircraft, because no two Boeing 747 aircraft will be identical in every measurable respect.) If you have doubts about this point, you might ask yourself how you would answer the question, “What is an airplane?” You would almost certainly respond by describing an abstract model that reveals the crucial common characteristics of all airplanes. You would do this rather than exhaustively describe a single Boeing 747, because the model, which abstracts in many ways from any real airplane, is more important to someone who wants to learn generally useful things about the real world. It is altogether true that in order to understand the real world we must abstract from it; theorizing is therefore the most practical of endeavors.

Conditional Predictions

After a set of assumptions has been laid down, the model builder proceeds to deduce the logical consequences of that set of statements. In doing so, he often finds mathematical techniques invaluable because they help him to maintain logical rigor, which is to say that they help him avoid contradictions in his deductions. These deductions are variously called *logical consequences*, *deductions*, *hypotheses*, and *conditional predictions*. The last term is particularly useful because it correctly connotes that these logical results take the form “if x , then y ” — for example, “if government spending increases, then employment will rise.” Note that there is no attempt to prophesy the future; no attempt is made to prophesy that government spending *will* increase. The model predicts only that *if* government spending increases, then employment will rise. The prediction (employment will rise) depends upon the fulfillment of the antecedent condition (an increase in government spending).

In this book, you will often encounter statements like “An increase in the exchange rate will make imports more expensive.” This is just a conveniently shortened way of saying “The model that we are using predicts that if there is an increase in the exchange rate, imports will become more expensive.”

Testing the Model

After a model has been constructed and its conditional predictions deduced, it needs to be tested in two ways. First, its internal logic should be checked for inconsistencies. This merely means that the work should be reviewed for logical errors.

Second, it should be *empirically tested* to see if its predictions are consistent with observed events in the real world. Empirical testing is of two sorts: the first, which merely compares the predictions of the model to the day-to-day observations of experience, is called *casual empiricism*. The other, which proceeds according to the canons of formal statistical science, is *formal empiricism*.